

Sleep and night activities of care beneficiaries at the *“Trygg om Natten” (Safe at Night)* Project

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1 Introduction

The "Trygg om natten" ("Safe at night") was a recent study conducted in Halmstad, Sweden. The project explored how technology could assist night-time care beneficiaries and caregivers during night supervisions [1]. Perceived integrity and acceptance of technology was also investigated.

In total, 15 individuals (2 men and 13 women), with an average age of 82 years, participated in the project. The homes of all the 15 care beneficiaries were equipped with five types of sensors (see Table 1) that were active from 10 p.m. until 6 a.m. every night during approximately 14 days.

The study was granted with an ethical approval from the central ethical review board.

Table 1: Sensors used to collect the dataset [1].

Type	Purpose	Qty.	Output
Passive infrared	Capture human motion	≈ 4	Binary
EMFIT bed sensor	Capture bed exits	1	Binary
Magnetic	Capture door openings	1	Binary
Inertia sensor	Capture human inactivity (wearable)	1	Binary
Load cells	Reference to the EMFIT sensor	1	24bit value

1.1 Purpose

The purpose of this document is to present common night activities and sleep-related events of 7 individuals receiving homecare services during night-time, whom participated at the Trygg om Natten project [1].

Night activities were associated with different events measured with motion sensors placed in distinct rooms within the residents home, such as kitchen, bathroom, living room, etc. Magnets placed in the front door of each house or apartment, enable to check the time when the care beneficiary received a visit from the night patrol team during the night. Bed-sensors placed under the mattress enabled to detect bed-exits. Sleep-related events have been computed using load sensing data measured by a load cell placed at the top-left bed support.

2 Participant 1: *PersonAlpha*

2.1 Summary

Start of data collection: Sep 23 2011.

End of data collection: Oct 17 2011.

Total Number of nights: 23.

A summary of estimated sleep activities and measured sensor events for each night are presented in Table 2.

Table 2: A summary of detected activities and sensor events. **Sleep efficiency** is the ratio of the estimated time asleep (**Time in Atonia**) to the estimated **Time in Bed**

Date	Bed Exits	Bed Entrances	Awake	Atonia	Awanening	Bed Sensor	Visits	Time in Bed	Time in Atonia	Sleep Efficiency
Sep 23-Sep 24	1	1	8	15	15	0	0	07:18:41	05:58:26	82%
Sep 24-Sep 25	2	2	14	19	18	0	0	07:13:10	06:08:55	85%
Sep 25-Sep 26	1	1	10	17	16	0	0	07:04:47	06:24:45	91%
Sep 26-Sep 27	1	1	9	16	15	0	0	07:13:17	06:47:20	94%
Sep 27-Sep 28	1	1	15	21	21	0	0	07:11:40	06:32:42	91%
Sep 28-Sep 29	1	1	14	22	21	0	0	07:13:18	06:29:34	90%
Sep 29-Sep 30	2	2	19	23	22	0	0	07:03:24	05:39:58	80%
Sep 30-Oct 01	9	9	15	10	9	0	2	06:13:46	05:13:45	84%
Oct 01-Oct 02	4	3	12	12	12	0	4	06:41:19	05:51:25	88%
Oct 02-Oct 03	3	3	9	9	9	0	4	07:02:14	06:22:58	91%
Oct 03-Oct 04	1	1	12	13	13	0	4	06:34:44	05:31:13	84%
Oct 04-Oct 05	1	1	13	20	19	0	5	06:52:31	06:20:59	92%
Oct 05-Oct 06	1	1	10	17	16	0	5	06:55:26	06:37:23	96%
Oct 06-Oct 07	2	2	12	17	16	0	4	06:52:53	06:31:43	95%
Oct 07-Oct 08	5	5	8	12	11	0	5	07:00:48	06:47:30	97%
Oct 08-Oct 09	3	3	6	11	10	0	5	06:58:34	06:50:31	98%
Oct 09-Oct 10	3	3	6	11	10	0	5	07:22:19	06:59:38	95%
Oct 13-Oct 14	1	1	2	3	2	0	4	07:13:12	07:07:58	99%
Oct 14-Oct 15	1	1	8	14	13	1	4	07:17:55	07:06:04	97%
Oct 15-Oct 16	2	2	8	10	10	0	1	07:19:08	07:03:07	96%
Oct 16-Oct 17	0	1	4	6	6	0	2	07:58:45	07:26:34	93%

2.2 1st Night: from Sep 23 2011 to Sep 24 2011

Table 3 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 4 presents the duration of the estimated sleep related activities.

Table 3: Sleep related activities and sensor events measured between Sep 23 and Sep 24

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:42:10	22:07:16	23:51:16	22:42:13	22:47:16						
2			23:59:14	23:51:20	23:52:10						
3			00:41:23	23:59:38	00:27:16						
4			00:46:44	00:47:08	00:41:24						
5			02:14:12	02:17:07	00:47:52						
6			02:26:08	02:38:50	02:17:08						
7			02:36:19	02:49:08	02:26:09						
8			02:48:46	05:52:29	02:42:22						
9			03:21:35		03:16:35						
10			03:50:34		03:21:36						
11			04:21:23		03:50:34						
12			04:27:51		04:21:24						
13			04:43:06		04:27:53						
14			04:51:47		04:43:07						
15			05:51:55		04:51:48						

Table 4: Duration of the sleep related activities presented in Table 3

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:18:41	00:34:58	00:00:03	00:05:03	01:04:07
2			00:00:24	00:00:50	00:07:05
3			00:00:00	00:27:40	00:14:09
4			00:00:23	00:00:44	00:05:21
5			00:02:55	00:00:00	01:26:30
6			00:00:00	00:03:32	00:09:01
7			00:02:30	00:27:30	00:10:12
8			00:00:22	00:07:31	00:06:25
9			00:00:00		00:05:01
10			00:00:00		00:29:01
11			00:00:00		00:30:53
12			00:00:02		00:06:27
13			00:00:00		00:15:15
14			00:00:01		00:08:41
15			00:00:33		01:00:14

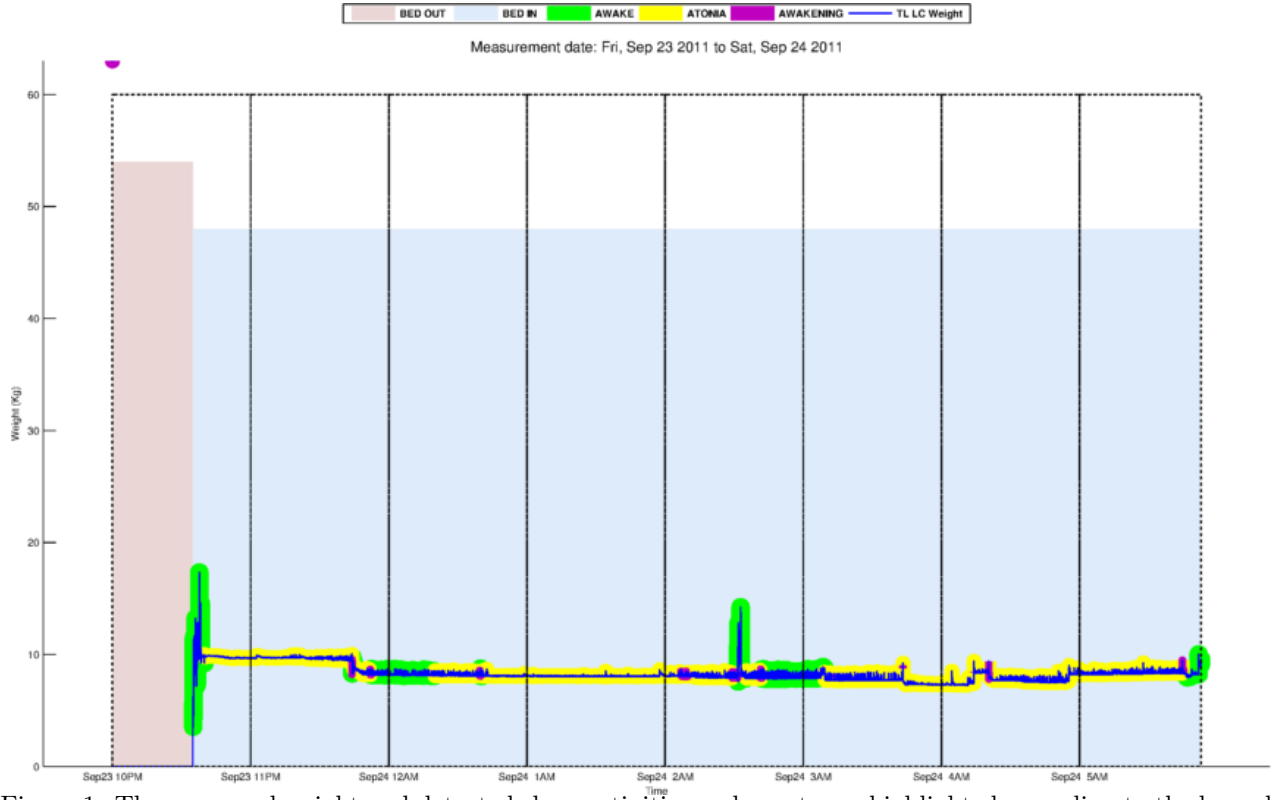


Figure 1: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 1 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 2 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 1).

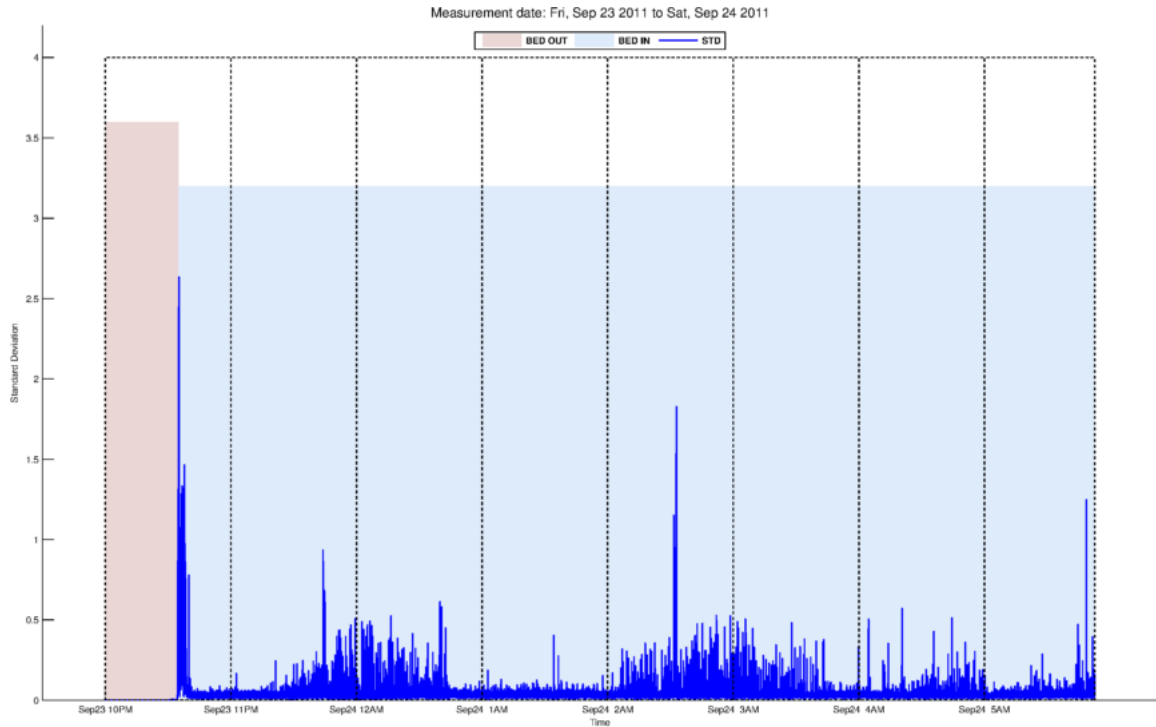


Figure 2: The moving standard deviation for the measured weight.

2.3 2nd Night: from Sep 24 2011 to Sep 25 2011

Table 5 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 6 presents the duration of the estimated sleep related activities.

Table 5: Sleep related activities and sensor events measured between Sep 24 and Sep 25

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:47:33	22:05:12	23:55:00	22:47:36	22:52:24						
2	03:11:42	03:11:36	00:11:55	02:30:43	23:55:01						
3			00:30:40	02:41:54	00:11:55						
4			02:17:24	03:01:06	00:30:42						
5			02:30:40	03:10:57	02:17:24						
6			02:39:23	03:11:46	02:30:45						
7			02:59:40	03:26:03	02:43:31						
8			03:10:51	03:44:21	03:01:06						
9			03:25:20	03:57:30	03:14:33						
10			03:39:36	04:17:51	03:28:53						
11			03:57:07	04:25:12	03:50:10						
12			04:15:41	05:02:53	04:00:18						
13			04:25:08	05:29:00	04:19:08						
14			04:51:44	05:47:05	04:46:29						
15			05:02:17		04:51:45						
16			05:10:36		05:02:55						
17			05:28:55		05:10:37						
18			05:47:01		05:31:56						
19					05:51:10						

Table 6: Duration of the sleep related activities presented in Table 5

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	04:24:34	00:42:25	00:00:01	00:04:49	01:02:43
2	02:48:36	00:00:06	00:00:00	00:00:02	00:16:55
3			00:00:02	00:01:37	00:18:47
4			00:00:00	00:00:00	01:46:53
5			00:00:03	00:00:39	00:13:17
6			00:02:31	00:02:47	00:08:39
7			00:01:26	00:02:51	00:16:11
8			00:00:06	00:05:50	00:09:45
9			00:00:42	00:02:48	00:10:49
10			00:04:45	00:01:17	00:10:44
11			00:00:22	00:21:20	00:06:58
12			00:02:10	00:00:01	00:15:25
13			00:00:03	00:02:56	00:06:01
14			00:00:01	00:04:05	00:05:15
15			00:00:36		00:10:33
16			00:00:01		00:07:42
17			00:00:05		00:18:19
18			00:00:04		00:15:07
19					00:08:49

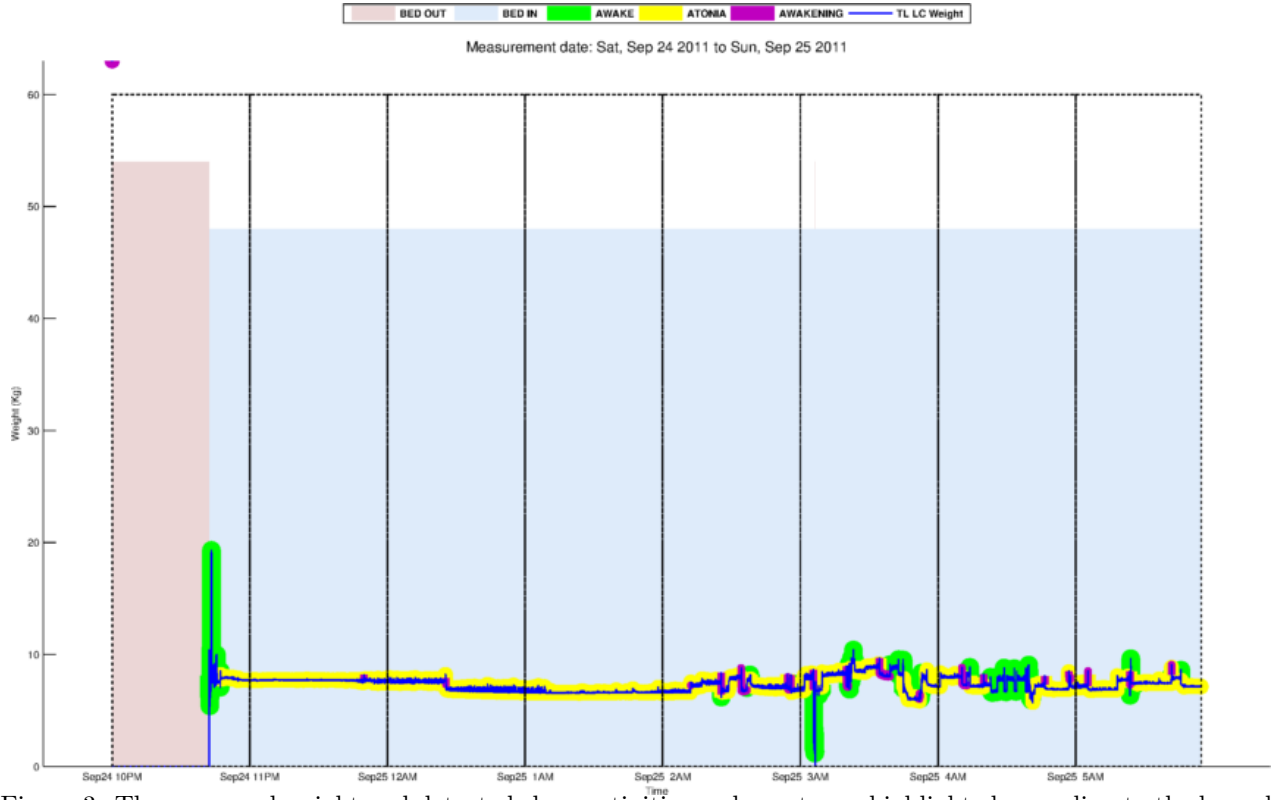


Figure 3: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 3 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 4 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 3).

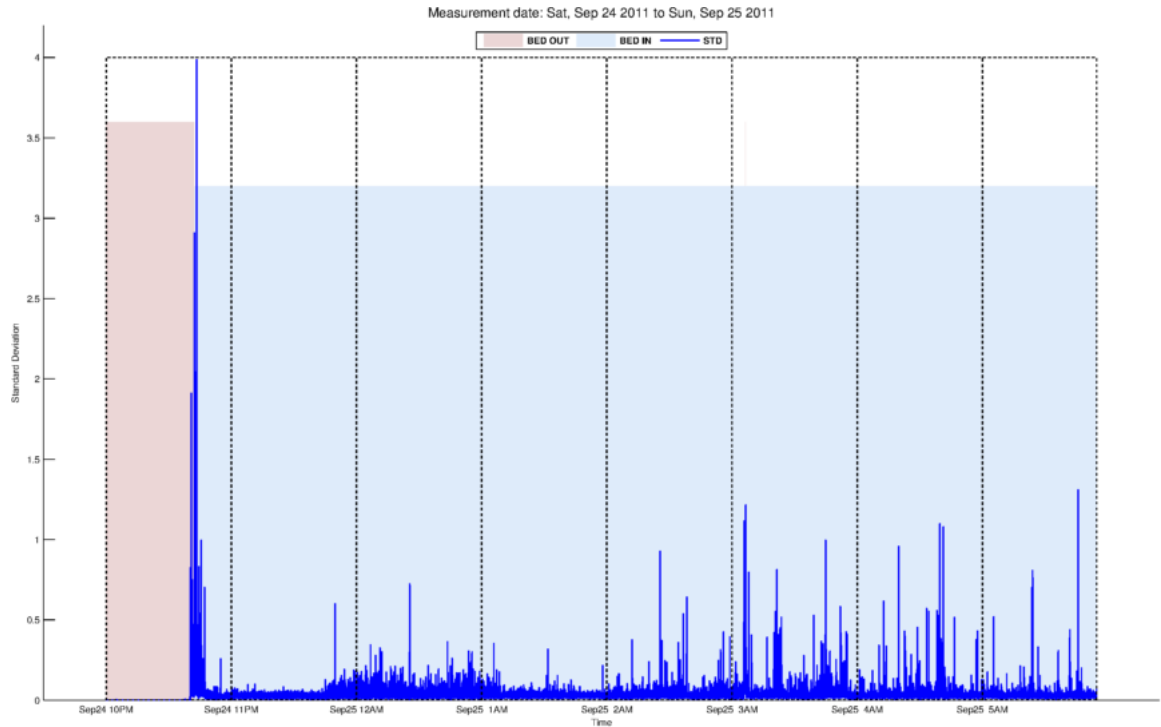


Figure 4: The moving standard deviation for the measured weight.

2.4 3rd Night: from Sep 25 2011 to Sep 26 2011

Table 7 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 8 presents the duration of the estimated sleep related activities.

Table 7: Sleep related activities and sensor events measured between Sep 25 and Sep 26

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:55:59	22:00:07	23:13:14	22:56:03	22:58:09						
2			00:24:54	23:13:18	23:13:58						
3			01:40:20	01:50:11	00:24:55						
4			01:46:54	02:22:56	01:40:21						
5			02:19:54	02:34:26	02:09:55						
6			02:31:36	02:41:55	02:26:25						
7			02:39:52	03:14:39	02:34:27						
8			02:47:43	03:54:33	02:41:56						
9			02:53:39	04:45:36	02:47:44						
10			03:02:22	05:10:48	02:53:40						
11			03:14:35		03:02:23						
12			03:54:30		03:16:32						
13			04:45:32		03:54:54						
14			05:10:44		04:45:37						
15			05:38:25		05:10:51						
16			05:49:42		05:38:26						
17					05:49:43						

Table 8: Duration of the sleep related activities presented in Table 7

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:04:47	00:55:58	00:00:03	00:02:06	00:15:07
2			00:00:00	00:00:40	01:11:04
3			00:00:00	00:19:46	01:15:34
4			00:03:18	00:03:30	00:06:33
5			00:03:02	00:00:00	00:10:00
6			00:02:50	00:00:00	00:05:11
7			00:02:04	00:01:53	00:05:25
8			00:00:00	00:00:20	00:05:48
9			00:00:00	00:00:01	00:05:56
10			00:00:00	00:00:03	00:08:43
11			00:00:03		00:12:14
12			00:00:03		00:38:02
13			00:00:03		00:50:44
14			00:00:03		00:25:10
15			00:00:00		00:27:37
16			00:00:01		00:11:17
17					00:10:17

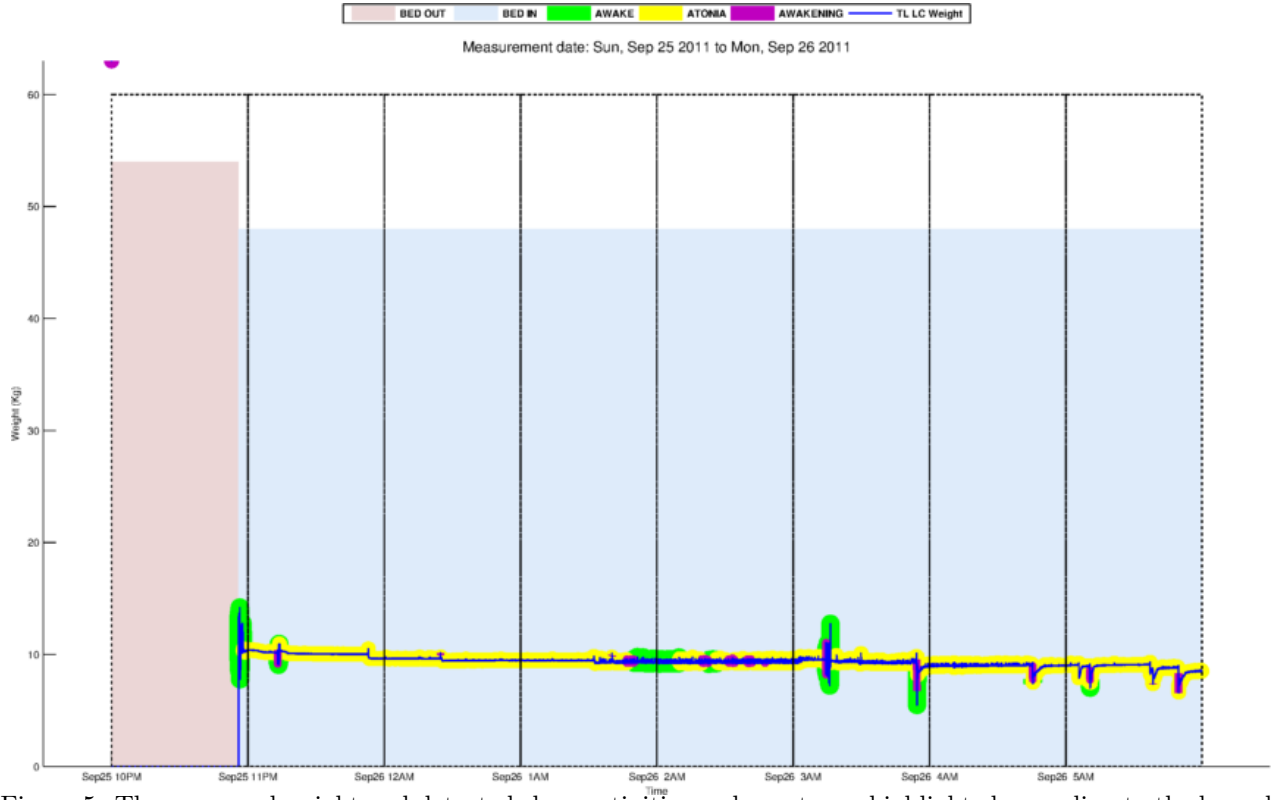


Figure 5: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 5 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 6 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 5).

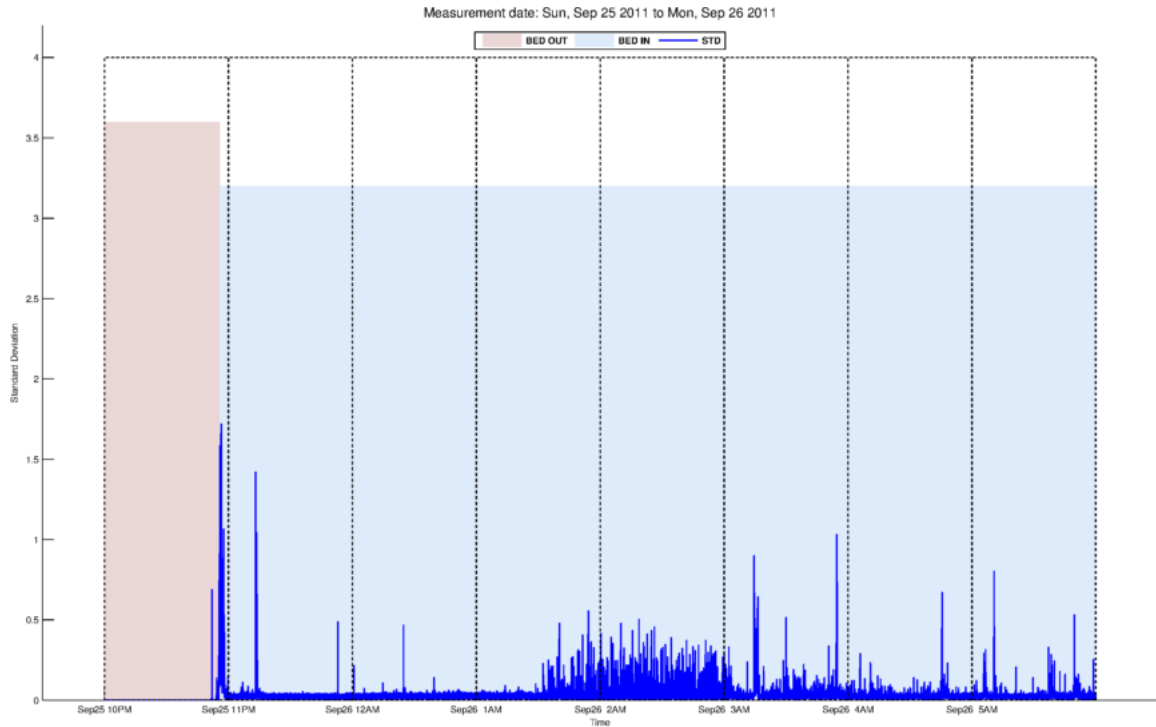


Figure 6: The moving standard deviation for the measured weight.

2.5 4th Night: from Sep 26 2011 to Sep 27 2011

Table 9 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 10 presents the duration of the estimated sleep related activities.

Table 9: Sleep related activities and sensor events measured between Sep 26 and Sep 27

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:47:28	22:05:21	23:05:48	22:47:28	22:50:08						
2			01:31:46	23:05:54	23:06:38						
3			02:27:32	01:35:48	01:38:44						
4			02:41:16	02:59:21	02:27:33						
5			02:47:04	03:55:20	02:41:16						
6			02:59:18	04:36:10	02:47:04						
7			03:11:33	05:21:40	03:01:21						
8			03:55:08	05:40:41	03:11:33						
9			04:02:33	05:52:29	03:55:30						
10			04:23:31		04:02:35						
11			04:36:04		04:23:32						
12			04:45:41		04:37:42						
13			05:21:37		04:45:47						
14			05:39:52		05:27:22						
15			05:52:25		05:44:23						
16					05:53:22						

Table 10: Duration of the sleep related activities presented in Table 9

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:13:17	00:42:12	00:00:06	00:02:40	00:15:42
2			00:04:02	00:00:44	02:25:23
3			00:00:00	00:02:56	00:48:53
4			00:00:00	00:01:59	00:13:44
5			00:00:00	00:00:10	00:05:48
6			00:00:03	00:01:32	00:12:15
7			00:00:00	00:05:42	00:10:13
8			00:00:12	00:03:43	00:43:39
9			00:00:02	00:00:53	00:07:04
10			00:00:00		00:20:58
11			00:00:05		00:12:34
12			00:00:06		00:08:00
13			00:00:03		00:35:54
14			00:00:49		00:12:31
15			00:00:03		00:08:03
16					00:06:37

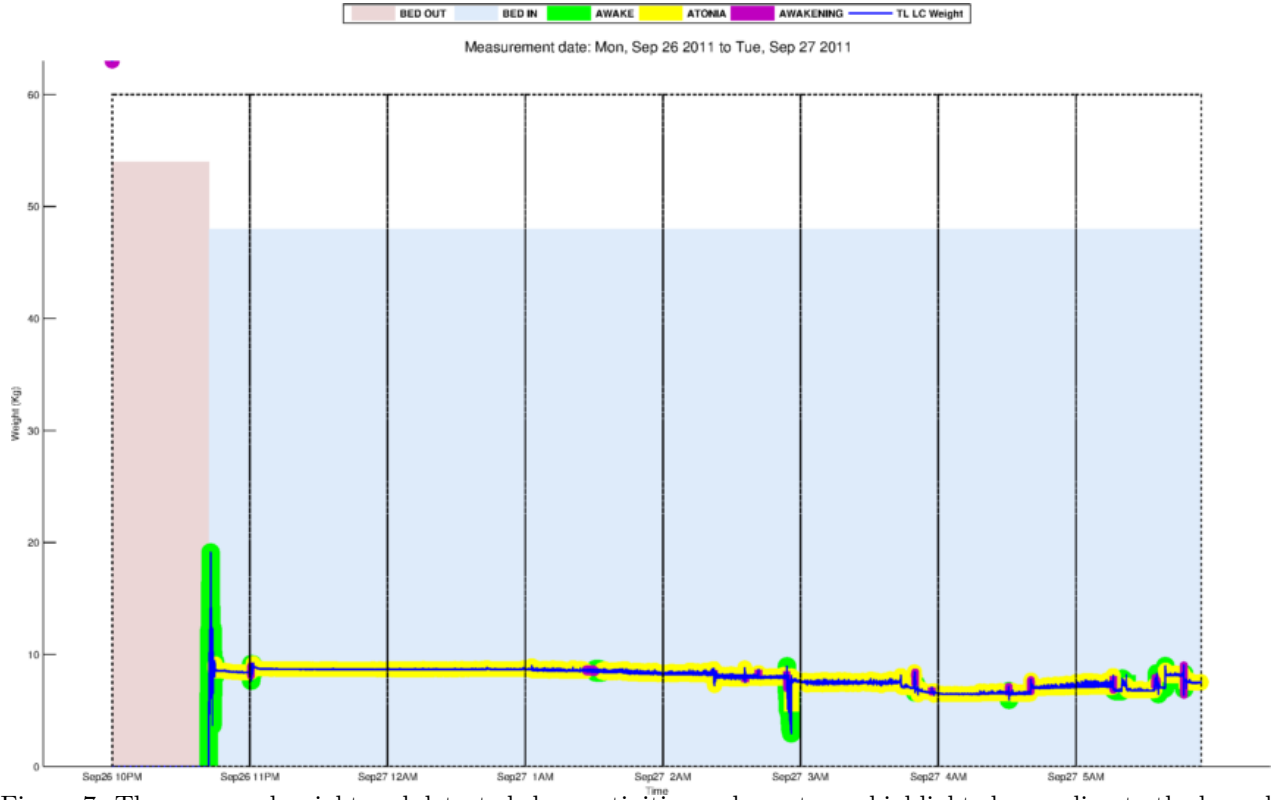


Figure 7: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 7 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 8 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 7).

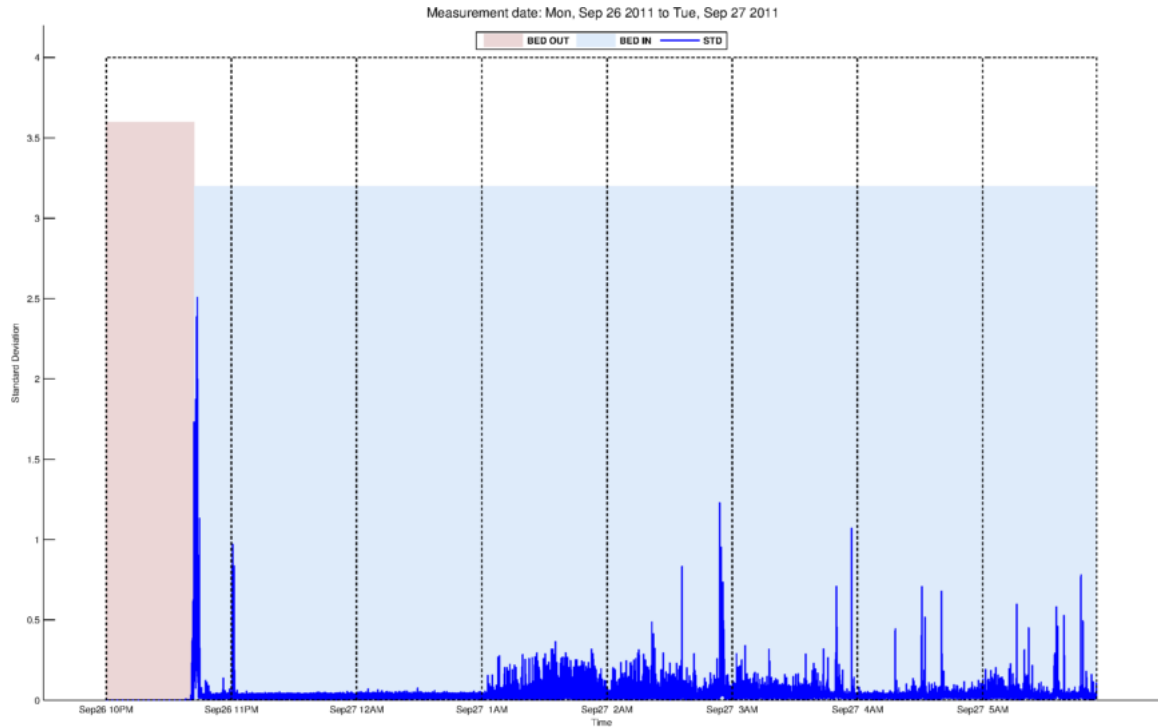


Figure 8: The moving standard deviation for the measured weight.

2.6 5th Night: from Sep 27 2011 to Sep 28 2011

Table 11 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 12 presents the duration of the estimated sleep related activities.

Table 11: Sleep related activities and sensor events measured between Sep 27 and Sep 28

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:49:06	22:01:48	00:04:58	22:49:09	22:51:12						
2			00:59:37	00:05:04	00:05:08						
3			01:08:07	01:20:38	00:59:38						
4			01:16:50	01:44:54	01:08:07						
5			01:43:57	02:22:18	01:20:39						
6			02:00:57	02:29:38	01:45:01						
7			02:20:32	02:45:26	02:00:58						
8			02:28:02	03:07:18	02:22:21						
9			02:44:08	03:43:38	02:30:15						
10			03:07:13	03:57:13	02:52:00						
11			03:31:55	04:19:11	03:08:45						
12			03:43:29	04:36:35	03:31:57						
13			03:57:10	05:11:33	03:43:39						
14			04:08:43	05:37:32	03:57:14						
15			04:19:08	05:46:46	04:08:45						
16			04:36:31		04:19:21						
17			05:10:57		04:45:26						
18			05:26:10		05:11:49						
19			05:37:28		05:26:14						
20			05:46:43		05:41:08						
21			05:55:48		05:46:47						

Table 12: Duration of the sleep related activities presented in Table 11

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:11:40	00:47:22	00:00:06	00:02:03	01:13:53
2			00:00:00	00:00:03	00:54:35
3			00:00:00	00:00:01	00:08:29
4			00:03:48	00:00:07	00:08:44
5			00:00:57	00:00:03	00:23:20
6			00:00:01	00:00:37	00:15:57
7			00:01:46	00:06:34	00:19:36
8			00:01:35	00:01:27	00:05:42
9			00:01:18	00:00:01	00:13:55
10			00:00:05	00:00:01	00:15:15
11			00:00:01	00:00:09	00:23:12
12			00:00:09	00:08:52	00:11:33
13			00:00:03	00:00:16	00:13:32
14			00:00:02	00:03:36	00:11:29
15			00:00:03	00:00:01	00:10:24
16			00:00:03		00:17:12
17			00:00:36		00:25:33
18			00:00:03		00:14:23
19			00:00:04		00:11:15
20			00:00:03		00:05:35
21			00:04:11		00:09:01

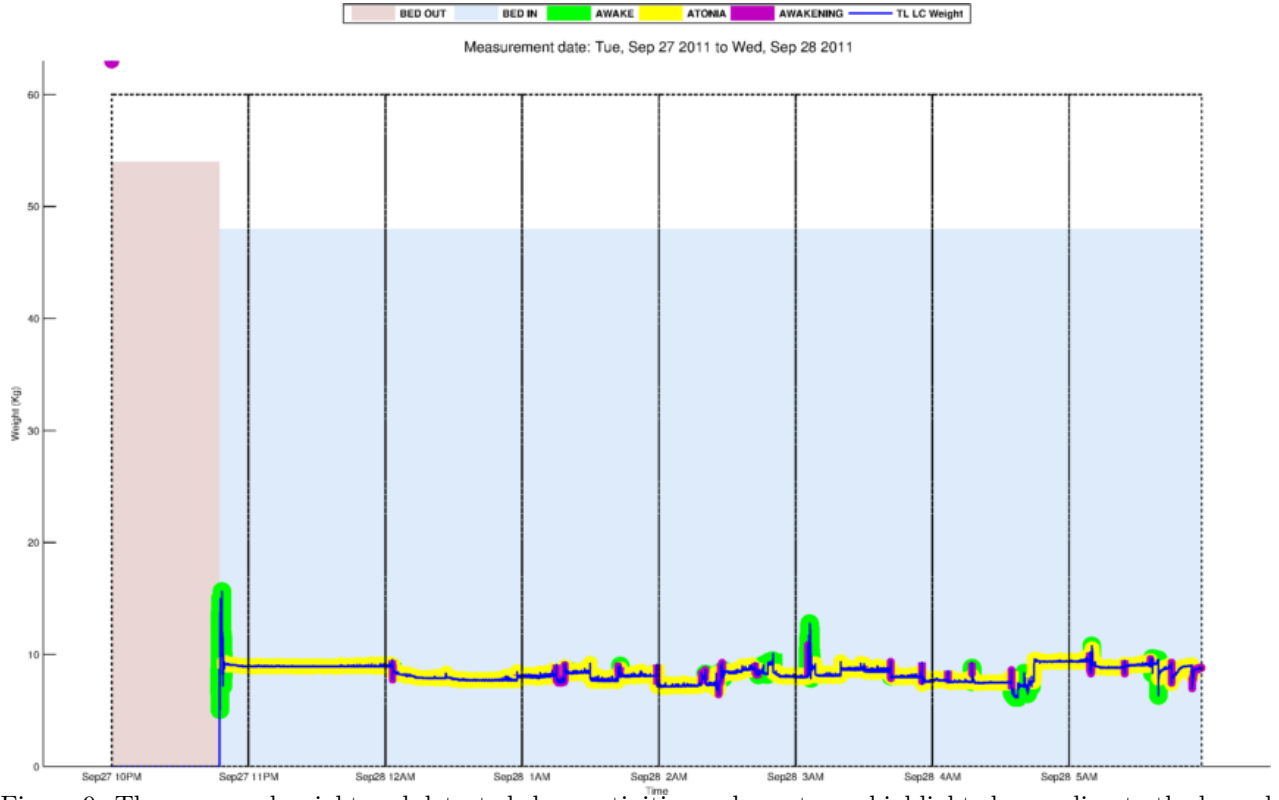


Figure 9: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 9 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 10 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 9).

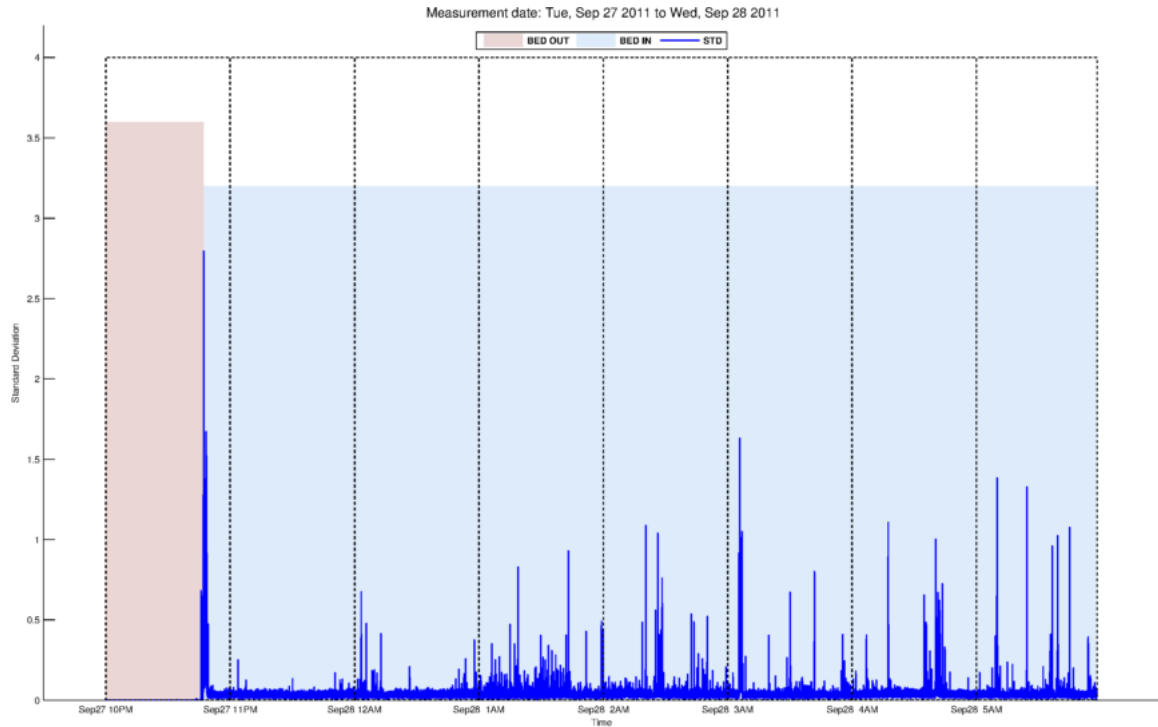


Figure 10: The moving standard deviation for the measured weight.

2.7 6th Night: from Sep 28 2011 to Sep 29 2011

Table 13 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 14 presents the duration of the estimated sleep related activities.

Table 13: Sleep related activities and sensor events measured between Sep 28 and Sep 29

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:47:29	22:06:26	23:45:04	22:47:34	22:49:41						
2			00:15:01	00:19:12	23:45:07						
3			00:25:24	02:10:21	00:19:12						
4			00:39:07	02:20:50	00:25:24						
5			01:46:54	02:33:13	00:39:07						
6			02:08:56	02:48:30	01:46:54						
7			02:18:23	03:00:07	02:10:22						
8			02:28:49	03:11:02	02:21:25						
9			02:48:14	03:20:09	02:33:14						
10			02:57:26	03:43:46	02:48:32						
11			03:05:36	04:13:17	03:00:20						
12			03:10:58	04:31:59	03:05:38						
13			03:20:05	05:04:25	03:11:03						
14			03:38:57	05:40:54	03:22:41						
15			04:09:26		03:43:57						
16			04:31:55		04:17:45						
17			05:02:28		04:34:55						
18			05:15:49		05:04:32						
19			05:28:53		05:15:50						
20			05:40:51		05:28:56						
21			05:54:21		05:44:48						
22					05:54:25						

Table 14: Duration of the sleep related activities presented in Table 13

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:13:18	00:41:08	00:00:02	00:02:07	00:55:30
2			00:04:11	00:00:00	00:29:57
3			00:00:00	00:00:01	00:06:12
4			00:00:00	00:00:35	00:13:44
5			00:00:00	00:00:00	01:07:54
6			00:01:25	00:00:01	00:22:04
7			00:02:27	00:00:13	00:08:01
8			00:04:25	00:00:01	00:07:25
9			00:00:16	00:02:33	00:15:02
10			00:02:41	00:00:11	00:08:55
11			00:00:02	00:04:28	00:05:16
12			00:00:04	00:02:57	00:05:21
13			00:00:03	00:00:07	00:09:03
14			00:04:49	00:03:54	00:16:18
15			00:03:52		00:25:32
16			00:00:03		00:14:12
17			00:01:57		00:27:36
18			00:00:00		00:11:18
19			00:00:02		00:13:05
20			00:00:03		00:11:56
21			00:00:03		00:09:34
22					00:05:34

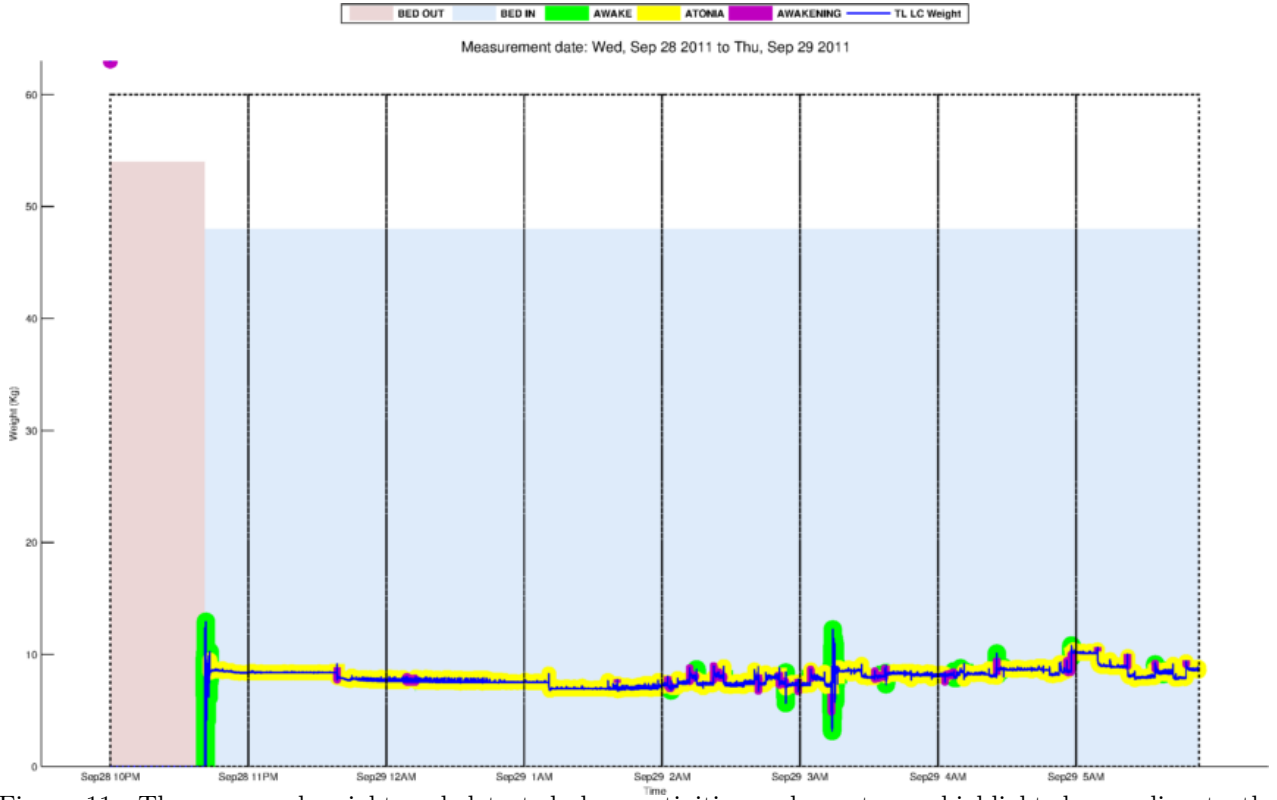


Figure 11: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 11 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 12 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 11).

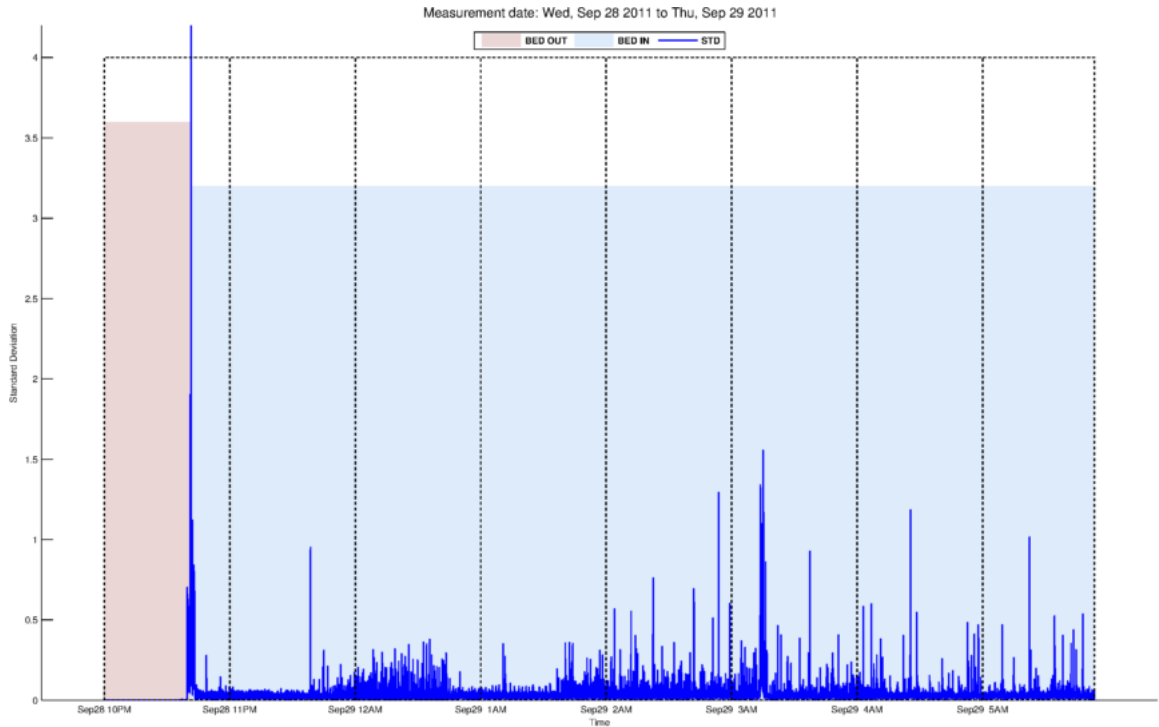


Figure 12: The moving standard deviation for the measured weight.

2.8 7th Night: from Sep 29 2011 to Sep 30 2011

Table 15 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 16 presents the duration of the estimated sleep related activities.

Table 15: Sleep related activities and sensor events measured between Sep 29 and Sep 30

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:57:14	22:09:48	23:06:59	22:57:18	22:58:38						
2	22:57:27	22:57:18	23:38:28	22:57:31	23:11:44						
3			23:51:07	23:07:04	23:45:27						
4			23:58:31	23:42:48	23:51:28						
5			00:17:03	23:51:27	00:04:09						
6			00:23:20	23:58:55	00:17:04						
7			00:32:23	00:26:53	00:26:53						
8			00:47:02	00:35:15	00:41:52						
9			00:52:03	00:52:23	00:47:02						
10			01:01:14	01:10:38	00:55:28						
11			01:09:00	01:20:50	01:01:14						
12			01:18:46	01:33:36	01:10:38						
13			01:32:35	02:59:18	01:22:36						
14			02:34:32	03:18:13	01:35:12						
15			02:56:12	03:46:29	02:34:33						
16			03:14:45	04:18:47	02:59:19						
17			03:43:44	04:41:23	03:19:30						
18			04:15:34	05:02:08	03:52:43						
19			04:39:09	05:43:38	04:20:35						
20			05:01:19		04:41:43						
21			05:28:04		05:09:43						
22			05:43:26		05:28:06						
23					05:50:13						

Table 16: Duration of the sleep related activities presented in Table 15

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:04	00:47:31	00:00:04	00:00:00	00:08:22
2	07:03:20	00:00:09	00:04:20	00:01:07	00:26:46
3			00:00:20	00:04:41	00:05:40
4			00:00:23	00:02:40	00:07:04
5			00:00:00	00:00:00	00:12:55
6			00:03:33	00:05:15	00:06:16
7			00:02:52	00:00:00	00:05:30
8			00:00:00	00:06:37	00:05:10
9			00:00:20	00:03:06	00:05:01
10			00:00:00	00:00:00	00:05:46
11			00:01:37	00:01:46	00:07:47
12			00:02:04	00:01:36	00:08:08
13			00:01:01	00:00:00	00:10:00
14			00:00:00	00:01:17	00:59:26
15			00:03:07	00:06:15	00:21:41
16			00:03:29	00:01:48	00:15:28
17			00:02:45	00:00:20	00:24:16
18			00:03:14	00:07:35	00:22:53
19			00:02:15	00:06:36	00:18:35
20			00:00:50		00:19:37
21			00:00:02		00:18:23
22			00:00:12		00:15:21
23					00:09:46

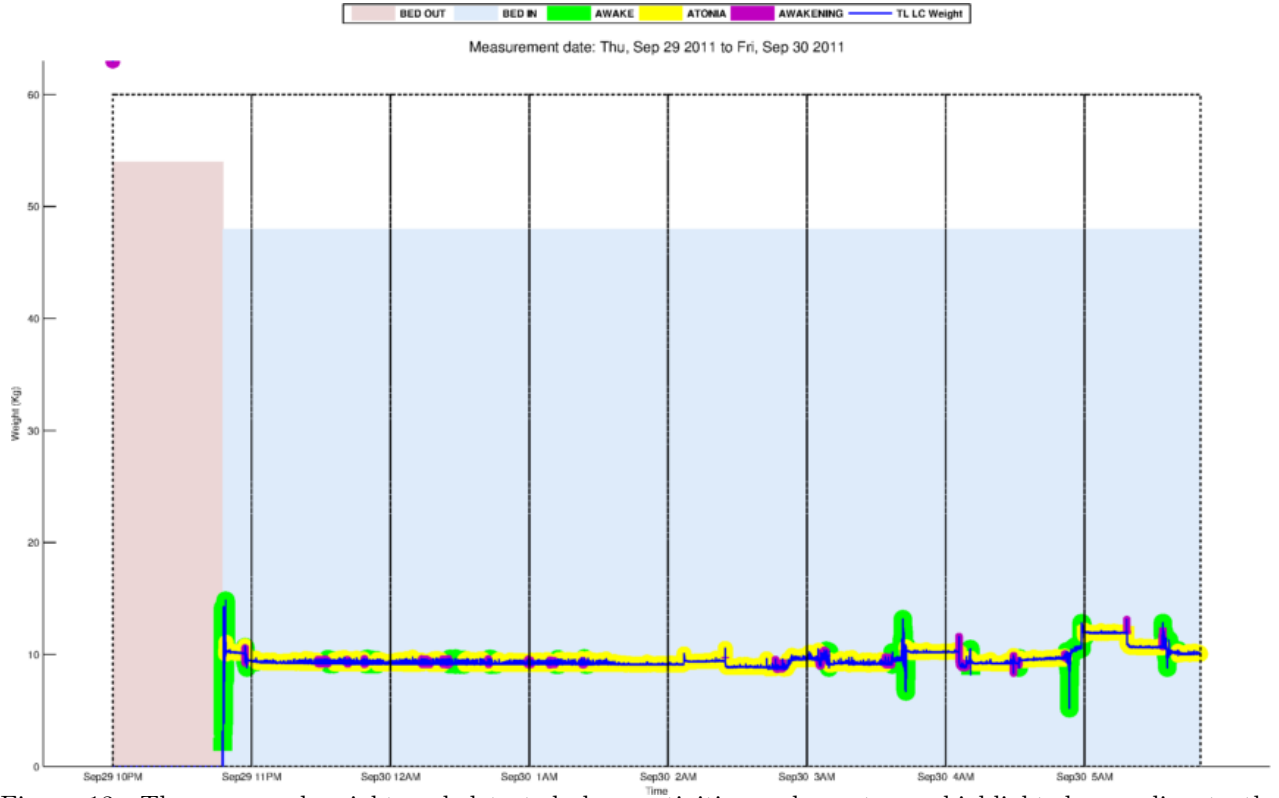


Figure 13: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 13 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 14 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 13).

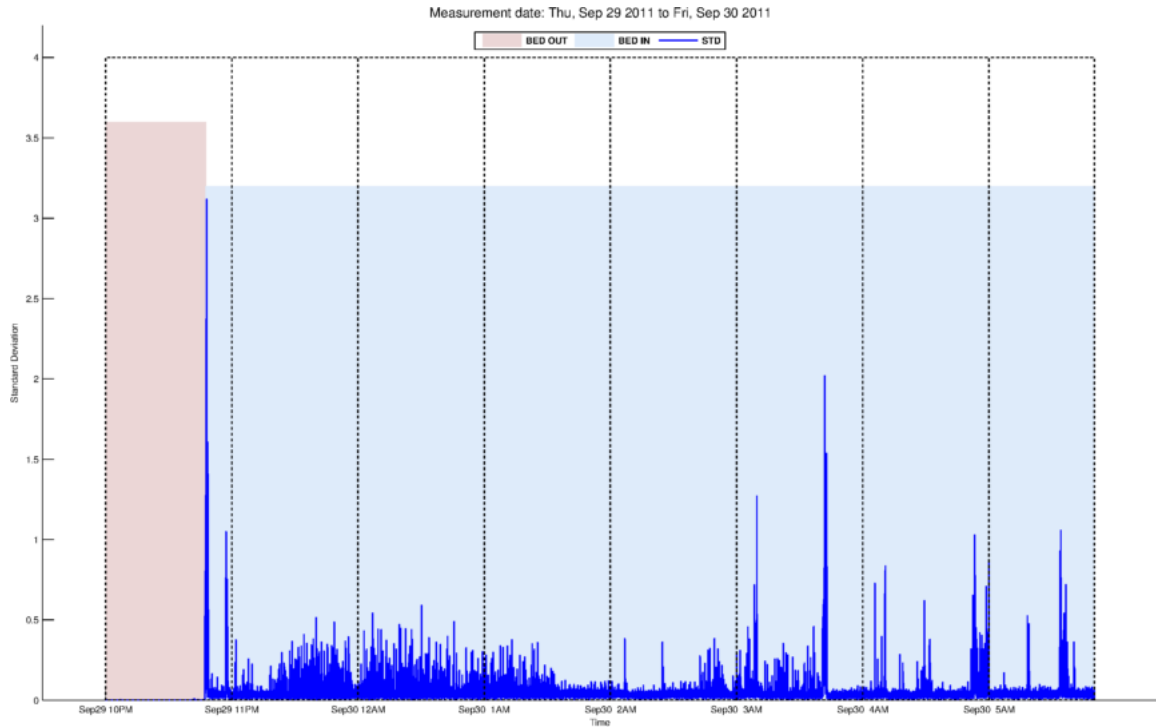


Figure 14: The moving standard deviation for the measured weight.

2.9 8th Night: from Sep 30 2011 to Oct 01 2011

Table 17 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 18 presents the duration of the estimated sleep related activities.

Table 17: Sleep related activities and sensor events measured between Sep 30 and Oct 01

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	23:11:16	22:03:53	23:21:08	23:11:19	23:12:49	03:37:00	03:37:01	03:38:38	03:36:44		03:36:44
2	04:28:58	04:28:51	01:17:26	23:21:15	23:22:55		04:33:06		04:33:08		03:39:17
3	04:29:02	04:29:00	01:33:04	01:37:21	01:17:27				05:00:21		
4	04:30:22	04:30:21	02:07:13	02:41:39	01:49:25						
5	04:30:24	04:30:23	02:37:17	02:55:20	02:07:16						
6	04:30:28	04:30:26	02:54:39	03:37:20	02:41:40						
7	04:30:54	04:30:52	03:37:09	04:11:38	03:09:02						
8	05:06:40	04:31:18	04:07:43	04:23:31	03:37:56						
9	05:06:44	05:06:41	04:18:46	04:29:03	04:12:39						
10				04:30:22	05:10:06						
11				04:30:24							
12				04:30:30							
13				04:30:32							
14				04:30:54							
15				05:06:49							

Table 18: Duration of the sleep related activities presented in Table 17

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	05:18:11	01:07:30	00:00:06	00:01:30	00:08:20
2	00:00:02	00:00:07	00:00:00	00:01:40	01:54:44
3	00:01:19	00:00:01	00:04:17	00:12:06	00:15:39
4	00:00:01	00:00:01	00:00:03	00:00:01	00:17:49
5	00:00:02	00:00:01	00:04:22	00:13:43	00:30:04
6	00:00:23	00:00:02	00:00:41	00:00:35	00:13:00
7	00:00:24	00:00:02	00:00:11	00:01:01	00:28:11
8	00:00:01	00:35:26	00:03:55	00:05:20	00:29:51
9	00:53:21	00:00:02	00:04:46	00:01:18	00:06:07
10				00:00:01	00:49:58
11				00:00:00	
12				00:00:01	
13				00:00:19	
14				00:00:24	
15				00:03:17	

Figure 15 presents the measured sensor events and the computed bed entrances and exits.

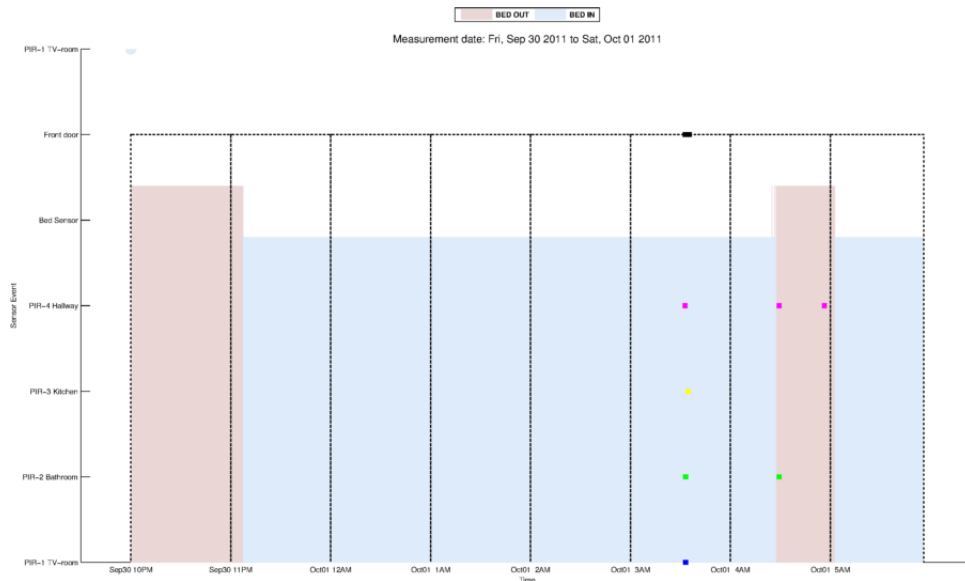


Figure 15: Sensor events and computed bed entrances and exists

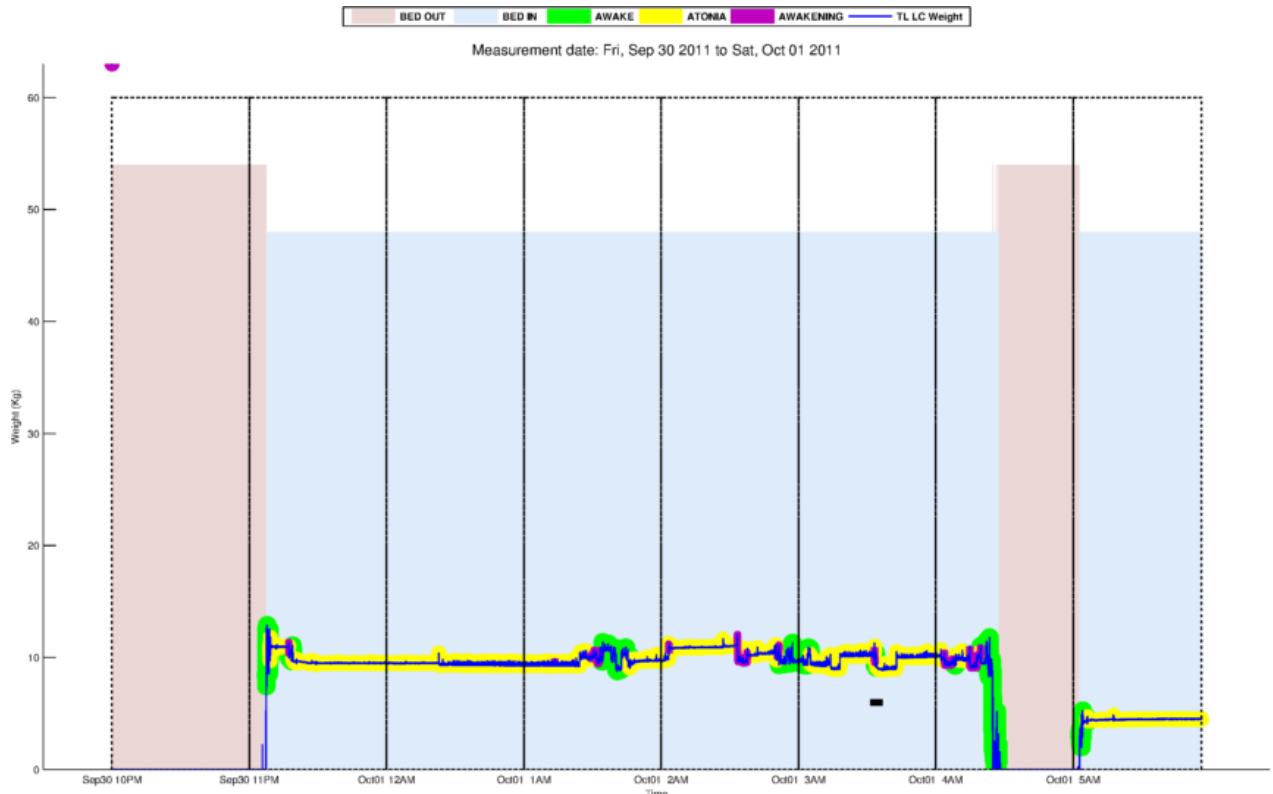


Figure 16: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 16 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 17 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 16).

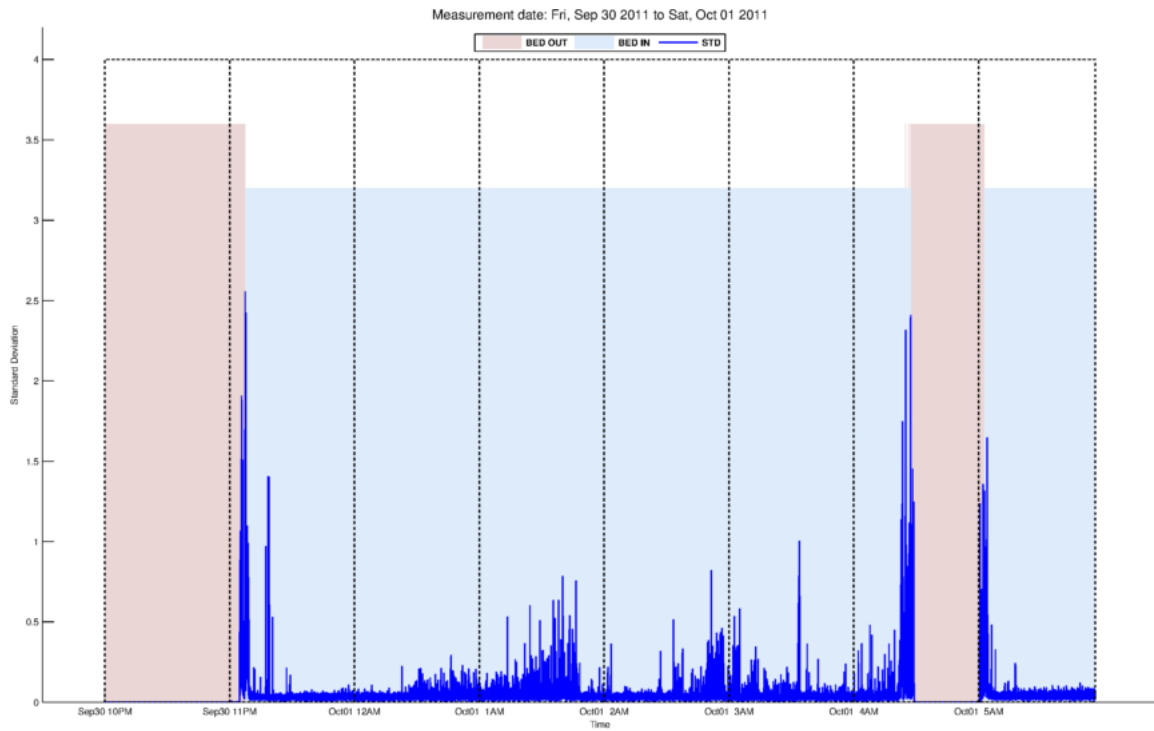


Figure 17: The moving standard deviation for the measured weight.

2.10 9th Night: from Oct 01 2011 to Oct 02 2011

Table 19 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 20 presents the duration of the estimated sleep related activities.

Table 19: Sleep related activities and sensor events measured between Oct 01 and Oct 02

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	23:06:55	22:03:53	00:22:45	23:06:55	23:09:36	22:09:03	23:03:17	23:02:46	23:02:03		23:02:01
2	05:42:04	05:41:13	01:37:47	00:23:01	00:23:03	22:26:33	03:14:58	23:09:51	03:14:12		23:11:45
3	05:50:51	05:42:14	01:47:21	01:37:51	01:37:53	22:40:45		03:14:53	05:58:47		03:14:09
4		05:56:58	02:07:44	02:07:52	01:47:22	22:43:33					03:17:56
5			02:51:46	03:15:39	02:14:01	23:09:44					
6			03:15:33	03:36:05	02:51:47	03:14:46					
7			03:31:16	04:03:57	03:17:12	05:59:02					
8			04:03:52	04:28:22	03:42:49						
9			04:27:52	04:55:42	04:05:49						
10			04:54:56	05:22:37	04:28:22						
11			05:21:24	05:33:55	05:04:45						
12			05:33:44	05:50:55	05:22:38						

Table 20: Duration of the sleep related activities presented in Table 19

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	06:35:03	01:03:09	00:00:16	00:02:41	01:13:17
2	00:00:09	00:00:51	00:00:03	00:00:01	01:14:53
3	00:06:07	00:08:38	00:00:01	00:00:02	00:09:29
4		00:03:01	00:00:07	00:06:10	00:20:24
5			00:00:00	00:01:33	00:37:49
6			00:00:06	00:06:44	00:23:48
7			00:04:49	00:01:52	00:14:05
8			00:00:05	00:00:00	00:21:06
9			00:00:30	00:09:03	00:22:05
10			00:00:46	00:00:00	00:26:37
11			00:01:13	00:07:19	00:16:41
12			00:00:10	00:06:03	00:11:08

Figure 18 presents the measured sensor events and the computed bed entrances and exits.

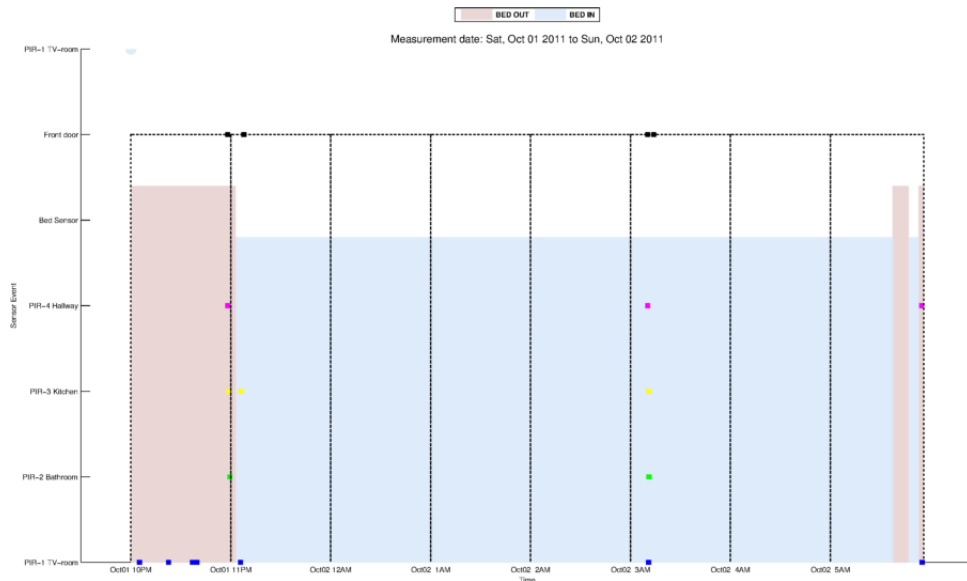


Figure 18: Sensor events and computed bed entrances and exists

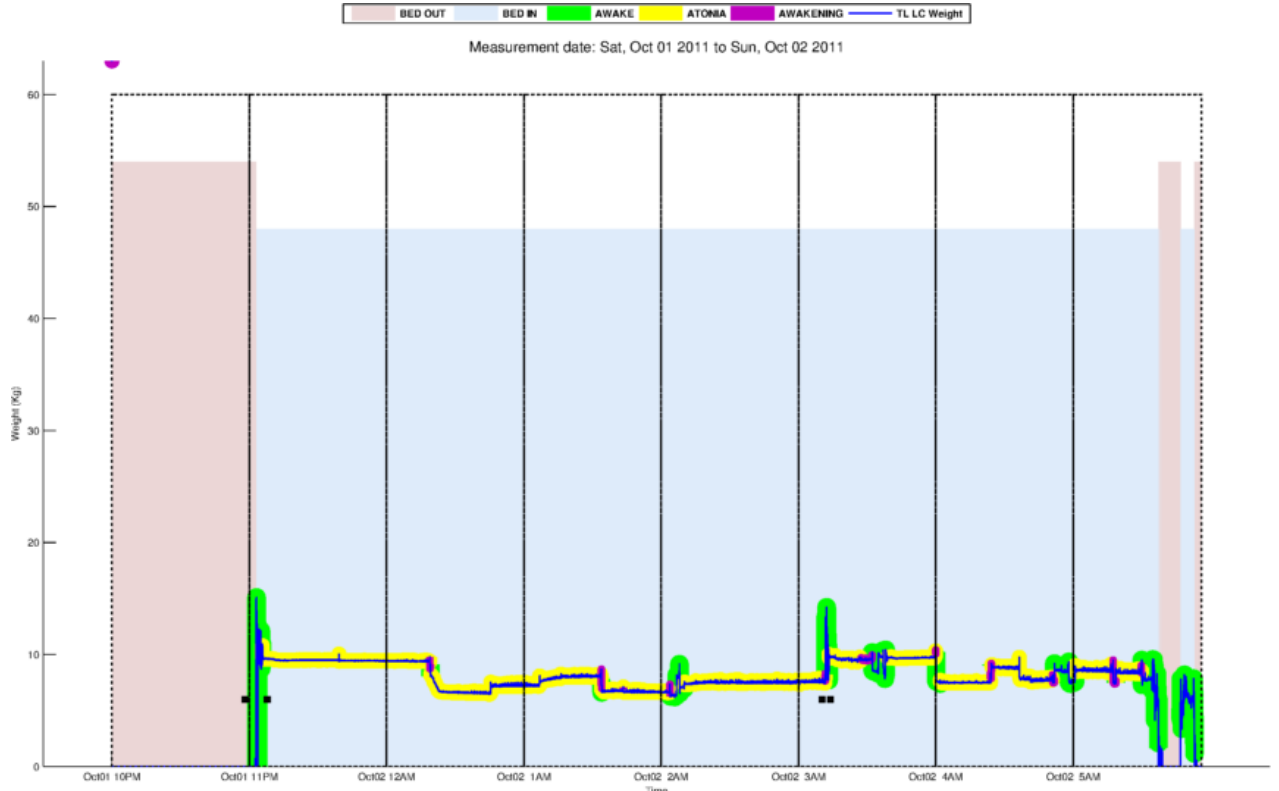


Figure 19: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 19 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 20 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 19).

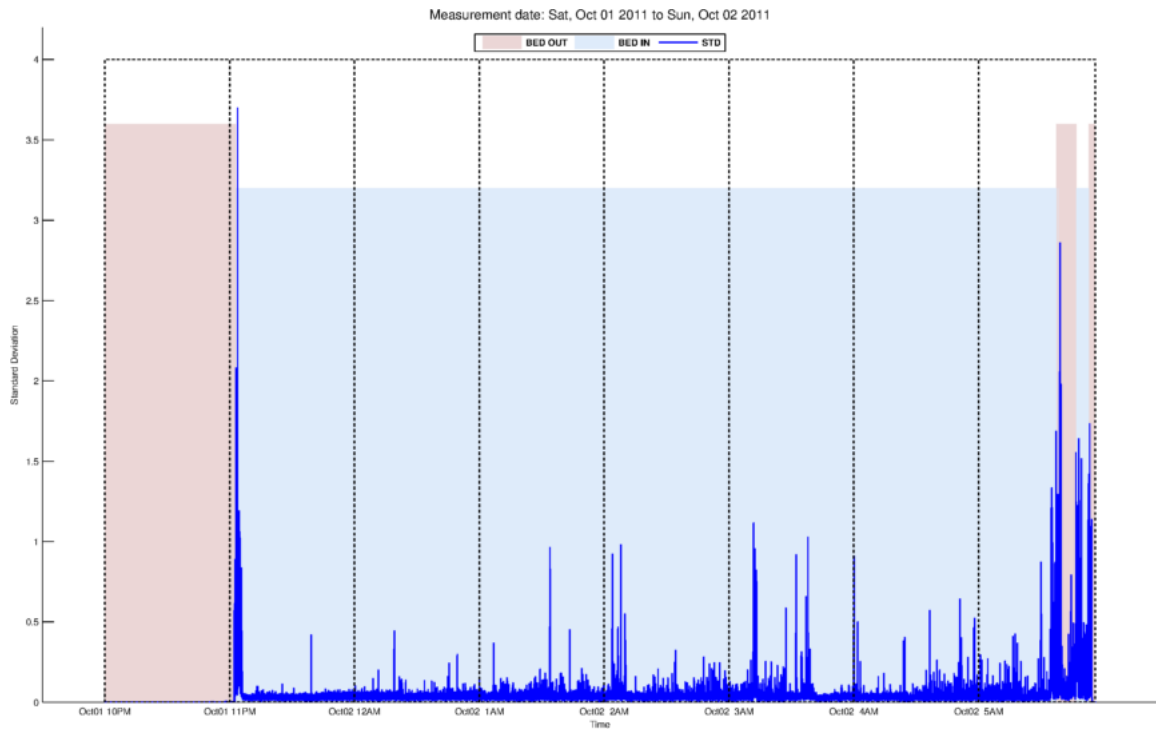


Figure 20: The moving standard deviation for the measured weight.

2.11 10th Night: from Oct 02 2011 to Oct 03 2011

Table 21 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 22 presents the duration of the estimated sleep related activities.

Table 21: Sleep related activities and sensor events measured between Oct 02 and Oct 03

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:51:32	22:03:53	01:34:44	22:51:36	23:01:12	22:06:11		22:54:39	22:47:18		22:47:17
2	05:14:13	05:07:30	02:06:59	02:54:45	01:34:47	22:12:08		03:08:44	03:08:25		22:55:05
3	05:14:35	05:14:19	02:49:56	03:06:19	02:06:59	22:20:14					03:08:24
4			03:06:16	03:57:53	02:54:46	22:24:21					03:11:43
5			03:42:53	05:04:18	03:15:59	22:27:06					
6			03:57:49	05:14:16	03:42:53	22:36:43					
7			05:04:14	05:14:38	03:58:01	22:45:35					
8			05:27:36	05:27:41	05:17:18	22:53:58					
9			05:51:28	05:55:13	05:27:43	03:08:41					
10						03:11:36					

Table 22: Duration of the sleep related activities presented in Table 21

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	06:16:39	00:47:45	00:00:03	00:09:37	02:33:48
2	00:00:06	00:06:44	00:00:00	00:00:00	00:32:15
3	00:45:29	00:00:16	00:04:49	00:09:41	00:43:01
4			00:00:03	00:00:08	00:11:31
5			00:00:00	00:03:12	00:26:56
6			00:00:03	00:00:02	00:14:57
7			00:00:04	00:02:39	01:06:20
8			00:00:05	00:00:02	00:10:19
9			00:03:45	00:04:46	00:23:48

Figure 21 presents the measured sensor events and the computed bed entrances and exits.

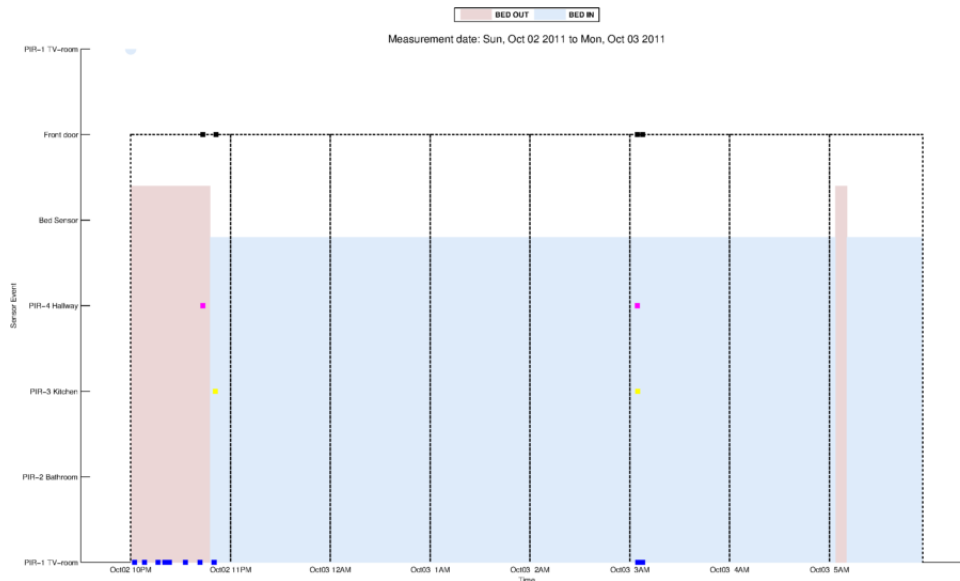


Figure 21: Sensor events and computed bed entrances and exists

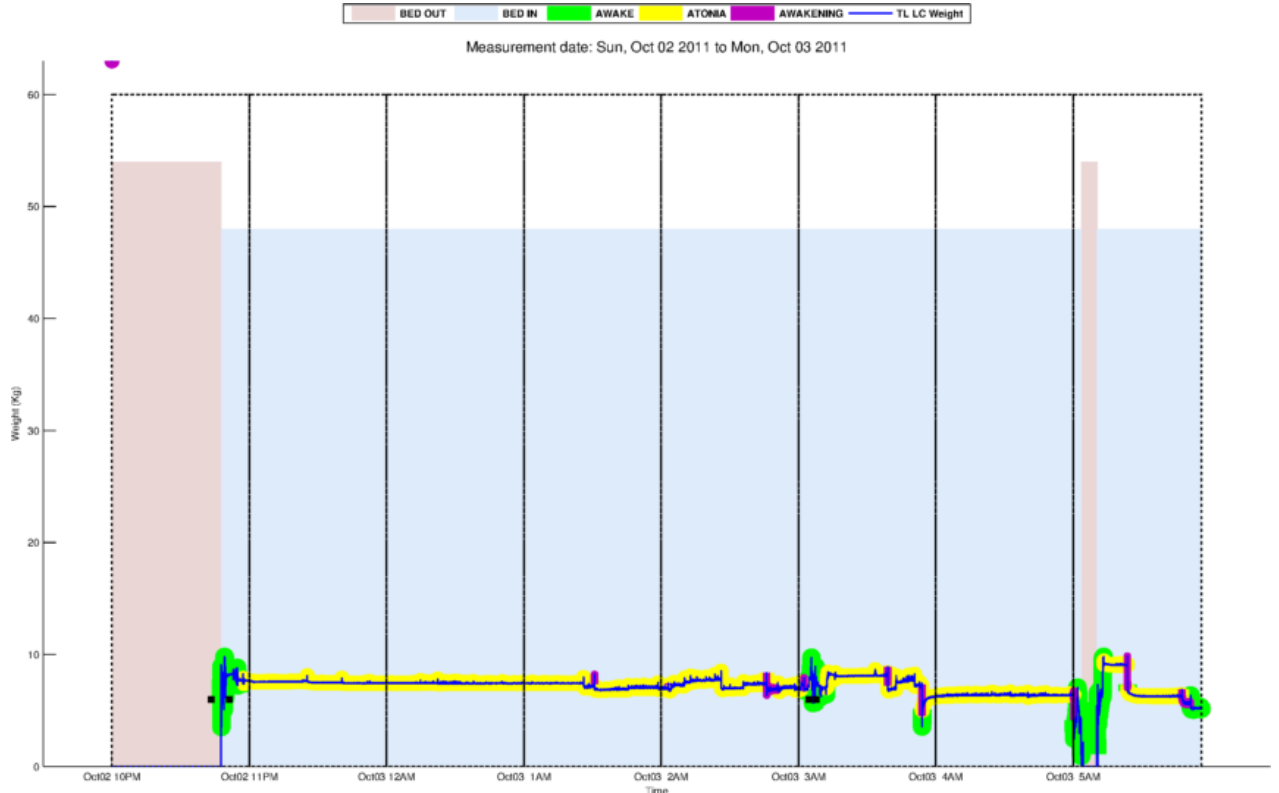


Figure 22: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 22 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 23 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 22).

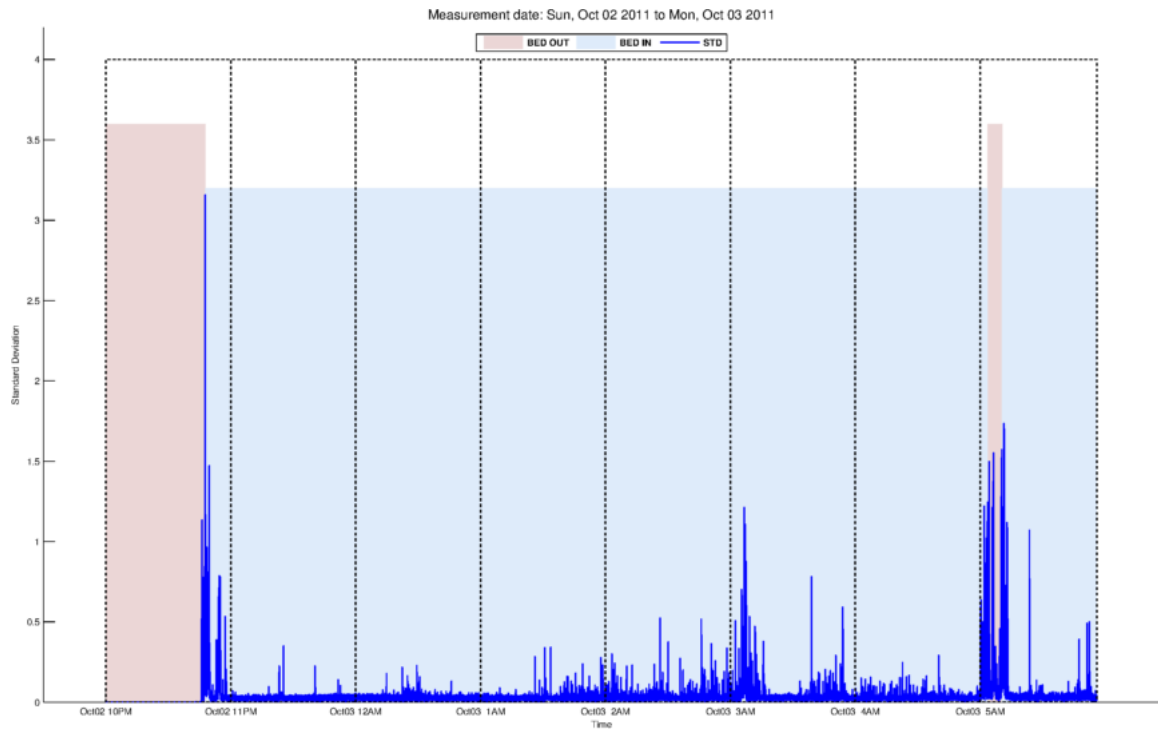


Figure 23: The moving standard deviation for the measured weight.

2.12 11th Night: from Oct 03 2011 to Oct 04 2011

Table 23 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 24 presents the duration of the estimated sleep related activities.

Table 23: Sleep related activities and sensor events measured between Oct 03 and Oct 04

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	23:26:03	22:03:29	01:51:32	23:26:06	23:31:31	22:08:07	23:20:58	23:17:12	22:07:40		23:16:53
2			02:07:40	02:07:46	01:51:36	22:54:17	03:06:06	23:29:44	23:16:54		23:33:19
3			02:25:39	02:30:22	02:09:23	23:08:34		03:05:50	23:20:44		03:05:30
4			02:35:36	02:39:33	02:30:28	23:17:15			03:05:31		03:09:01
5			03:06:16	03:06:47	02:39:37	23:29:36					
6			03:29:44	03:33:44	03:09:23	03:05:58					
7			03:52:44	03:55:27	03:46:07						
8			04:08:53	04:13:00	03:57:43						
9			04:30:22	04:30:25	04:13:07						
10			04:49:34	05:16:05	04:30:32						
11			05:15:56	05:25:30	04:49:35						
12			05:24:34	05:51:41	05:17:59						
13			05:47:05		05:28:00						

Table 24: Duration of the sleep related activities presented in Table 23

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	06:34:44	01:22:44	00:00:03	00:05:25	02:20:18
2			00:00:05	00:01:38	00:16:06
3			00:04:44	00:00:06	00:16:17
4			00:03:57	00:00:04	00:05:08
5			00:00:31	00:02:37	00:26:42
6			00:04:01	00:12:24	00:20:23
7			00:02:43	00:02:16	00:06:38
8			00:04:08	00:00:07	00:11:11
9			00:00:03	00:00:06	00:17:17
10			00:00:01	00:01:54	00:19:04
11			00:00:09	00:02:30	00:26:24
12			00:00:56	00:08:18	00:06:36
13			00:04:37		00:19:07

Figure 24 presents the measured sensor events and the computed bed entrances and exits.

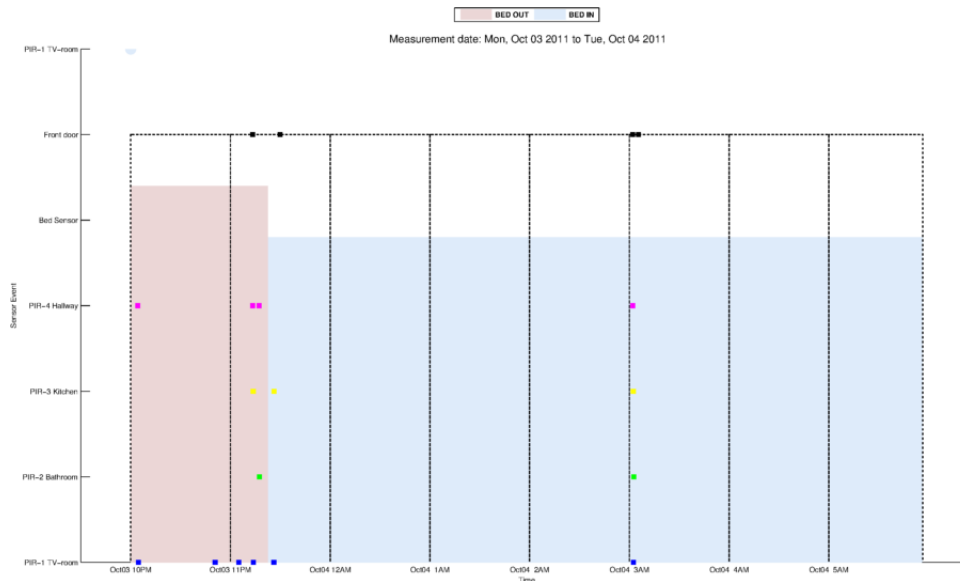


Figure 24: Sensor events and computed bed entrances and exists

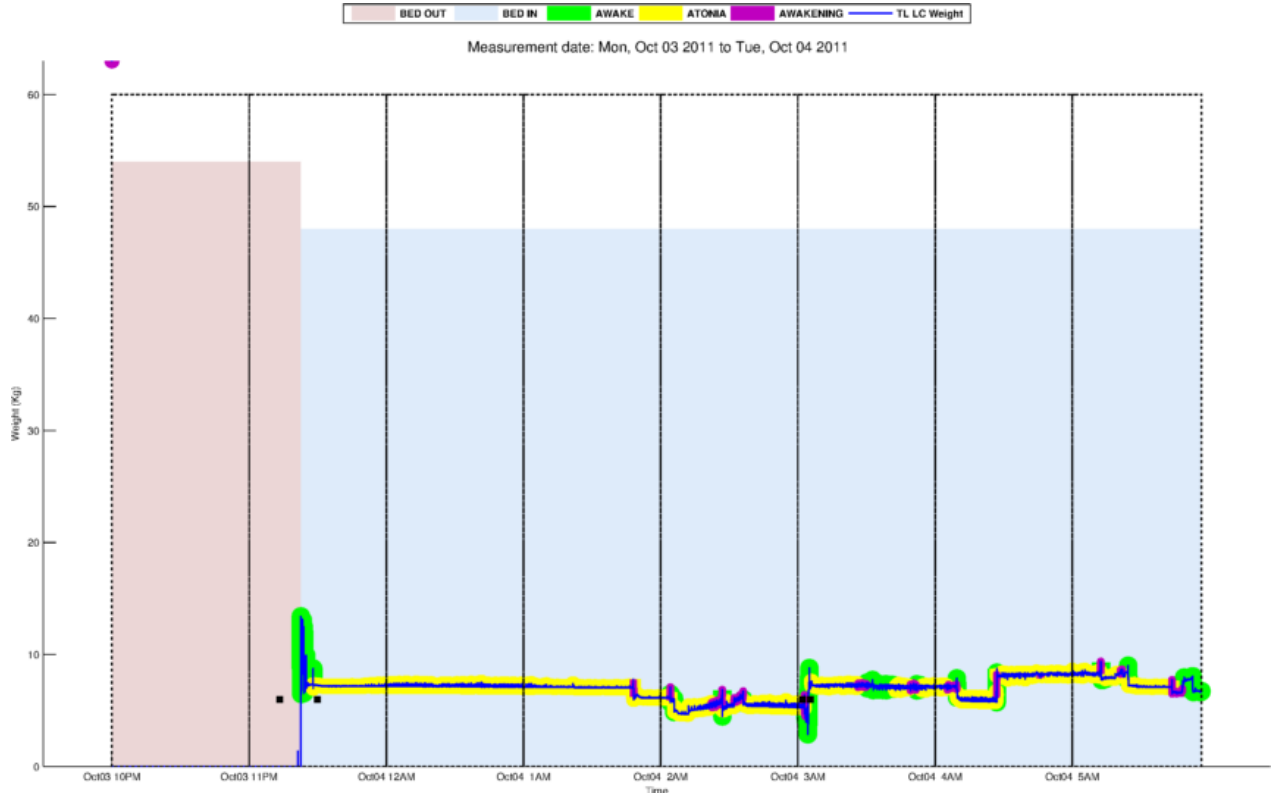


Figure 25: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 25 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 26 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 25).

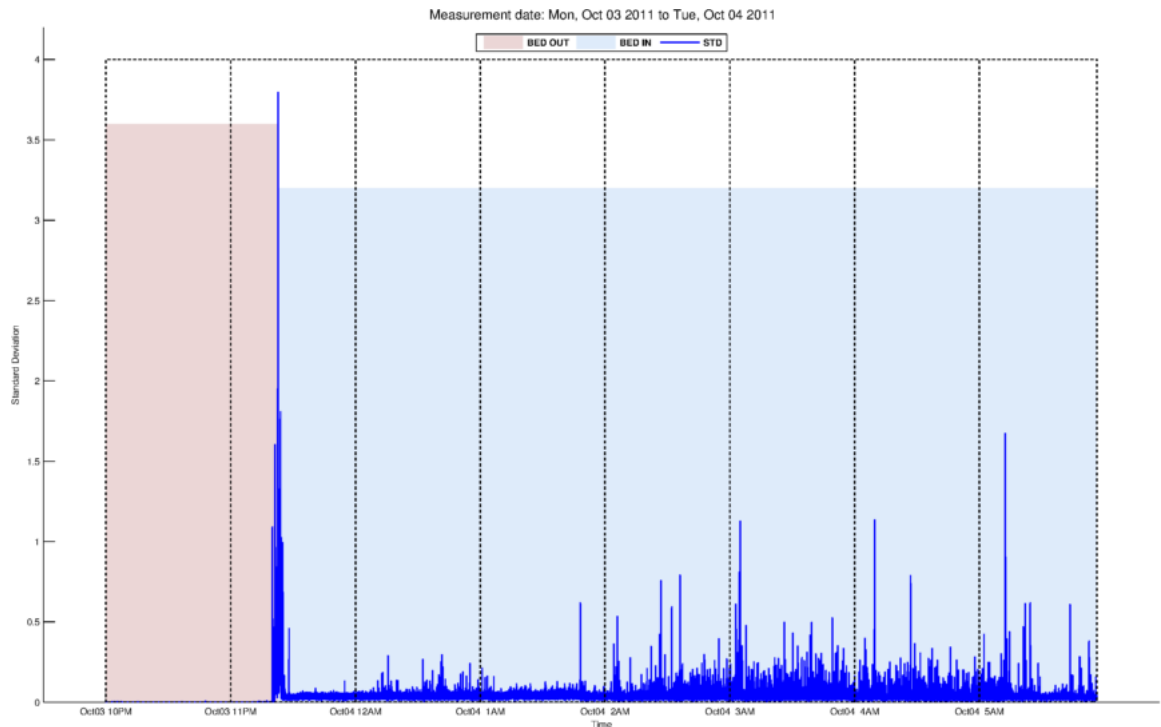


Figure 26: The moving standard deviation for the measured weight.

2.13 12th Night: from Oct 04 2011 to Oct 05 2011

Table 25 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 26 presents the duration of the estimated sleep related activities.

Table 25: Sleep related activities and sensor events measured between Oct 04 and Oct 05

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	23:08:17	22:05:33	00:49:29	23:08:21	23:11:06	22:01:18	23:06:34	23:06:13	23:05:03		23:05:01
2			01:09:01	00:49:32	00:49:34	22:14:08	02:47:40	23:11:29	02:47:12		23:12:05
3			01:56:51	02:31:10	01:09:02	22:18:38					02:47:11
4			02:16:15	02:48:07	01:56:51	22:26:37					02:50:09
5			02:29:18	03:51:16	02:16:15	22:30:08					05:13:55
6			02:47:26	03:59:19	02:33:28	22:33:50					
7			03:14:58	04:17:27	02:49:32	22:43:04					
8			03:24:07	04:44:18	03:14:59	22:49:41					
9			03:29:20	05:00:45	03:24:08	22:54:48					
10			03:45:56	05:15:13	03:29:23	02:47:38					
11			03:50:58	05:23:53	03:45:57						
12			03:58:21	05:31:46	03:51:18						
13			04:16:55	05:50:11	04:00:43						
14			04:39:58		04:17:28						
15			05:00:42		04:46:32						
16			05:15:09		05:04:21						
17			05:23:49		05:15:18						
18			05:31:22		05:23:56						
19			05:50:08		05:39:38						
20					05:50:17						

Table 26: Duration of the sleep related activities presented in Table 25

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	06:52:31	01:02:52	00:00:03	00:02:46	01:38:34
2			00:00:01	00:00:01	00:19:29
3			00:00:00	00:02:18	00:47:54
4			00:00:00	00:01:26	00:19:26
5			00:01:52	00:00:02	00:13:04
6			00:00:40	00:01:25	00:13:59
7			00:00:00	00:00:00	00:25:29
8			00:00:00	00:02:13	00:09:09
9			00:00:02	00:03:35	00:05:13
10			00:00:01	00:00:05	00:16:35
11			00:00:18	00:00:03	00:05:01
12			00:00:58	00:07:53	00:07:03
13			00:00:32	00:00:05	00:16:13
14			00:04:21		00:22:32
15			00:00:03		00:14:12
16			00:00:03		00:10:50
17			00:00:04		00:08:32
18			00:00:24		00:07:26
19			00:00:03		00:10:31
20					00:09:43

Figure 27 presents the measured sensor events and the computed bed entrances and exits.

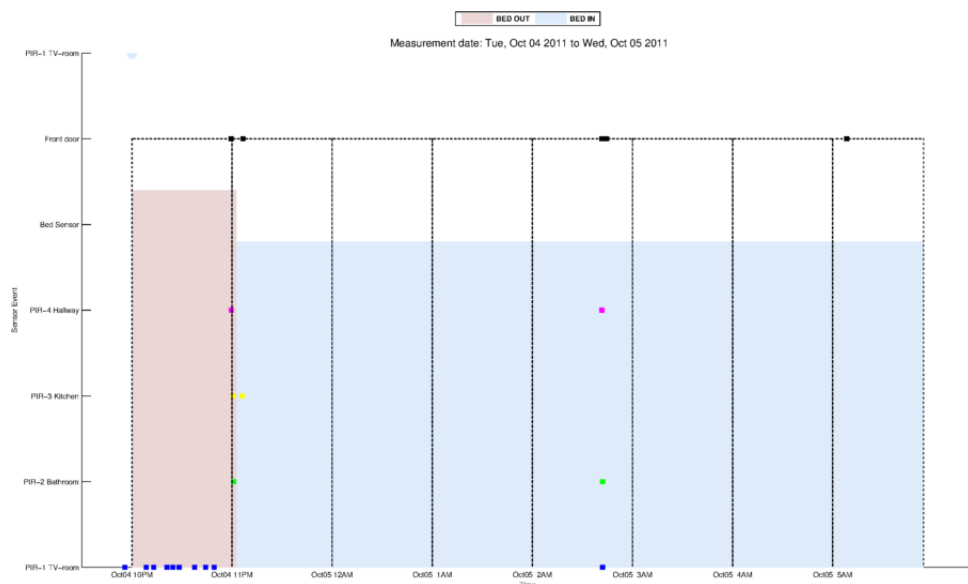


Figure 27: Sensor events and computed bed entrances and exists

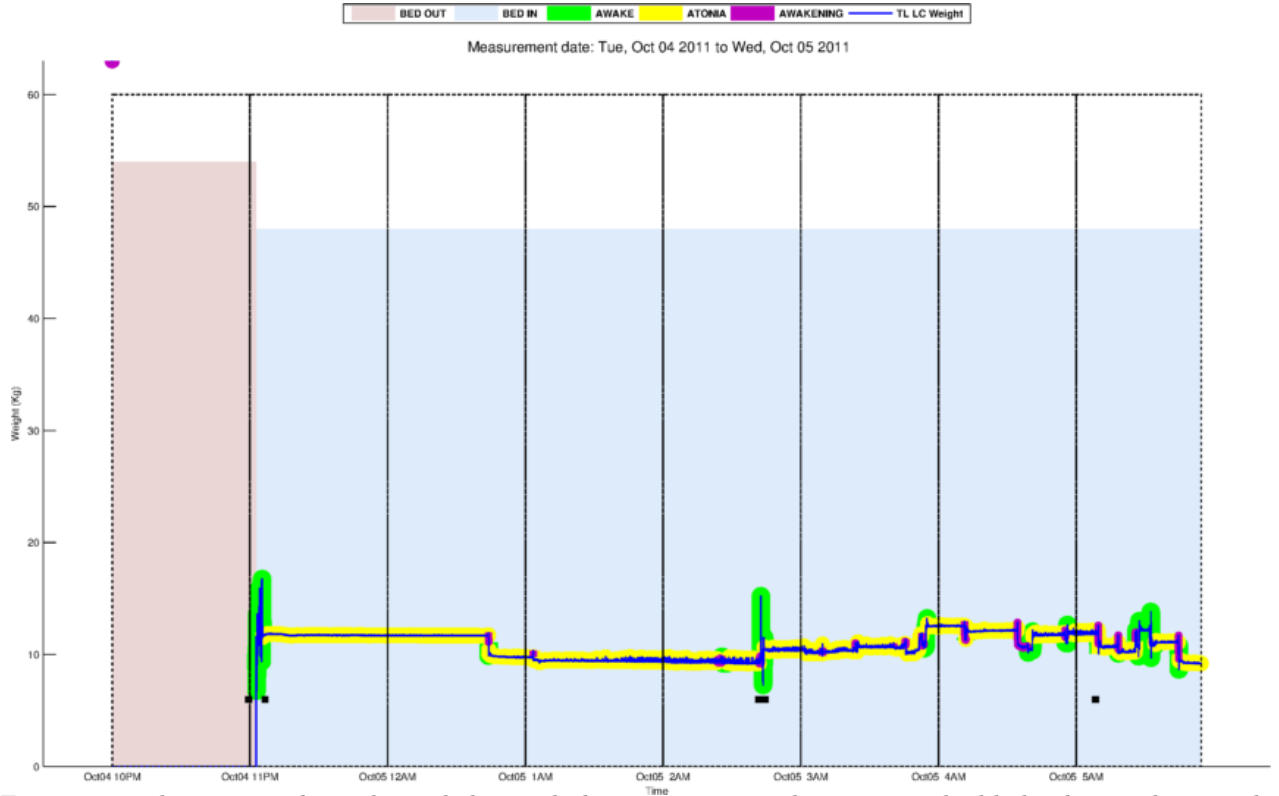


Figure 28: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 28 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 29 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 28).

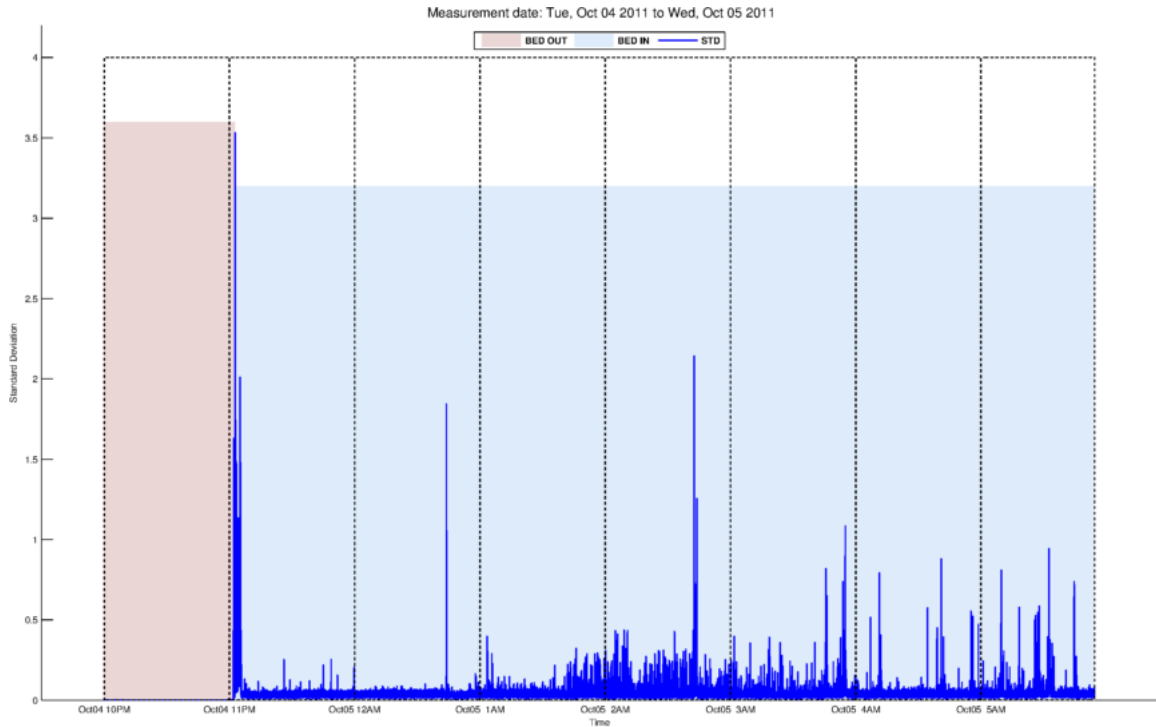


Figure 29: The moving standard deviation for the measured weight.

2.14 13th Night: from Oct 05 2011 to Oct 06 2011

Table 27 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 28 presents the duration of the estimated sleep related activities.

Table 27: Sleep related activities and sensor events measured between Oct 05 and Oct 06

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	23:05:23	22:05:34	23:21:14	23:05:26	23:08:41	22:01:47	23:03:11	04:17:55	23:01:20		23:01:19
2			01:13:34	23:21:18	23:22:08	22:17:58			04:14:33		23:10:15
3			02:11:57	02:42:23	01:13:34	22:28:10					04:13:53
4			02:42:19	03:35:49	02:11:58	22:35:47					04:14:28
5			02:58:07	03:54:39	02:42:29	23:00:19					04:18:18
6			03:27:31	04:15:19	02:58:10	23:06:41					
7			03:35:46	04:50:19	03:27:33	04:15:02					
8			03:54:36	05:23:27	03:35:50						
9			04:14:11	05:30:08	04:00:09						
10			04:50:16	05:36:00	04:17:20						
11			05:10:13		04:50:23						
12			05:15:28		05:10:17						
13			05:23:23		05:15:29						
14			05:29:57		05:23:30						
15			05:35:56		05:30:09						
16			05:51:54		05:40:08						
17					05:51:56						

Table 28: Duration of the sleep related activities presented in Table 27

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	06:55:26	00:59:56	00:00:03	00:03:15	00:12:34
2			00:00:00	00:00:51	01:51:38
3			00:00:00	00:00:06	00:58:30
4			00:00:03	00:00:01	00:30:25
5			00:00:03	00:05:30	00:15:39
6			00:00:01	00:02:01	00:29:25
7			00:00:03	00:00:03	00:08:14
8			00:00:03	00:00:03	00:18:48
9			00:01:09	00:00:01	00:14:03
10			00:00:03	00:04:09	00:32:59
11			00:00:03		00:19:53
12			00:00:01		00:05:12
13			00:00:04		00:07:54
14			00:00:11		00:06:27
15			00:00:03		00:05:47
16			00:00:02		00:11:47
17					00:08:03

Figure 30 presents the measured sensor events and the computed bed entrances and exits.

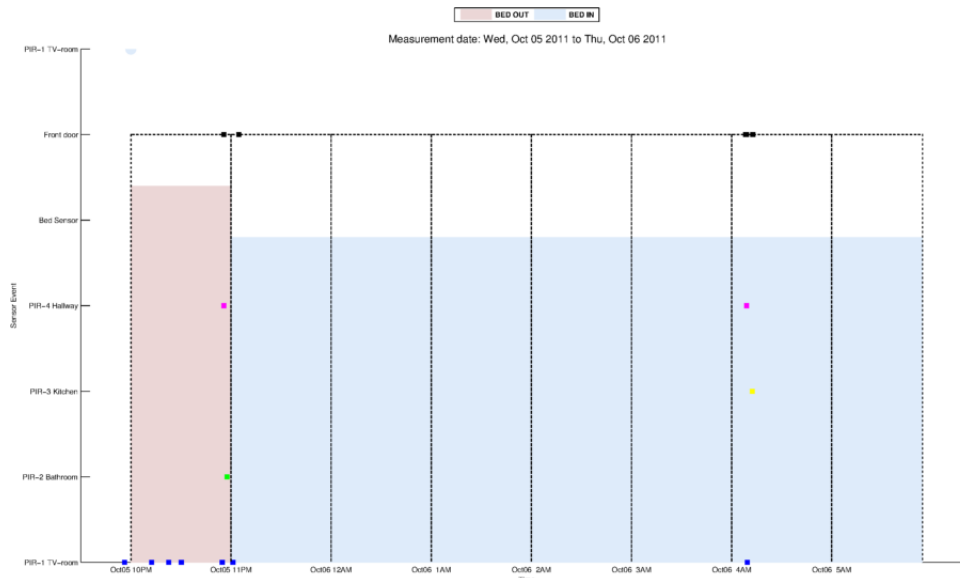


Figure 30: Sensor events and computed bed entrances and exists

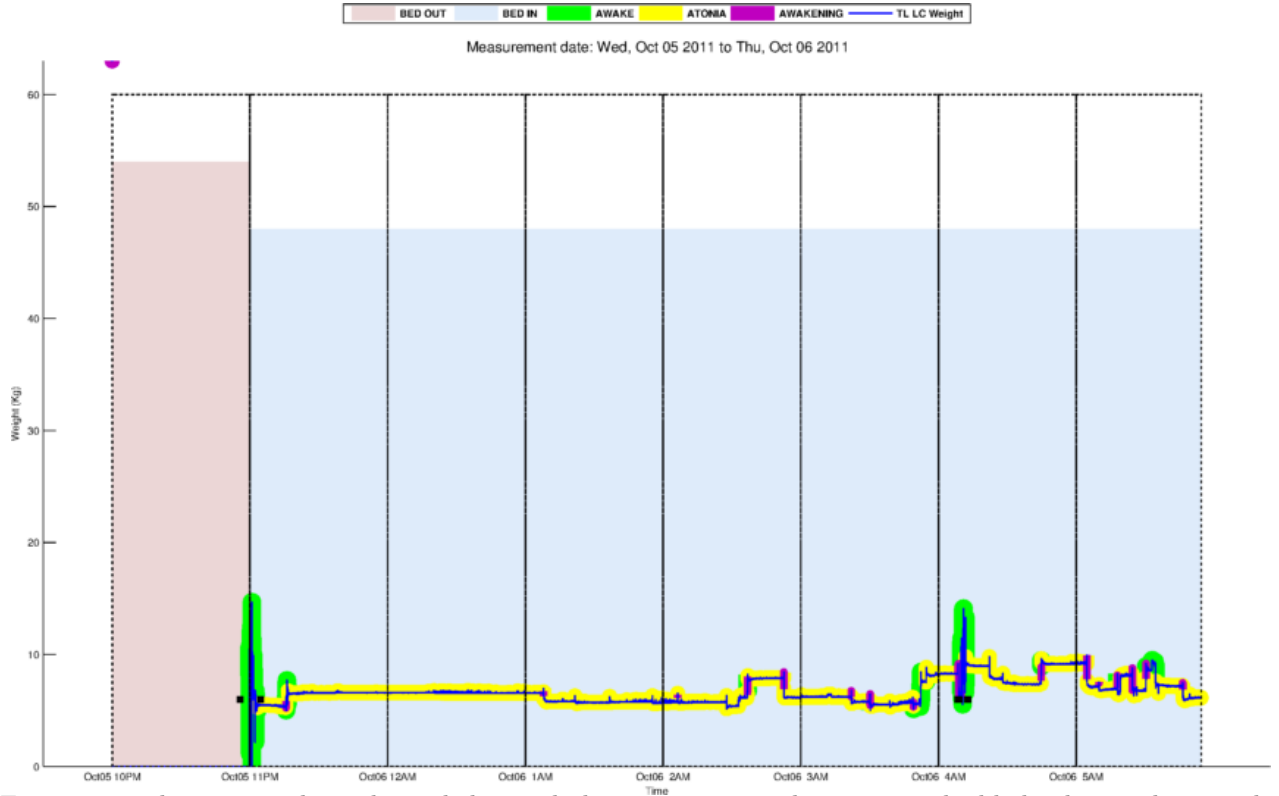


Figure 31: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 31 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 32 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 31).

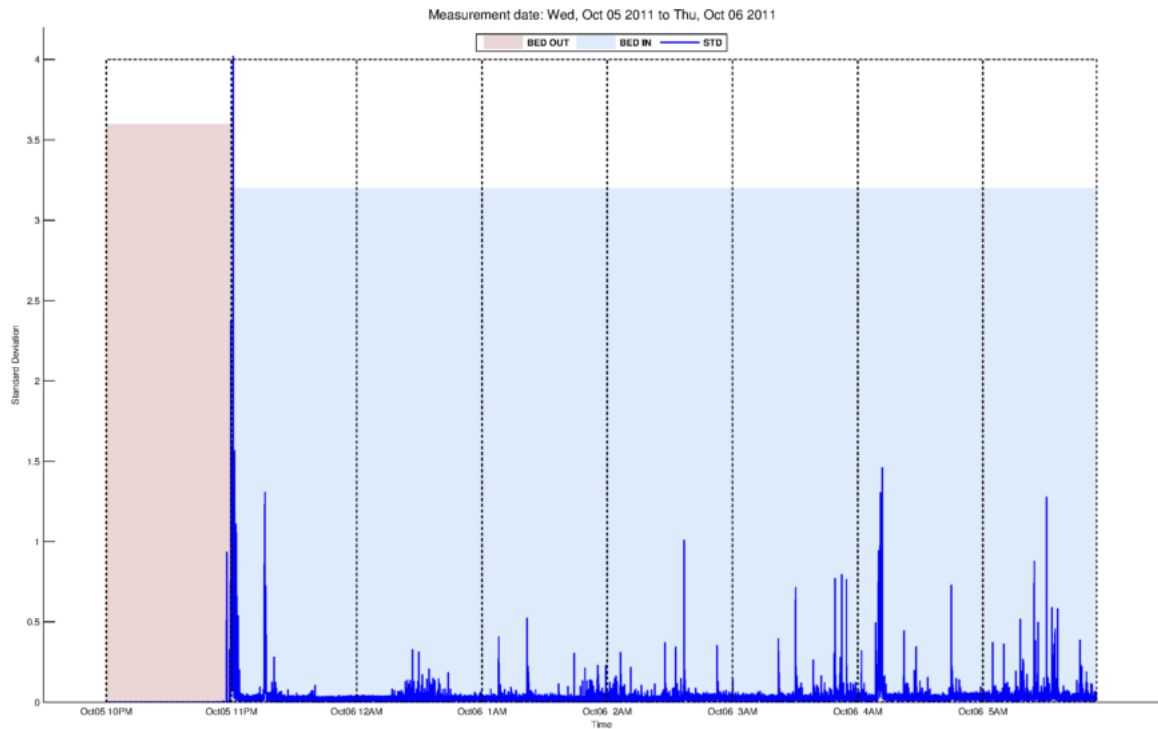


Figure 32: The moving standard deviation for the measured weight.

2.15 14th Night: from Oct 06 2011 to Oct 07 2011

Table 29 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 30 presents the duration of the estimated sleep related activities.

Table 29: Sleep related activities and sensor events measured between Oct 06 and Oct 07

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	23:07:55	22:00:23	23:19:30	23:07:58	23:09:37	22:00:59	23:04:47	23:03:34	03:20:53		23:03:13
2	23:08:27	23:08:25	23:54:12	23:08:27	23:20:44	22:06:36	23:48:53	23:09:55			03:13:51
3			01:22:51	23:19:34	23:54:19	22:20:03	03:21:24				03:20:51
4			02:22:19	23:54:17	01:22:51	22:27:12					03:23:16
5			02:57:13	02:57:17	02:22:21	22:35:04					
6			03:21:55	03:21:59	03:00:35	22:48:50					
7			03:38:53	03:59:12	03:22:45	03:21:24					
8			03:58:42	04:53:58	03:38:54						
9			04:24:49	05:10:06	03:59:14						
10			04:34:58	05:27:51	04:24:50						
11			04:42:01	05:39:56	04:35:01						
12			04:52:51	05:49:21	04:42:02						
13			05:10:01		04:55:13						
14			05:27:48		05:11:37						
15			05:39:53		05:31:23						
16			05:49:16		05:41:16						
17					05:53:34						

Table 30: Duration of the sleep related activities presented in Table 29

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:30	01:07:40	00:00:03	00:00:27	00:09:54
2	06:52:23	00:00:02	00:00:04	00:01:10	00:33:32
3			00:00:00	00:01:10	01:28:42
4			00:00:01	00:00:02	00:59:35
5			00:00:04	00:03:18	00:34:56
6			00:00:03	00:00:46	00:21:23
7			00:00:01	00:00:01	00:16:09
8			00:00:30	00:01:15	00:19:50
9			00:00:00	00:01:31	00:25:38
10			00:00:02	00:03:32	00:10:10
11			00:00:00	00:01:20	00:07:01
12			00:01:07	00:04:14	00:10:51
13			00:00:04		00:14:50
14			00:00:03		00:16:12
15			00:00:03		00:08:30
16			00:00:05		00:08:00
17					00:06:25

Figure 33 presents the measured sensor events and the computed bed entrances and exits.

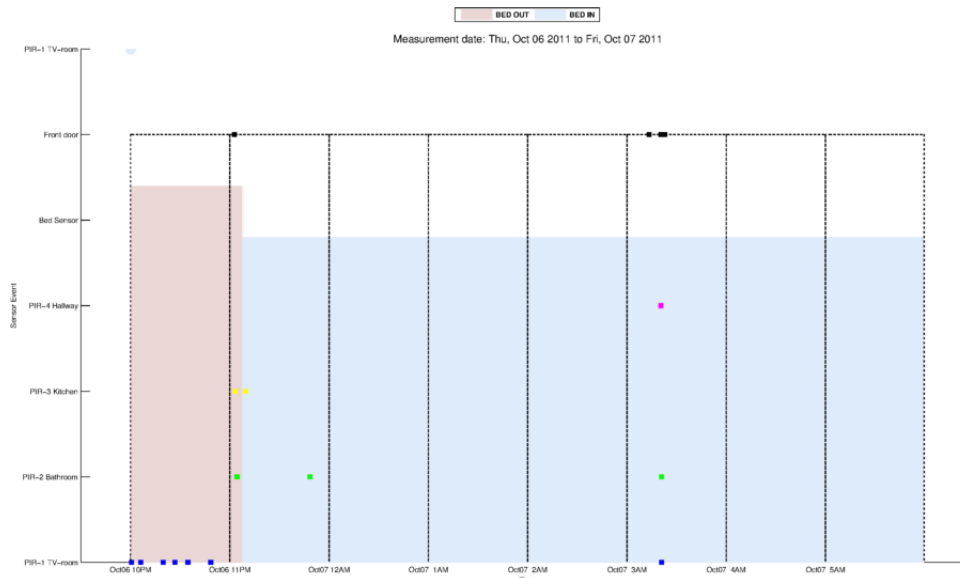


Figure 33: Sensor events and computed bed entrances and exists

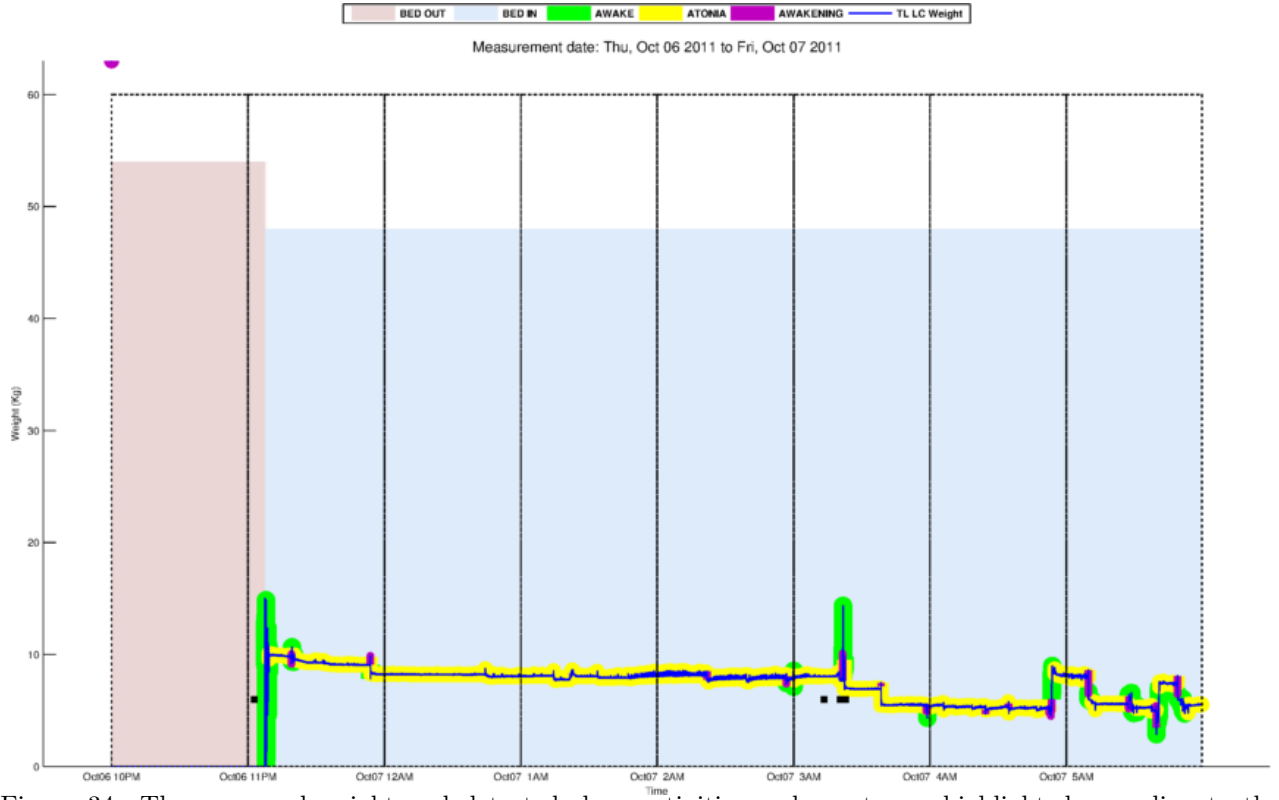


Figure 34: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 34 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 35 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 34).

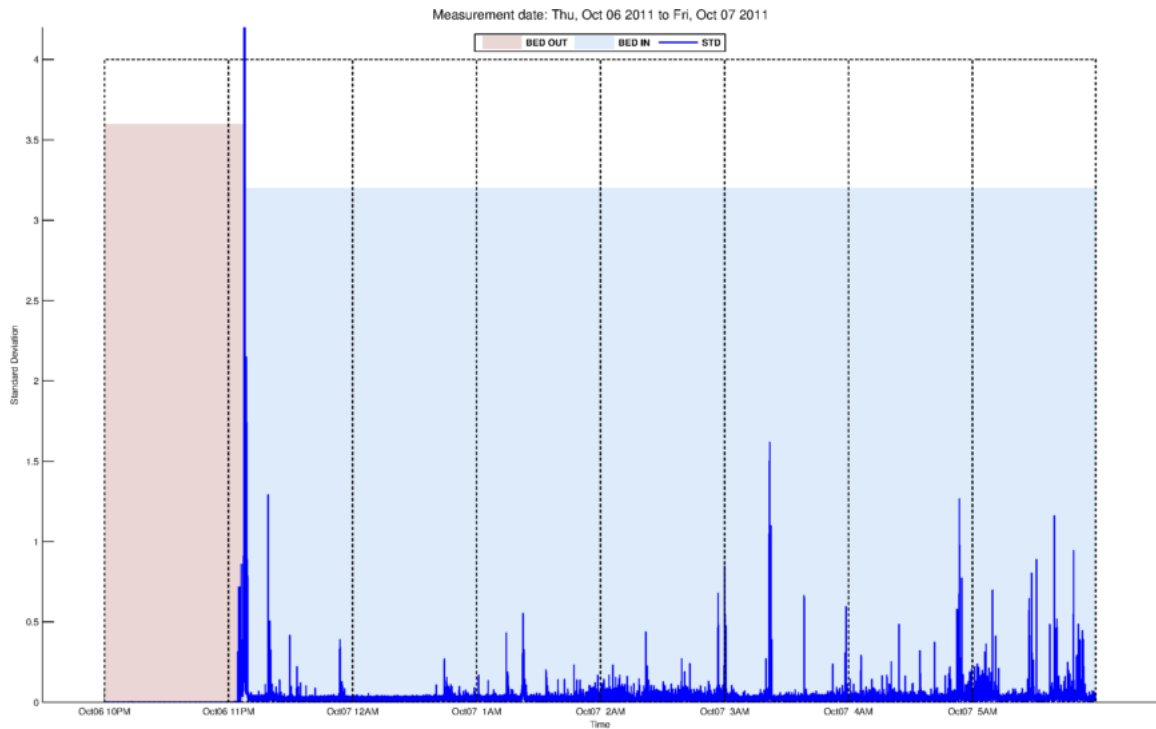


Figure 35: The moving standard deviation for the measured weight.

2.16 15th Night: from Oct 07 2011 to Oct 08 2011

Table 31 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 32 presents the duration of the estimated sleep related activities.

Table 31: Sleep related activities and sensor events measured between Oct 07 and Oct 08

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:59:23	22:04:50	23:40:00	23:00:08	23:04:50	22:13:31	22:58:16	22:55:55	04:33:59		22:55:32
2	22:59:38	22:59:25	00:06:30	23:00:19	23:40:36	22:18:37		23:03:03			23:05:56
3	23:00:00	22:59:41	00:31:11	23:40:03	00:06:32	22:32:08		04:34:10			02:13:48
4	23:00:05	23:00:02	00:38:10	02:34:09	00:31:12	22:42:08		04:37:43			04:33:57
5	23:00:19	23:00:16	02:16:21	03:21:37	00:38:11	22:50:29					04:38:11
6			02:34:05	03:34:36	02:16:23						
7			03:21:33	04:18:12	02:34:19						
8			03:34:33	04:34:59	03:21:38						
9			03:59:53		03:34:38						
10			04:18:08		03:59:54						
11			04:30:51		04:18:12						
12					04:38:08						

Table 32: Duration of the sleep related activities presented in Table 31

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:02	00:54:40	00:00:03	00:00:07	00:35:14
2	00:00:03	00:00:12	00:00:02	00:04:31	00:25:57
3	00:00:01	00:00:19	00:00:01	00:00:33	00:24:42
4	00:00:11	00:00:03	00:00:01	00:00:10	00:06:58
5	07:00:30	00:00:03	00:00:01	00:00:01	01:38:21
6			00:00:03	00:00:01	00:17:45
7			00:00:03	00:00:00	00:47:20
8			00:00:03	00:03:09	00:12:56
9			00:00:01		00:25:19
10			00:00:03		00:18:16
11			00:04:08		00:12:40
12					01:22:01

Figure 36 presents the measured sensor events and the computed bed entrances and exits.

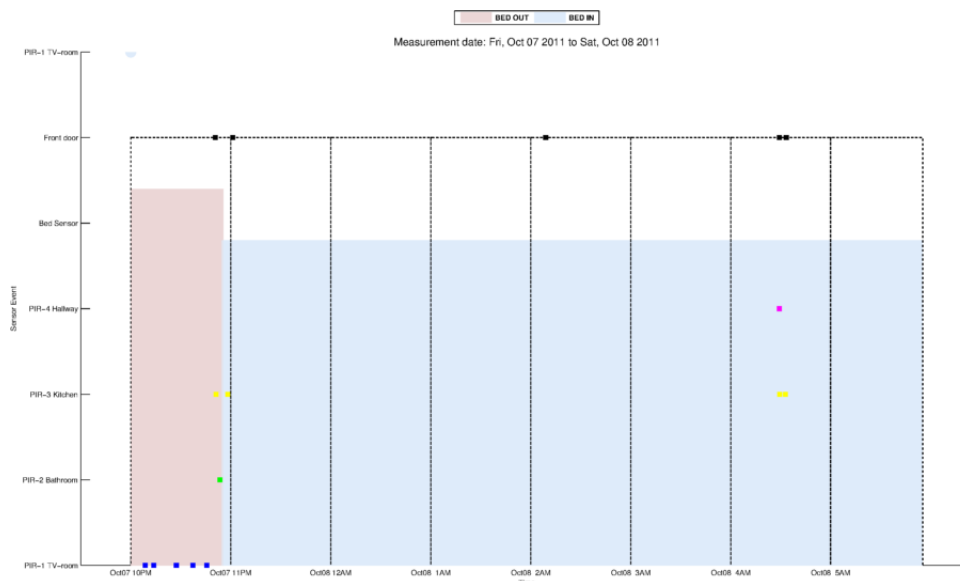


Figure 36: Sensor events and computed bed entrances and exists

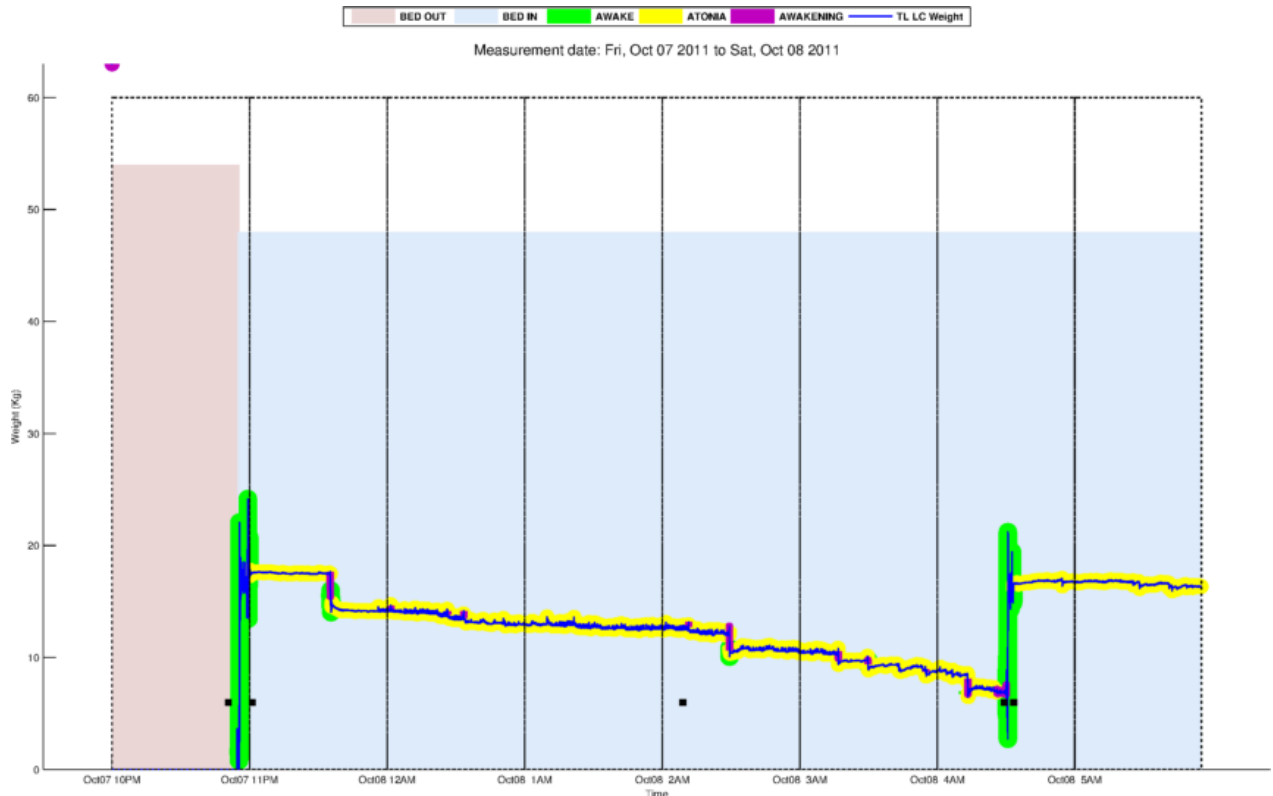


Figure 37: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 37 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 38 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 37).

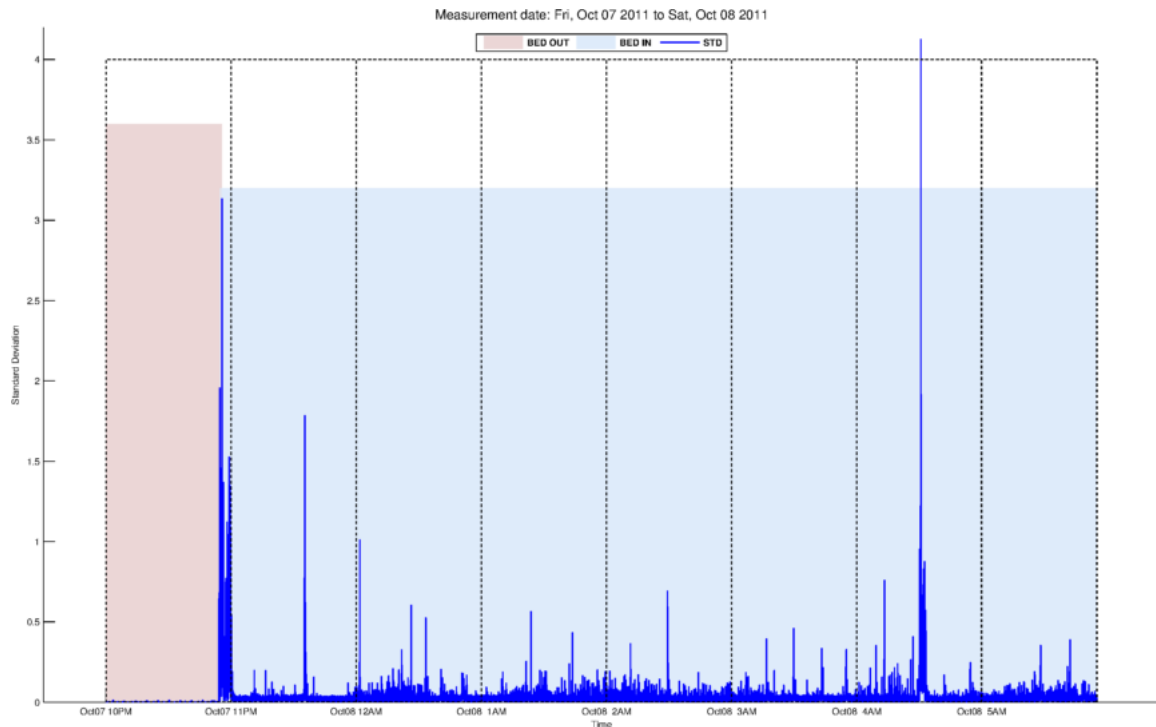


Figure 38: The moving standard deviation for the measured weight.

2.17 16th Night: from Oct 08 2011 to Oct 09 2011

Table 33 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 34 presents the duration of the estimated sleep related activities.

Table 33: Sleep related activities and sensor events measured between Oct 08 and Oct 09

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	23:01:44	22:04:20	23:25:34	23:01:47	23:07:27	22:05:32	05:32:02	22:59:17	22:58:55		22:58:53
2	23:01:58	23:01:51	00:16:10	23:02:23	23:25:35	22:20:38		23:07:38	05:31:27		23:08:29
3	23:02:23	23:01:59	00:32:00	01:13:33	00:16:11	22:27:58		05:31:54			01:13:46
4			01:13:26	02:55:59	00:32:00	22:32:24					05:31:25
5			02:55:56	04:38:03	01:13:39	22:38:07					05:35:44
6			03:27:10	05:32:47	02:56:03	22:48:43					
7			03:56:27		03:27:11						
8			04:08:52		03:56:28						
9			04:37:59		04:08:55						
10			05:32:43		04:38:04						
11					05:35:02						

Table 34: Duration of the sleep related activities presented in Table 33

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:07	00:57:30	00:00:00	00:00:04	00:18:09
2	00:00:00	00:00:07	00:00:00	00:05:04	00:50:41
3	06:58:26	00:00:24	00:00:00	00:00:06	00:15:51
4			00:00:07	00:00:03	00:41:31
5			00:00:03	00:00:01	01:42:29
6			00:00:01	00:02:15	00:31:11
7			00:00:00		00:29:19
8			00:00:03		00:12:25
9			00:00:03		00:29:08
10			00:00:03		00:54:45
11					00:25:00

Figure 39 presents the measured sensor events and the computed bed entrances and exits.

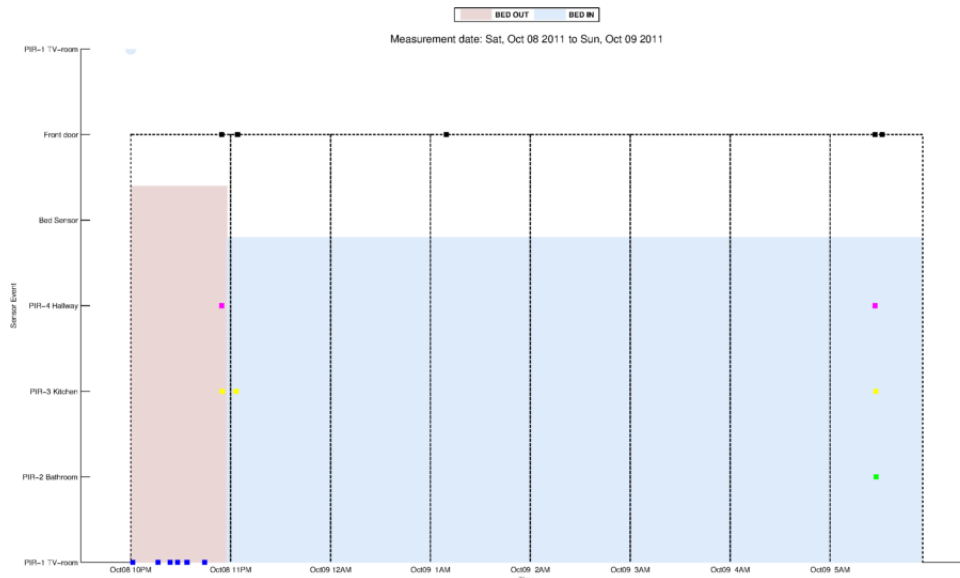


Figure 39: Sensor events and computed bed entrances and exists

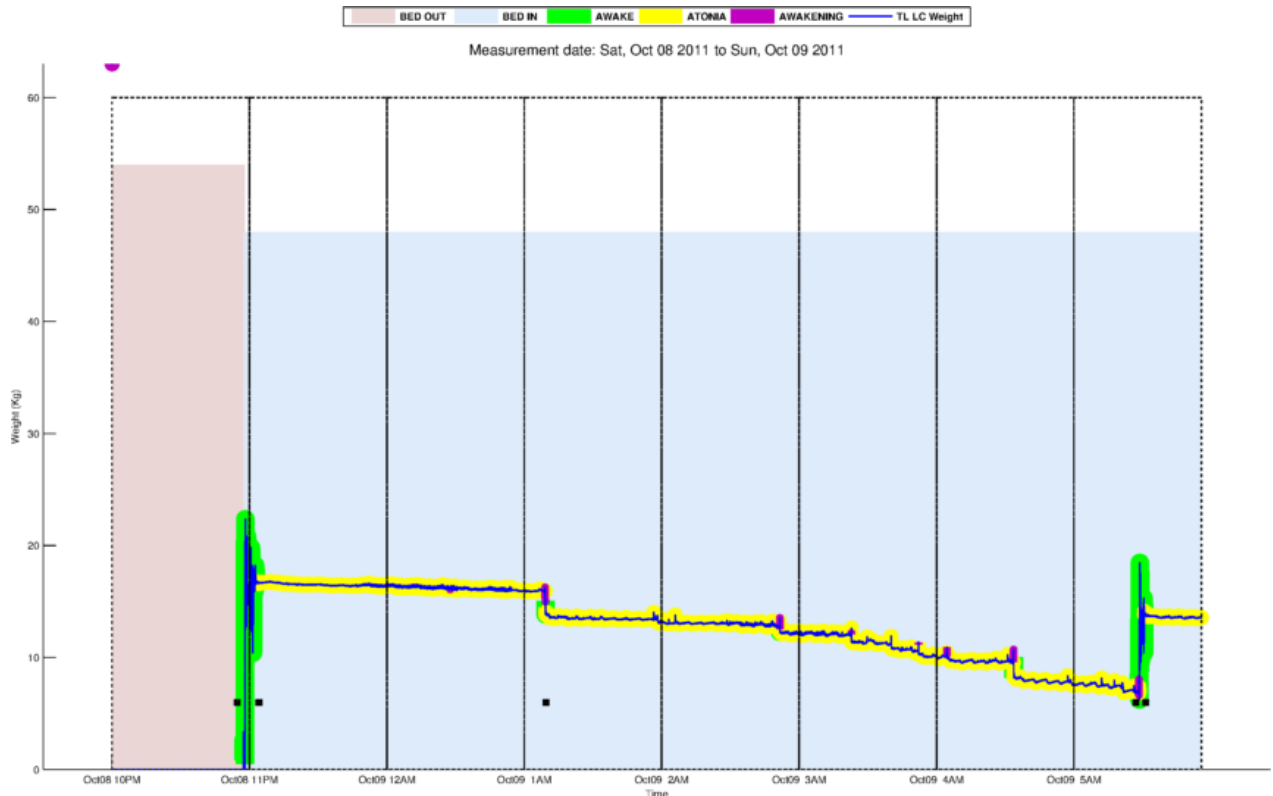


Figure 40: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 40 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 41 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 40).

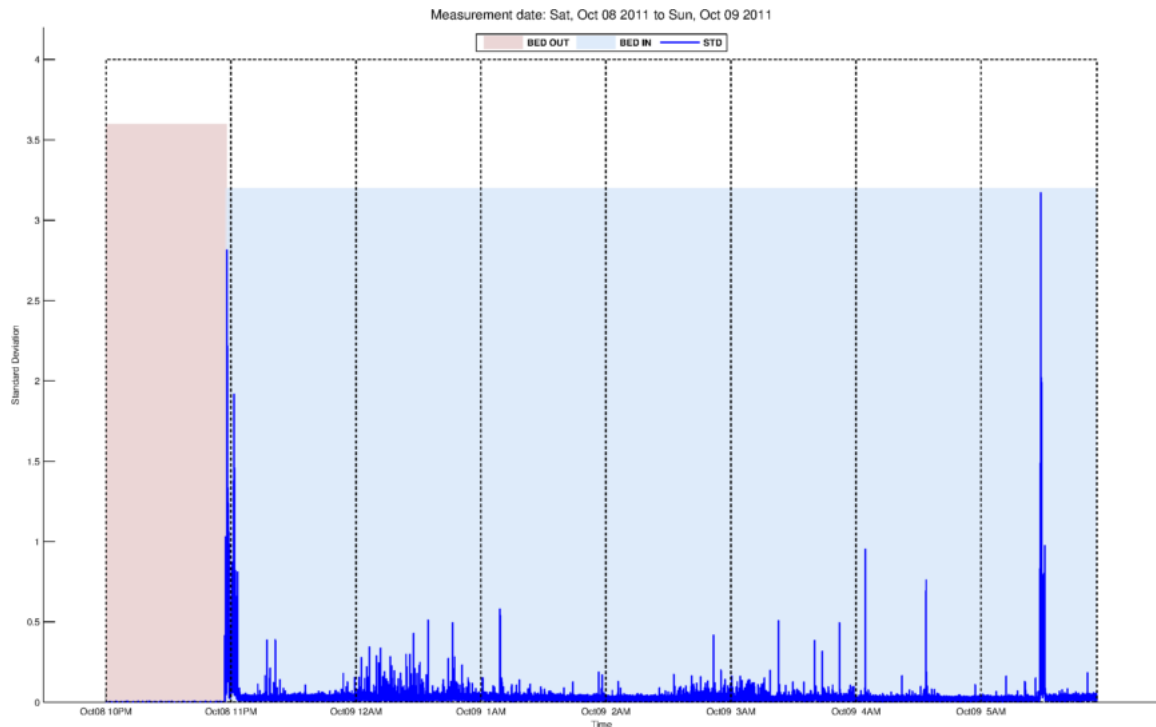


Figure 41: The moving standard deviation for the measured weight.

2.18 17th Night: from Oct 09 2011 to Oct 10 2011

Table 35 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 36 presents the duration of the estimated sleep related activities.

Table 35: Sleep related activities and sensor events measured between Oct 09 and Oct 10

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:38:17	22:02:33	23:39:53	22:38:40	22:46:06	22:04:39	22:35:23	22:34:53	22:34:29		22:34:28
2	22:38:35	22:38:18	00:26:06	23:39:56	23:44:13	22:25:05		22:40:27	02:54:21		22:41:49
3	22:38:38	22:38:36	00:44:29	00:31:06	00:31:06	22:27:44		02:54:34			00:13:44
4			02:42:15	02:55:32	00:44:30	22:35:10					02:54:19
5			02:55:29	04:07:18	02:42:15	02:54:43					02:57:38
6			03:29:52	04:49:17	02:57:54						
7			04:04:12		03:29:53						
8			04:49:13		04:07:19						
9			05:09:08		04:49:23						
10			05:52:37		05:09:08						
11					05:52:38						

Table 36: Duration of the sleep related activities presented in Table 35

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:00	00:35:48	00:00:03	00:07:27	00:53:54
2	00:00:01	00:00:17	00:05:00	00:04:17	00:41:58
3	07:22:17	00:00:02	00:00:01	00:00:00	00:13:25
4			00:00:00	00:02:22	01:57:59
5			00:00:03	00:00:00	00:13:15
6			00:00:01	00:00:06	00:32:02
7			00:03:06		00:34:23
8			00:00:04		00:41:59
9			00:00:01		00:19:47
10			00:00:01		00:43:33
11					00:07:21

Figure 42 presents the measured sensor events and the computed bed entrances and exits.

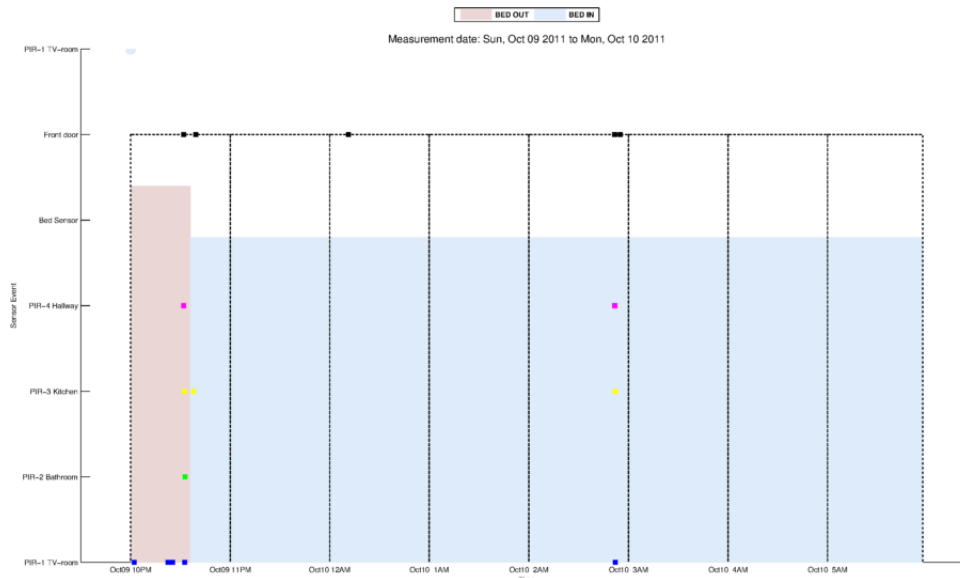


Figure 42: Sensor events and computed bed entrances and exists

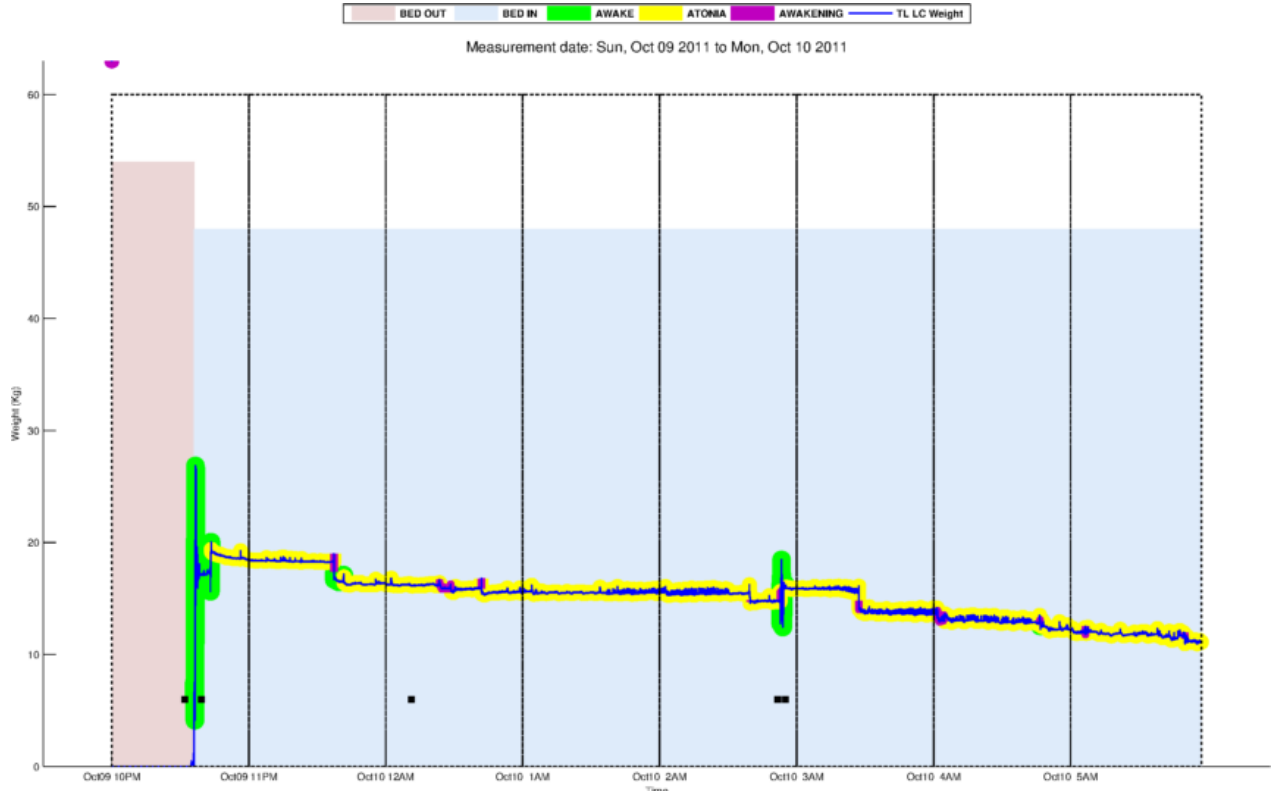


Figure 43: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 43 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 44 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 43).

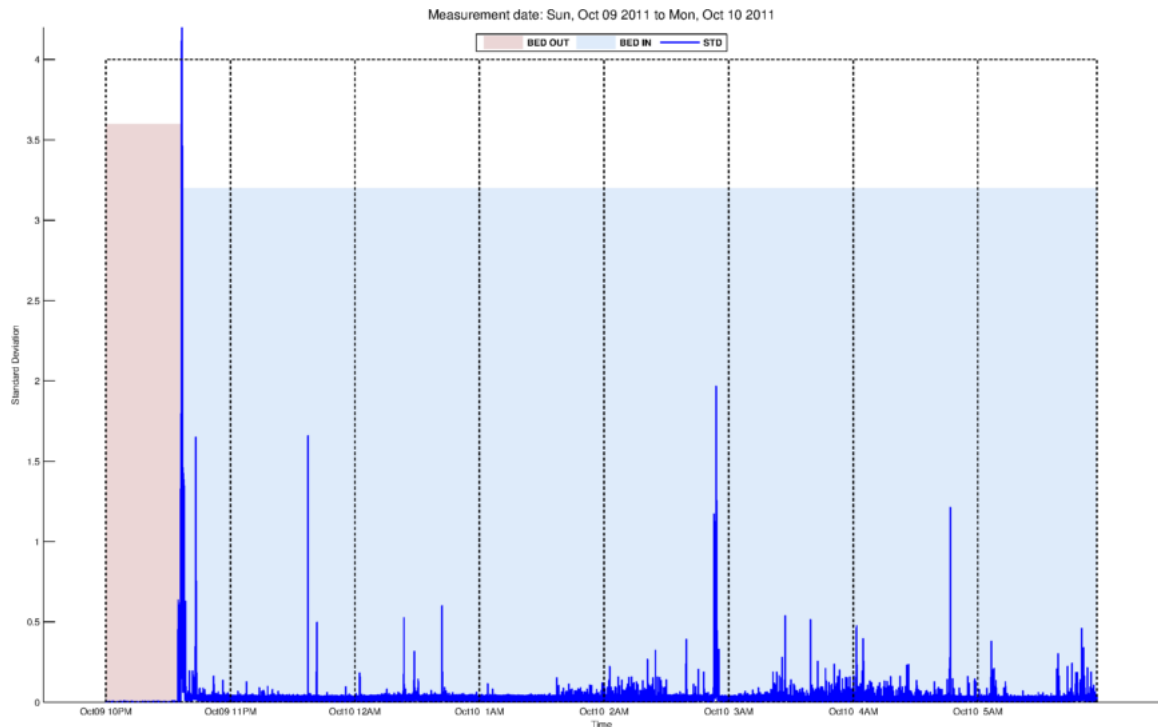


Figure 44: The moving standard deviation for the measured weight.

2.19 21st Night: from Oct 13 2011 to Oct 14 2011

Table 37 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 38 presents the duration of the estimated sleep related activities.

Table 37: Sleep related activities and sensor events measured between Oct 13 and Oct 14

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:48:18	22:04:12	02:37:20	22:48:21	22:52:10	22:04:41	22:39:30	22:38:54	22:38:40		22:38:38
2			03:39:09	03:39:13	02:37:20	22:09:34	22:43:46	22:52:27			22:52:54
3					03:40:30	22:27:05	22:50:00	03:37:42			03:37:14
4						22:38:58					03:41:26
5						22:43:35					
6						22:50:00					
7						03:38:00					

Table 38: Duration of the sleep related activities presented in Table 37

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:13:12	00:44:14	00:00:00	00:03:49	03:45:56
2			00:00:03	00:01:17	01:02:02
3					02:19:59

Figure 45 presents the measured sensor events and the computed bed entrances and exists.

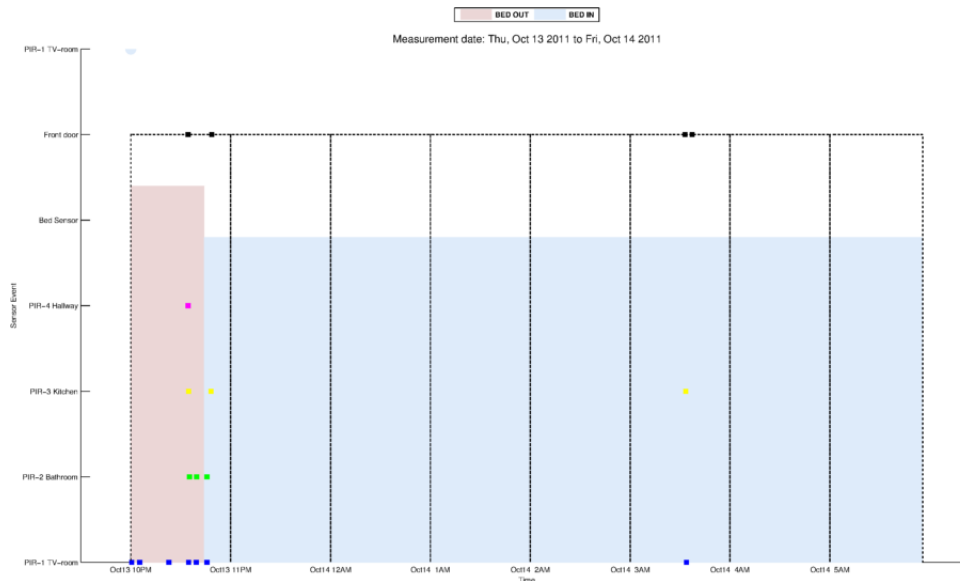


Figure 45: Sensor events and computed bed entrances and exists

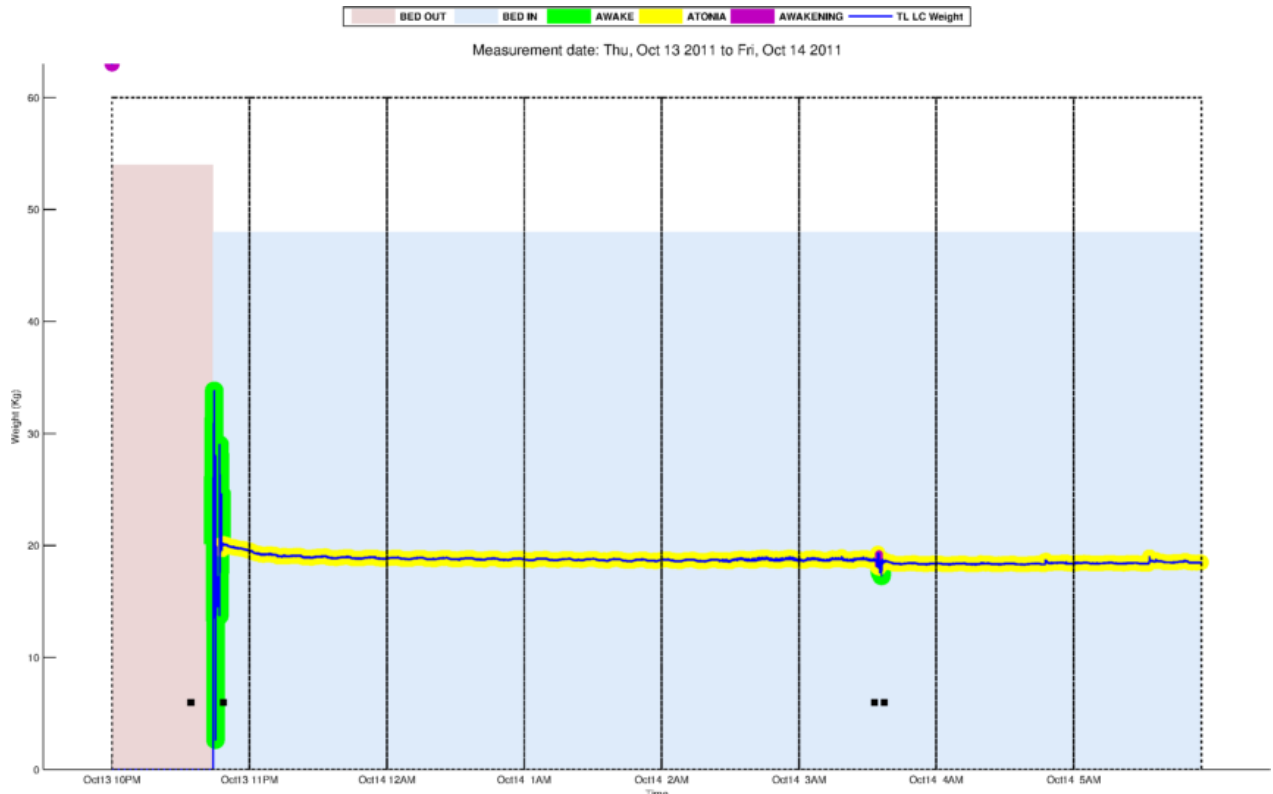


Figure 46: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 46 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 47 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 46).

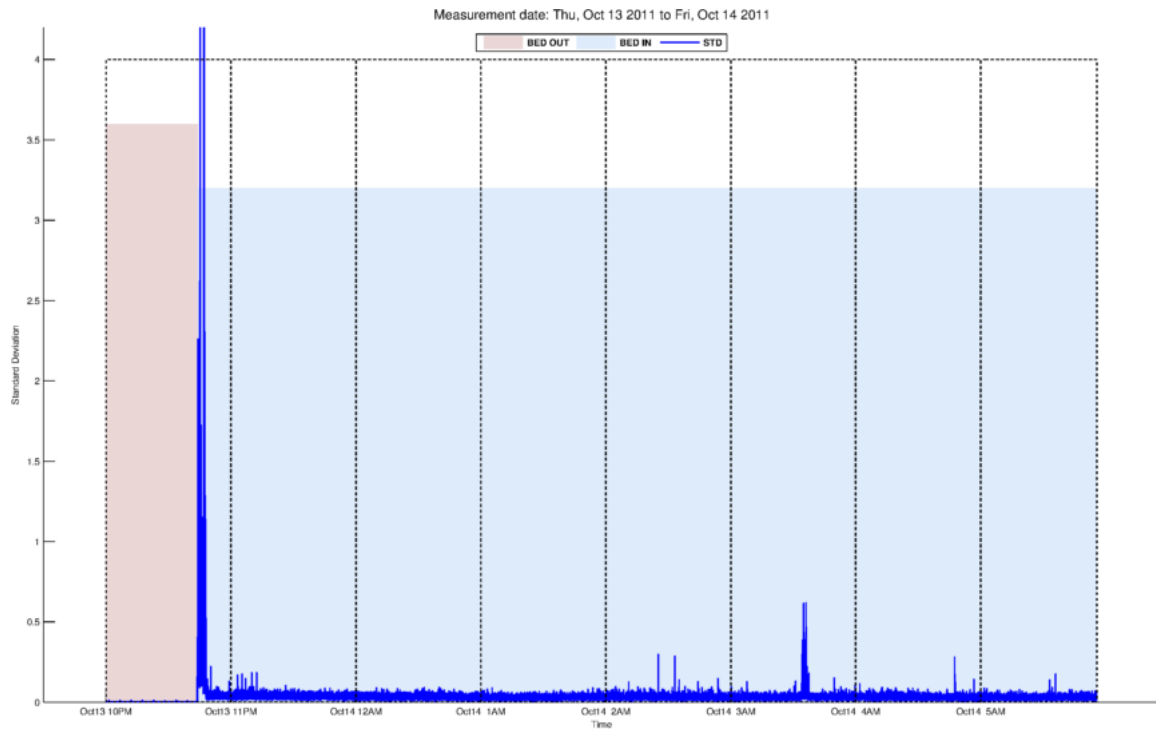


Figure 47: The moving standard deviation for the measured weight.

2.20 22nd Night: from Oct 14 2011 to Oct 15 2011

Table 39 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 40 presents the duration of the estimated sleep related activities.

Table 39: Sleep related activities and sensor events measured between Oct 14 and Oct 15

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:43:25	22:05:45	22:55:30	22:43:25	22:50:00	22:32:05	22:43:53	22:47:22	22:41:04	22:41:35	22:41:01
2			00:39:36	22:55:34	22:55:41	22:41:25	03:27:55	03:27:38	03:27:26		22:48:28
3			01:27:51	02:30:55	00:39:36	03:27:50					03:27:23
4			01:38:25	02:59:14	01:27:52						03:30:16
5			02:30:52	03:12:55	01:38:26						
6			02:45:22	03:28:15	02:31:01						
7			02:59:10	04:01:06	02:45:22						
8			03:12:47	05:29:30	02:59:15						
9			03:28:12		03:13:27						
10			03:41:29		03:32:03						
11			04:00:59		03:41:31						
12			04:50:53		04:01:06						
13			05:29:27		04:50:54						
14					05:29:31						

Table 40: Duration of the sleep related activities presented in Table 39

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:17:55	00:37:46	00:00:03	00:06:37	00:05:31
2			00:00:00	00:00:07	01:44:13
3			00:00:00	00:00:06	00:48:24
4			00:00:01	00:00:01	00:10:35
5			00:00:03	00:00:33	00:52:35
6			00:00:00	00:03:49	00:14:23
7			00:00:04	00:00:00	00:13:50
8			00:00:07	00:00:00	00:13:35
9			00:00:03		00:14:47
10			00:00:01		00:09:27
11			00:00:06		00:19:32
12			00:00:01		00:49:56
13			00:00:03		00:38:40
14					00:30:33

Figure 48 presents the measured sensor events and the computed bed entrances and exits.

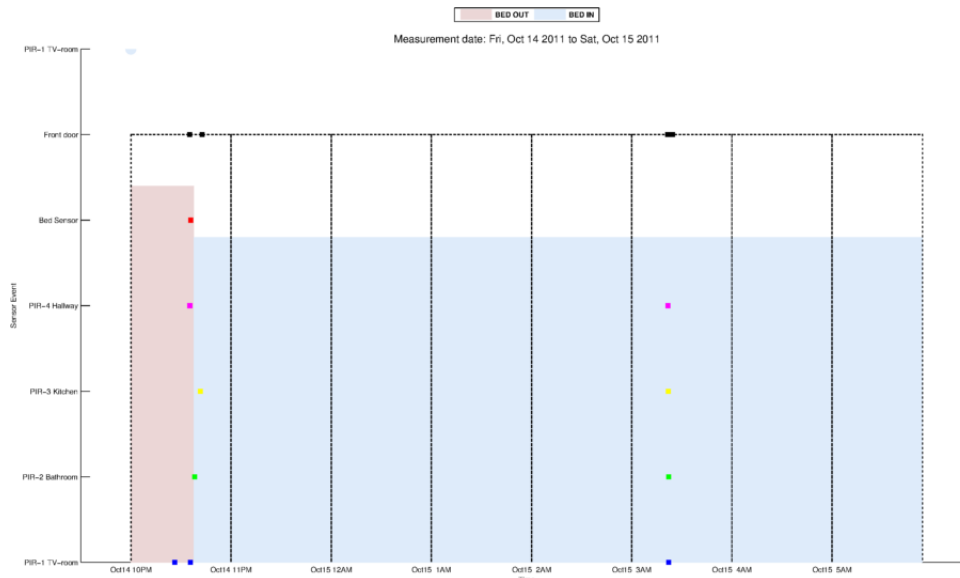


Figure 48: Sensor events and computed bed entrances and exists

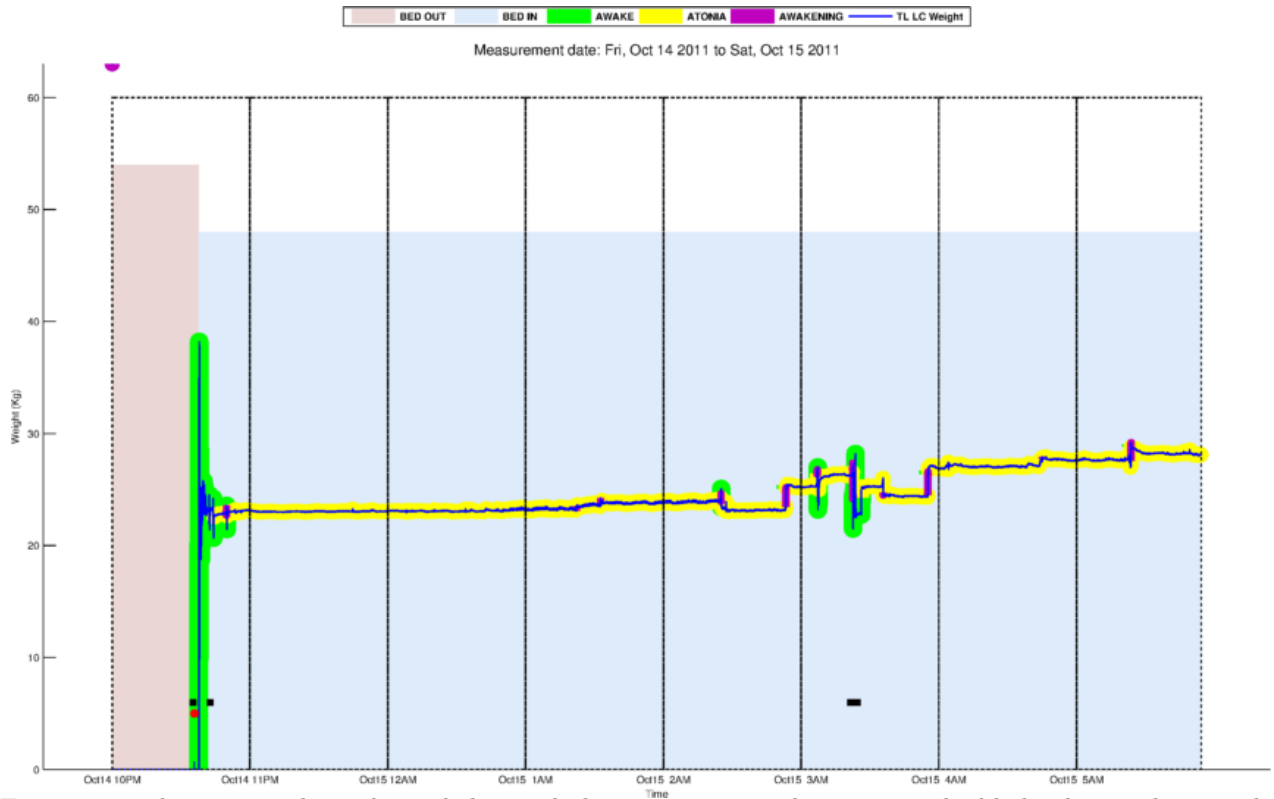


Figure 49: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 49 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 50 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 49).

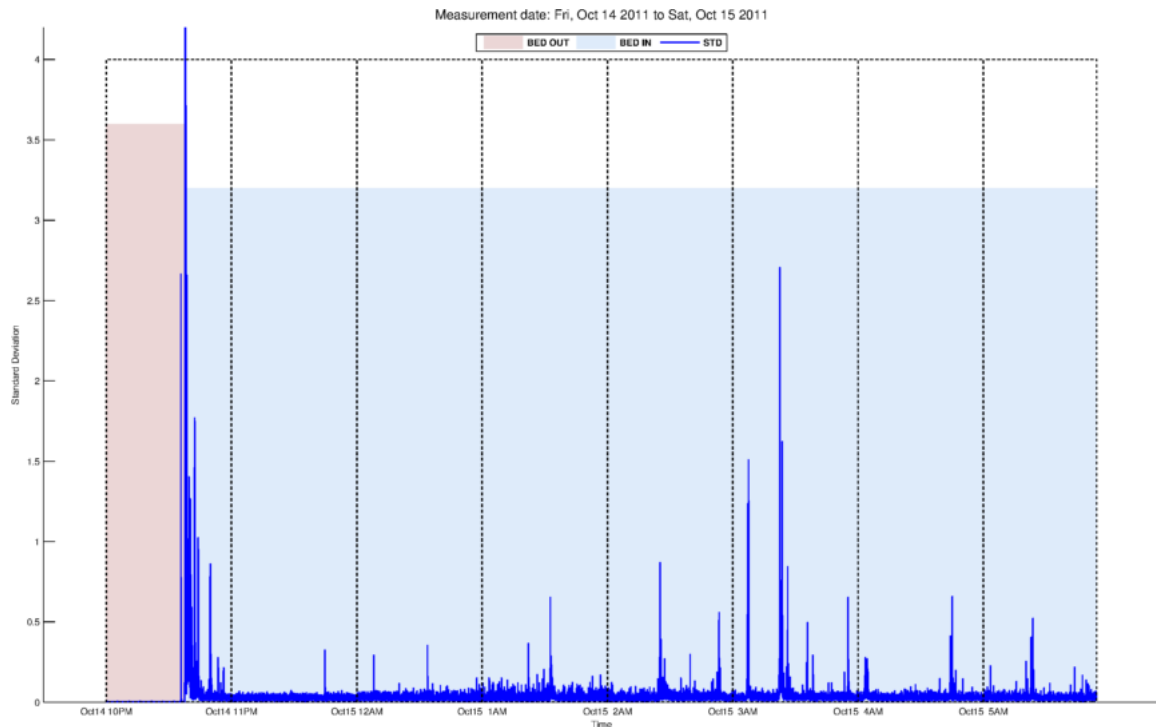


Figure 50: The moving standard deviation for the measured weight.

2.21 23rd Night: from Oct 15 2011 to Oct 16 2011

Table 41 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 42 presents the duration of the estimated sleep related activities.

Table 41: Sleep related activities and sensor events measured between Oct 15 and Oct 16

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:05:46	05:23:31	01:33:37	01:46:16	22:05:46	05:24:13	03:21:31		03:21:09		03:24:26
2	05:23:32	05:23:35	01:45:43	03:01:12	01:33:38				05:24:03		
3			02:12:44	03:21:56	01:49:00						
4			03:01:06	04:18:55	02:12:47						
5			03:21:52	04:36:37	03:01:14						
6			04:08:37	04:49:53	03:23:01						
7			04:18:51	05:15:00	04:08:40						
8			04:36:34	05:23:32	04:18:56						
9			04:48:55		04:36:42						
10			05:14:06		04:50:30						

Table 42: Duration of the sleep related activities presented in Table 41

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:19:05	00:00:01	00:00:01	00:02:45	03:28:29
2	00:00:03	00:36:30	00:00:33	00:00:01	00:12:06
3			00:00:03	00:01:05	00:23:48
4			00:00:06	00:00:01	00:48:27
5			00:00:03	00:00:05	00:20:42
6			00:00:03	00:00:36	00:45:44
7			00:00:04	00:08:33	00:10:12
8			00:00:03	00:00:03	00:17:41
9			00:00:58		00:12:15
10			00:00:53		00:23:41

Figure 51 presents the measured sensor events and the computed bed entrances and exits.

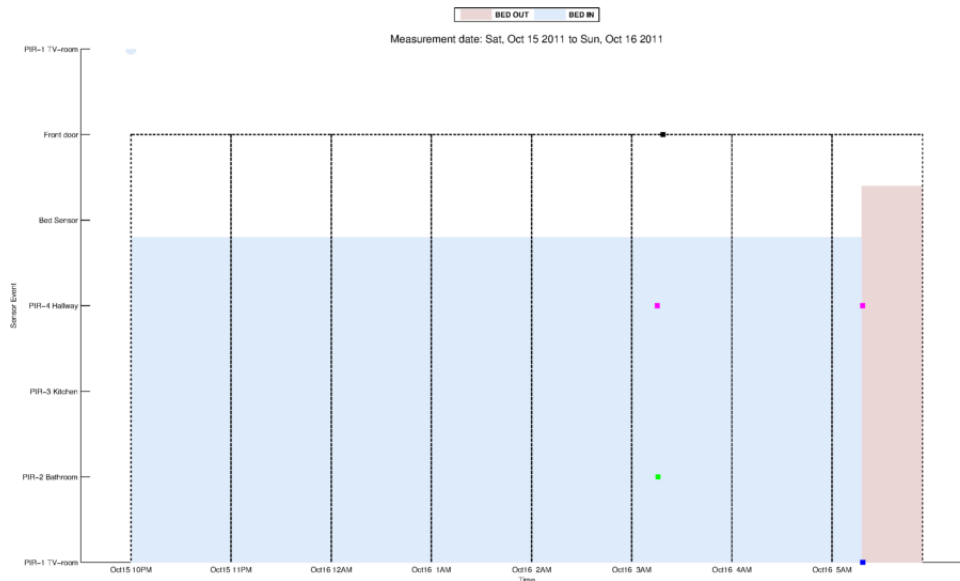


Figure 51: Sensor events and computed bed entrances and exists

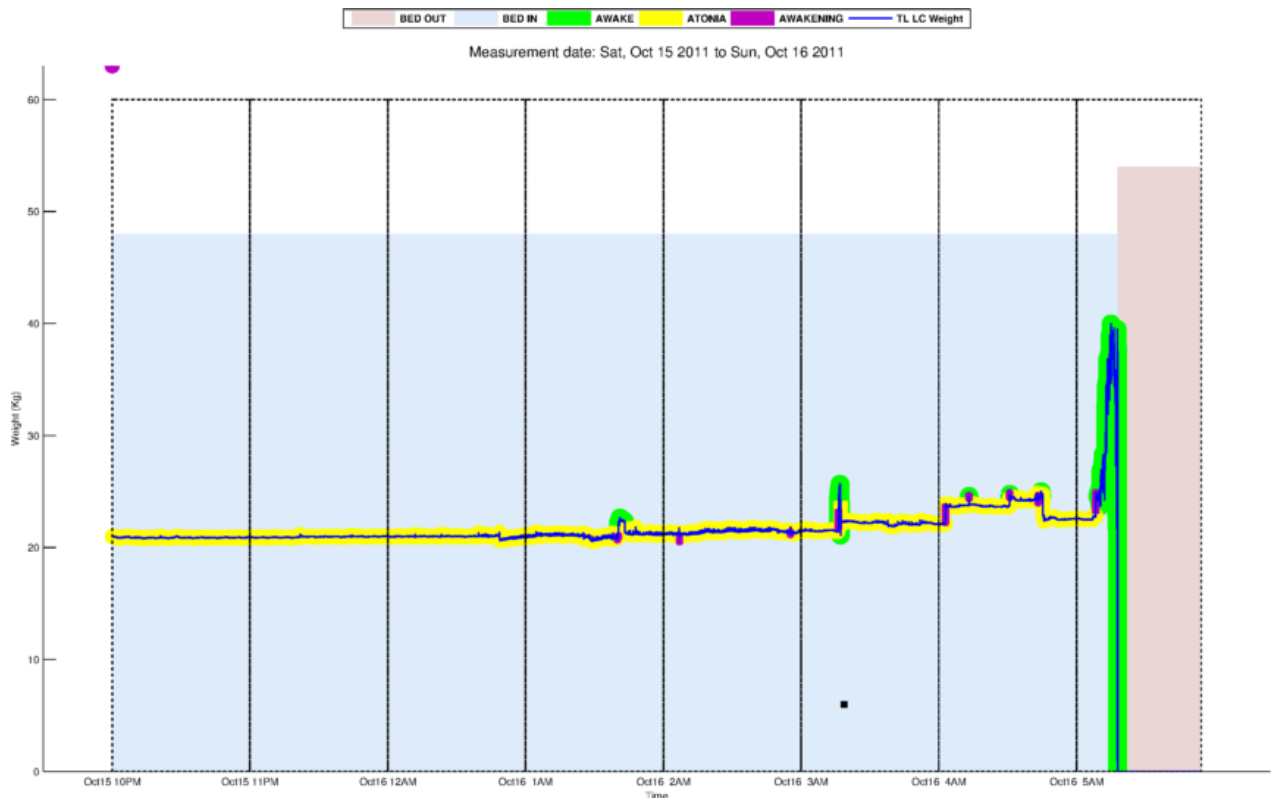


Figure 52: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 52 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 53 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 52).

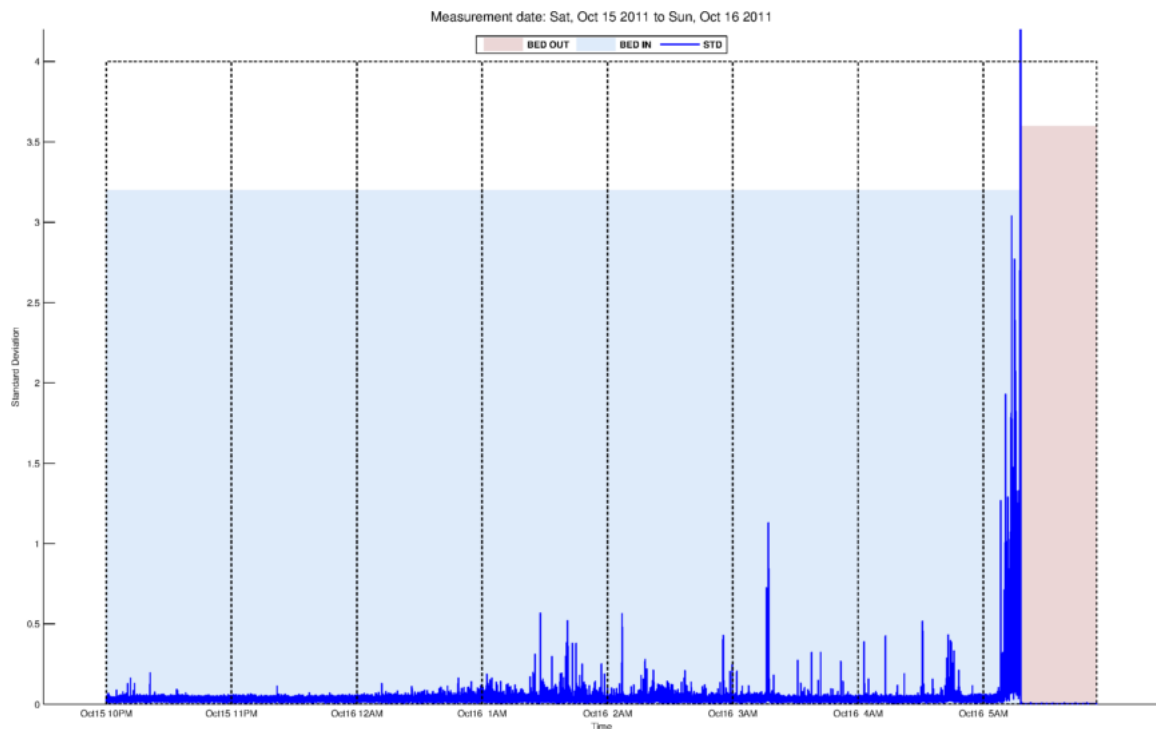


Figure 53: The moving standard deviation for the measured weight.

2.22 24th Night: from Oct 16 2011 to Oct 17 2011

Table 43 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 44 presents the duration of the estimated sleep related activities.

Table 43: Sleep related activities and sensor events measured between Oct 16 and Oct 17

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 TV-room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:02:38		01:09:27	02:46:24	22:02:38		02:36:18		02:45:43		02:45:40
2			02:20:07	03:44:03	01:09:28		02:45:59				02:48:52
3			02:46:16	04:38:14	02:20:09						
4			03:43:59	05:56:09	02:47:47						
5			04:34:05		03:46:30						
6			05:56:06		04:58:11						

Table 44: Duration of the sleep related activities presented in Table 43

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:58:45		00:00:00	00:01:23	03:07:21
2			00:00:02	00:02:27	01:10:51
3			00:00:08	00:20:01	00:26:11
4			00:00:04	00:03:50	00:56:22
5			00:04:09		00:47:43
6			00:00:03		00:58:05

Figure 54 presents the measured sensor events and the computed bed entrances and exits.

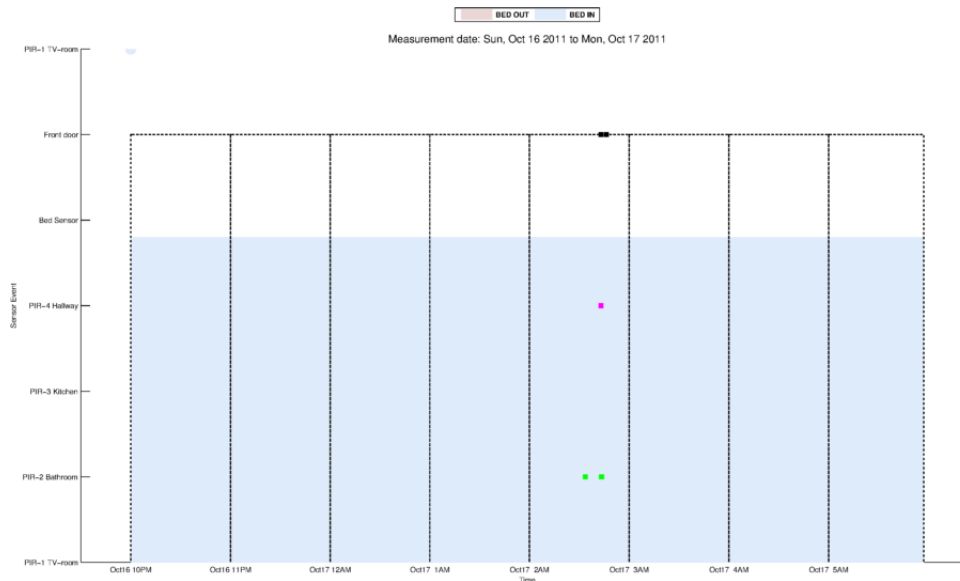


Figure 54: Sensor events and computed bed entrances and exists

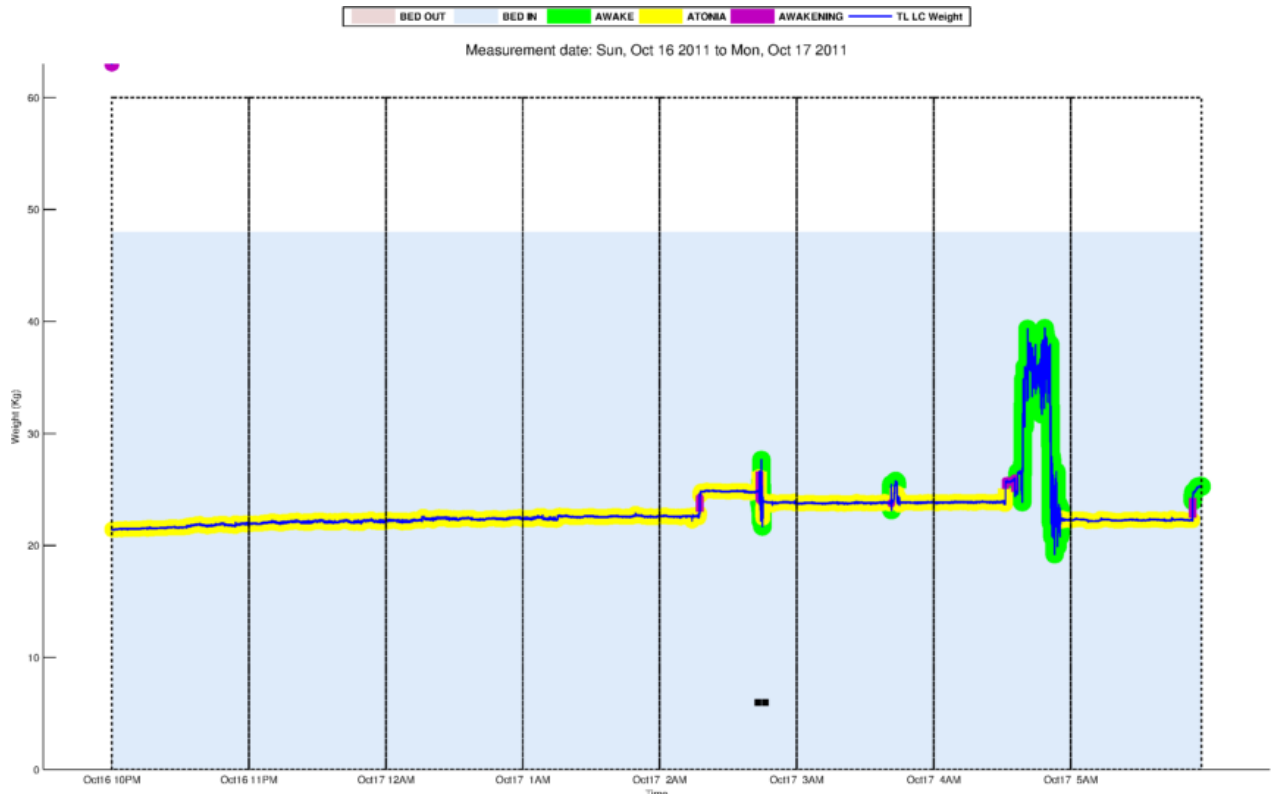


Figure 55: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 55 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 56 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 55).

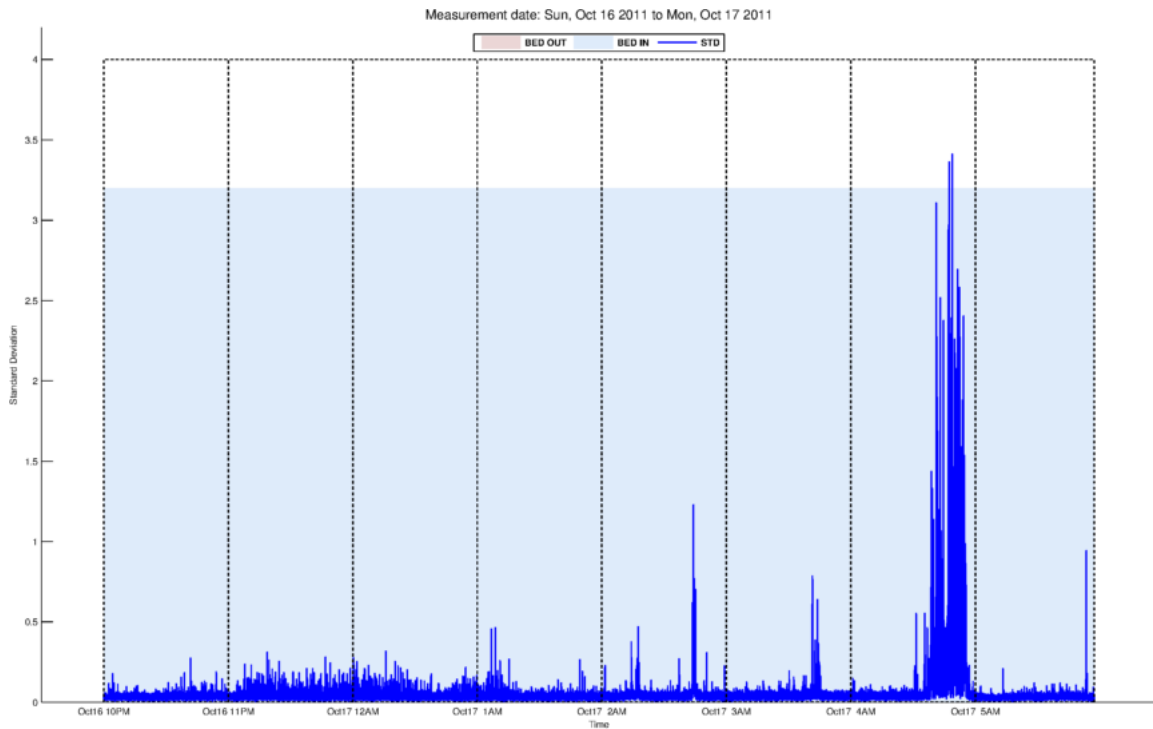


Figure 56: The moving standard deviation for the measured weight.

3 Participant 2: *PersonBeta*

3.1 Summary

Start of data collection: Oct 28 2011.

End of data collection: Nov 21 2011.

Total Number of nights: 23.

A summary of estimated sleep activities and measured sensor events for each night are presented in Table 45.

Table 45: A summary of detected activities and sensor events. **Sleep efficiency** is the ratio of the estimated time asleep (**Time in Atonia**) to the estimated **Time in Bed**

Date	Bed Exits	Bed Entrances	Awake	Atonia	Awanening	Bed Sensor	Visits	Time in Bed	Time in Atonia	Sleep Efficiency
Oct 28-Oct 29	5	5	27	27	27	0	0	07:13:53	05:21:07	74%
Oct 29-Oct 30	6	6	13	12	12	0	0	08:15:48	07:53:44	96%
Oct 30-Oct 31	4	4	8	12	11	0	0	07:21:58	07:11:30	98%
Oct 31-Nov 01	4	4	8	8	7	2	1	07:14:35	06:58:49	96%
Nov 01-Nov 02	4	4	11	8	7	4	3	07:37:27	07:28:35	98%
Nov 02-Nov 03	6	6	10	7	6	5	4	07:34:49	07:26:32	98%
Nov 03-Nov 04	4	5	12	16	15	4	4	07:38:00	07:07:33	93%
Nov 04-Nov 05	5	5	8	7	6	5	3	07:16:00	07:01:10	97%
Nov 05-Nov 06	7	7	14	11	10	4	3	07:22:12	07:01:02	95%
Nov 06-Nov 07	5	5	9	7	7	4	5	07:23:02	06:03:16	82%
Nov 07-Nov 08	5	5	8	4	3	4	3	07:13:22	07:07:17	99%
Nov 08-Nov 09	5	5	9	7	6	4	3	07:17:05	06:51:59	94%
Nov 09-Nov 10	5	5	14	15	14	4	3	07:08:41	06:20:10	89%
Nov 10-Nov 11	3	3	10	14	13	2	1	07:20:05	07:03:36	96%
Nov 11-Nov 12	5	5	11	17	16	5	2	07:02:43	06:30:08	92%
Nov 12-Nov 13	5	6	17	16	16	4	2	07:41:10	07:11:22	94%
Nov 13-Nov 14	6	6	24	26	25	5	1	07:17:04	06:32:43	90%
Nov 14-Nov 15	7	6	18	20	20	5	3	07:07:18	06:26:40	90%
Nov 15-Nov 16	3	4	12	17	17	3	2	07:48:42	07:19:42	94%
Nov 16-Nov 17	6	6	15	18	17	5	1	07:06:33	06:36:10	93%
Nov 17-Nov 18	3	4	13	18	18	3	1	07:46:07	06:26:16	83%
Nov 18-Nov 19	5	5	18	22	22	3	2	07:26:53	06:10:14	83%
Nov 19-Nov 20	4	4	16	25	24	3	1	07:36:13	07:02:15	93%
Nov 20-Nov 21	6	6	24	23	23	5	1	07:19:30	05:26:23	74%

3.2 1st Night: from Oct 28 2011 to Oct 29 2011

Table 46 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 47 presents the duration of the estimated sleep related activities.

Table 46: Sleep related activities and sensor events measured between Oct 28 and Oct 29

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:24:48	22:04:08	22:42:59	22:24:51	22:35:59						
2	22:31:23	22:25:46	22:51:15	22:31:26	22:46:05						
3	01:19:32	01:10:42	23:18:50	22:45:10	22:54:31						
4	02:34:39	02:31:54	23:36:53	22:51:21	23:29:04						
5	04:34:44	04:29:01	23:48:16	23:21:12	23:41:18						
6			00:12:14	23:37:23	00:04:07						
7			00:25:50	23:49:28	00:18:46						
8			00:34:53	00:12:55	00:25:52						
9			01:08:25	00:38:08	00:45:53						
10			01:41:22	01:09:16	01:25:14						
11			01:53:44	01:19:52	01:43:07						
12			02:03:25	01:41:28	01:53:52						
13			02:17:17	01:53:52	02:08:07						
14			02:22:39	02:03:28	02:17:35						
15			02:30:34	02:17:22	02:24:58						
16			02:54:01	02:22:42	02:36:28						
17			03:11:45	02:30:56	02:55:27						
18			03:28:19	02:34:49	03:14:47						
19			03:47:45	02:54:32	03:31:36						
20			04:05:13	03:14:46	03:47:46						
21			04:19:40	03:31:35	04:05:13						
22			04:28:22	04:28:25	04:19:42						
23			04:48:41	04:34:44	04:35:06						
24			04:56:57	05:00:33	04:49:45						
25			05:21:34	05:23:16	05:00:34						
26			05:37:13	05:37:16	05:29:34						
27			05:49:37	05:49:40	05:37:17						

Table 47: Duration of the sleep related activities presented in Table 46

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:58	00:20:45	00:02:11	00:00:55	00:07:01
2	02:39:55	00:05:38	00:00:06	00:04:34	00:05:10
3	01:12:38	00:08:52	00:02:22	00:00:56	00:24:25
4	01:54:47	00:02:45	00:00:31	00:03:10	00:07:50
5	01:25:34	00:05:44	00:01:13	00:07:53	00:06:59
6			00:00:41	00:03:55	00:08:08
7			00:00:02	00:14:42	00:07:05
8			00:03:16	00:05:52	00:09:03
9			00:00:51	00:07:46	00:22:37
10			00:00:06	00:01:26	00:16:11
11			00:00:08	00:05:23	00:10:39
12			00:00:03	00:01:39	00:09:34
13			00:00:04	00:00:00	00:09:12
14			00:00:03	00:04:40	00:05:05
15			00:00:22	00:00:13	00:05:38
16			00:00:31	00:02:16	00:17:37
17			00:03:02	00:00:58	00:16:21
18			00:03:16	00:01:39	00:13:35
19			00:00:01	00:00:55	00:16:12
20			00:00:00	00:00:00	00:17:31
21			00:00:02	00:00:01	00:14:30
22			00:00:03	00:00:36	00:08:41
23			00:01:04	00:00:22	00:13:38
24			00:03:37	00:00:00	00:07:13
25			00:01:43	00:06:19	00:21:04
26			00:00:03	00:00:00	00:07:40
27			00:00:03	00:10:20	00:12:23

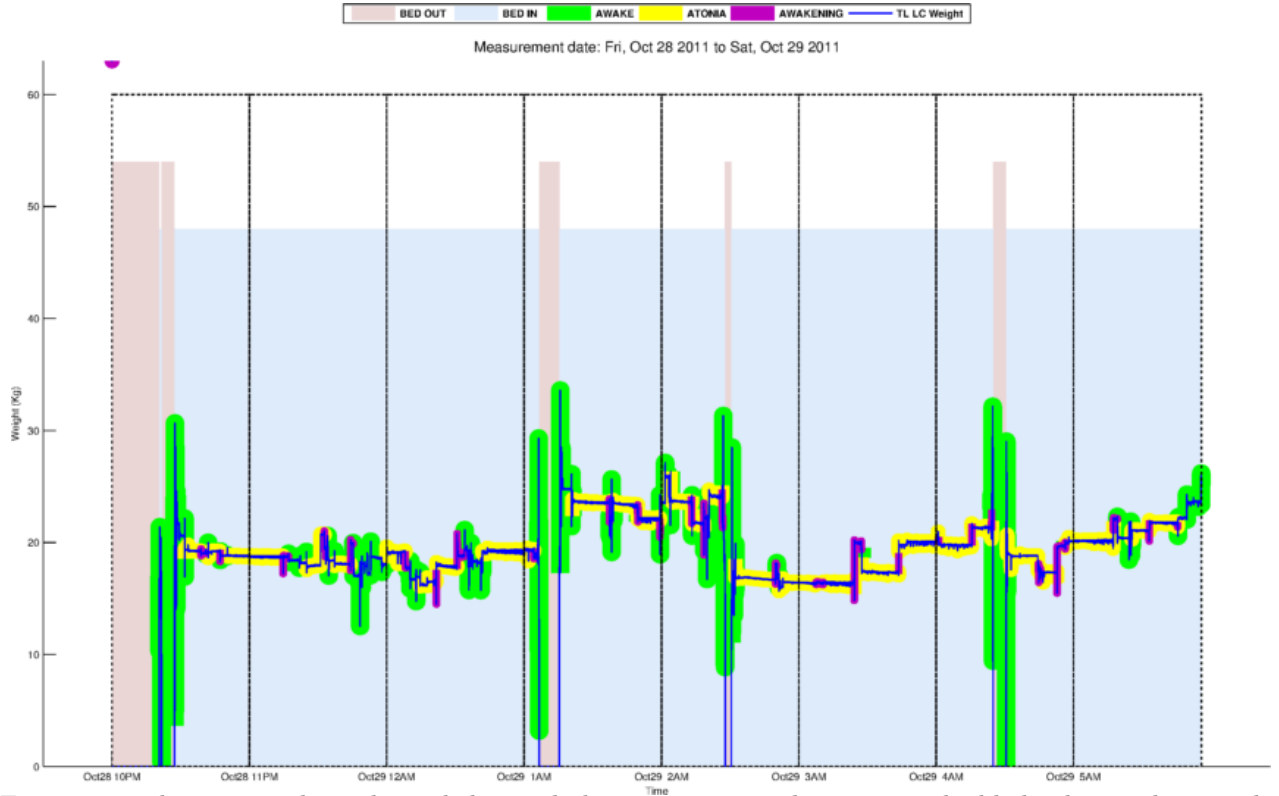


Figure 57: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 57 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 58 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 57).

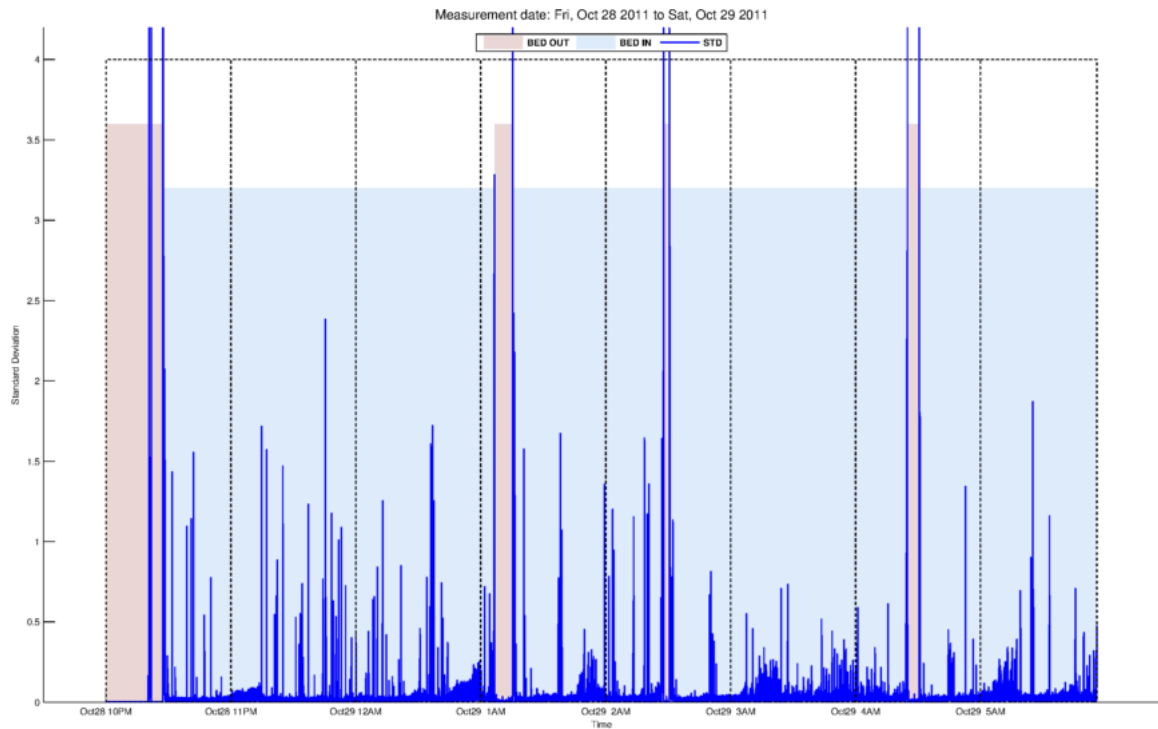


Figure 58: The moving standard deviation for the measured weight.

3.3 2nd Night: from Oct 29 2011 to Oct 30 2011

Table 48 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 49 presents the duration of the estimated sleep related activities.

Table 48: Sleep related activities and sensor events measured between Oct 29 and Oct 30

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:17:54	22:04:08	22:59:25	22:17:58	22:22:40						
2	22:21:07	22:18:35	23:13:13	22:21:13	23:00:19						
3	02:26:58	02:17:08	23:25:07	23:00:19	23:13:17						
4	02:55:10	02:54:59	00:27:08	23:13:16	23:25:10						
5	03:41:17	03:34:31	01:21:13	00:31:32	00:37:14						
6	05:57:20	05:49:35	02:16:26	02:16:30	01:21:15						
7			02:54:52	02:27:02	02:27:23						
8			02:58:41	02:54:56	02:55:26						
9			03:34:23	02:55:10	02:58:47						
10			03:53:05	03:34:26	03:41:35						
11			05:09:29	03:41:22	03:53:06						
12			05:48:32	05:48:38	05:09:29						
13				05:57:24							

Table 49: Duration of the sleep related activities presented in Table 48

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:41	00:13:49	00:00:54	00:00:37	00:36:53
2	03:56:53	00:02:33	00:00:03	00:01:27	00:12:56
3	00:33:21	00:09:52	00:00:03	00:00:00	00:11:52
4	01:33:25	00:01:15	00:04:25	00:00:01	01:02:11
5	02:08:46	00:06:47	00:00:01	00:05:42	00:44:09
6	00:02:39	00:07:46	00:00:04	00:00:38	00:55:23
7			00:00:26	00:00:21	00:32:08
8			00:00:41	00:00:22	00:22:50
9			00:00:03	00:01:46	01:07:54
10			00:00:00	00:00:05	00:11:33
11			00:00:00	00:00:12	01:16:40
12			00:00:06	00:00:57	00:39:11
13				00:02:35	

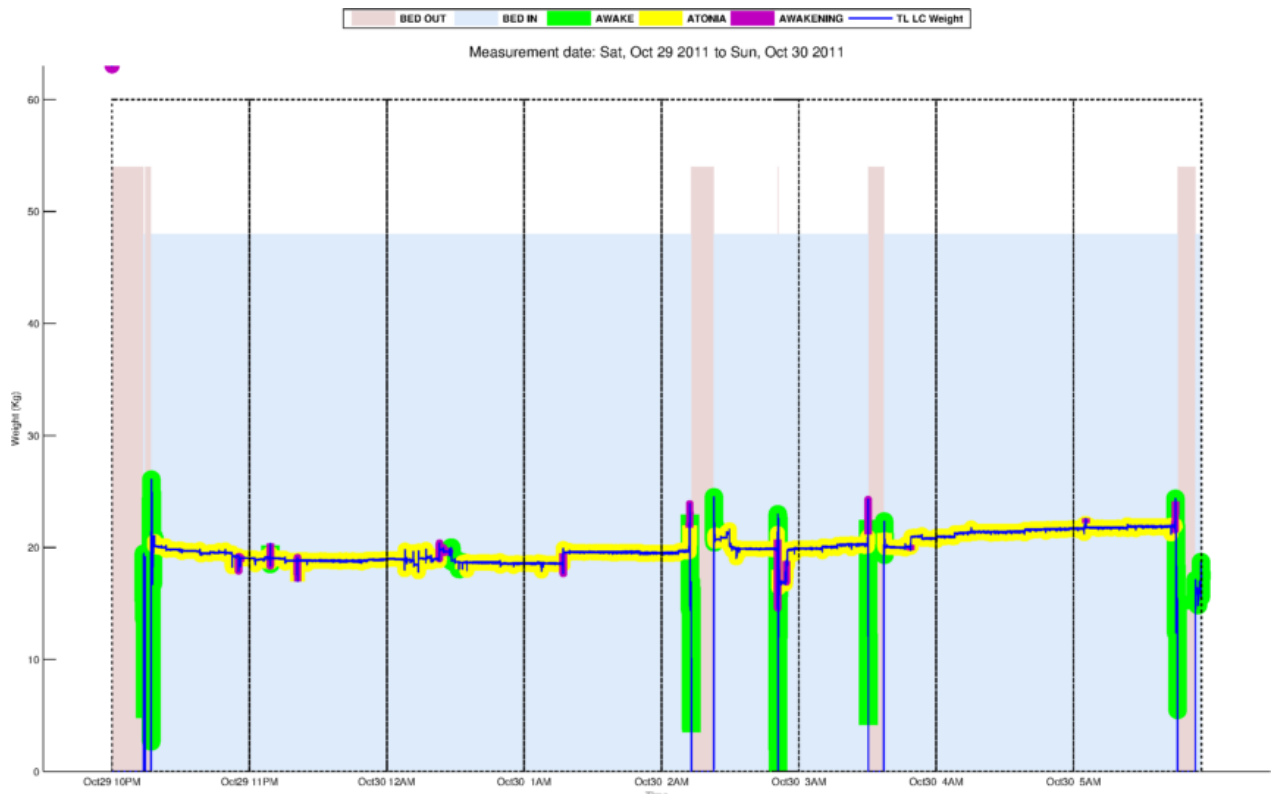


Figure 59: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 59 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 60 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 59).

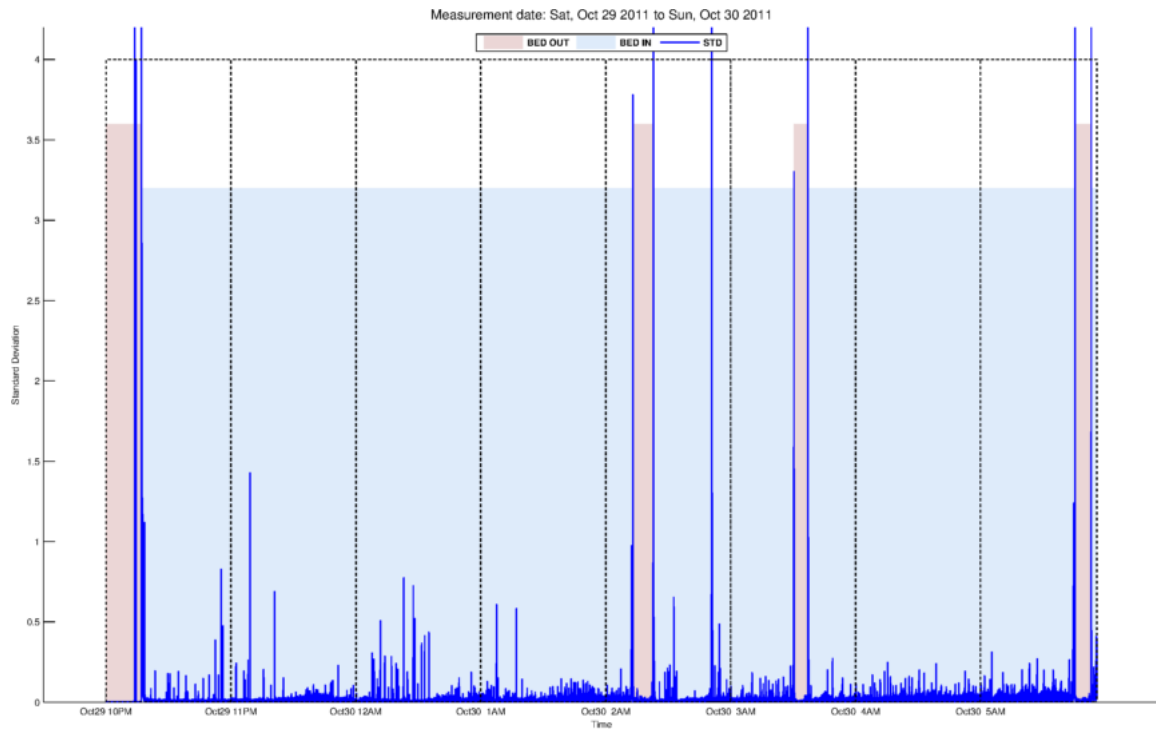


Figure 60: The moving standard deviation for the measured weight.

3.4 3rd Night: from Oct 30 2011 to Oct 31 2011

Table 50 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 51 presents the duration of the estimated sleep related activities.

Table 50: Sleep related activities and sensor events measured between Oct 30 and Oct 31

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:23:29	22:04:08	22:38:09	22:23:33	22:28:51						
2	22:28:20	22:24:01	00:53:00	22:28:24	22:44:39						
3	00:58:40	00:53:32	02:03:27	22:41:11	00:59:13						
4	03:19:07	03:12:24	02:17:44	00:53:12	02:03:39						
5			02:52:29	00:58:43	02:17:46						
6			03:01:59	02:03:37	02:52:30						
7			03:11:31	03:11:36	03:02:00						
8			04:01:55	03:19:18	03:19:42						
9			04:37:07		04:01:55						
10			04:43:40		04:37:07						
11			05:27:27		04:43:42						
12					05:27:27						

Table 51: Duration of the sleep related activities presented in Table 50

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:32	00:19:26	00:03:03	00:00:28	00:09:19
2	02:25:44	00:04:19	00:00:12	00:00:27	02:08:49
3	02:14:14	00:05:09	00:00:10	00:03:28	01:04:28
4	02:41:28	00:06:44	00:00:02	00:00:19	00:14:08
5			00:00:01	00:00:29	00:34:51
6			00:00:01	00:00:02	00:09:31
7			00:00:05	00:00:48	00:09:33
8			00:00:00	00:00:23	00:42:22
9			00:00:00		00:35:19
10			00:00:01		00:06:34
11			00:00:00		00:43:54
12					00:32:39

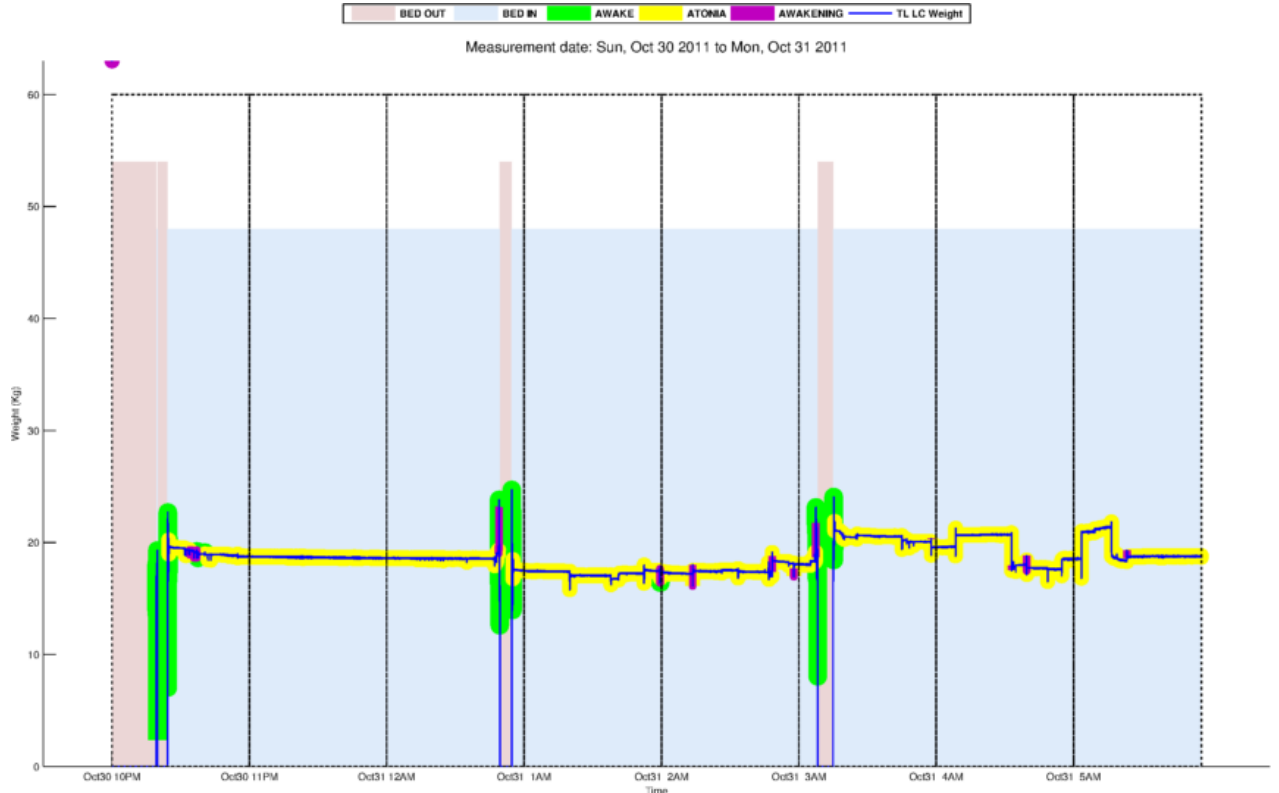


Figure 61: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 61 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 62 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 61).

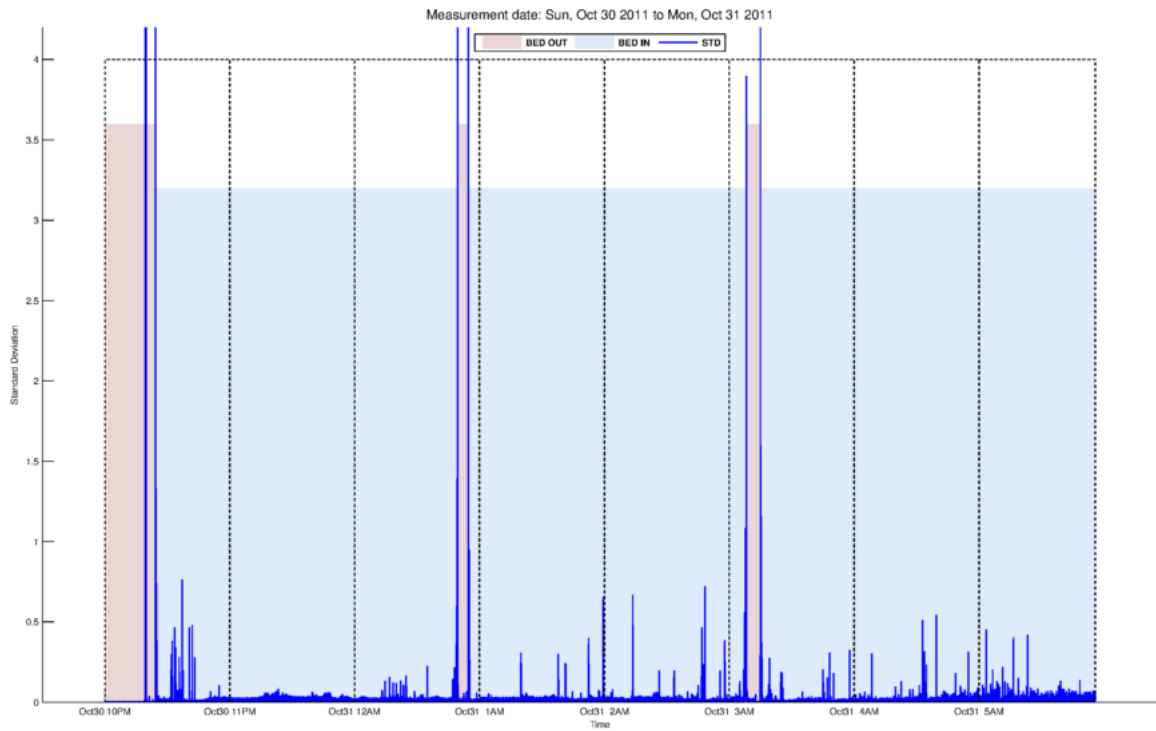


Figure 62: The moving standard deviation for the measured weight.

3.5 4th Night: from Oct 31 2011 to Nov 01 2011

Table 52 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 53 presents the duration of the estimated sleep related activities.

Table 52: Sleep related activities and sensor events measured between Oct 31 and Nov 01

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:32:05	22:05:34	23:05:40	22:32:20	22:38:33	01:58:38				02:00:04	02:37:24
2	22:37:00	22:33:59	23:29:48	22:37:08	23:05:42	02:30:43				05:02:00	
3	02:05:13	01:59:36	01:58:45	01:58:53	23:29:51	02:34:55					
4	05:07:50	05:01:35	02:30:41	02:05:52	02:06:13	02:37:45					
5			02:42:18	02:34:55	02:37:10	03:04:45					
6			03:07:22	02:42:22	02:44:02	03:07:25					
7			05:00:44	05:00:56	03:07:23	03:28:53					
8				05:08:01	05:09:06	05:00:41					
9						05:28:18					

Table 53: Duration of the sleep related activities presented in Table 52

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:01:54	00:26:37	00:00:01	00:01:39	00:27:13
2	03:23:20	00:03:02	00:00:02	00:01:25	00:24:12
3	02:57:01	00:05:37	00:00:08	00:00:43	02:29:26
4	00:52:20	00:06:16	00:04:15	00:00:21	00:24:33
5			00:00:03	00:02:15	00:05:09
6			00:00:01	00:01:41	00:23:25
7			00:00:12	00:00:39	01:53:45
8				00:01:06	00:51:03

Figure 63 presents the measured sensor events and the computed bed entrances and exits.

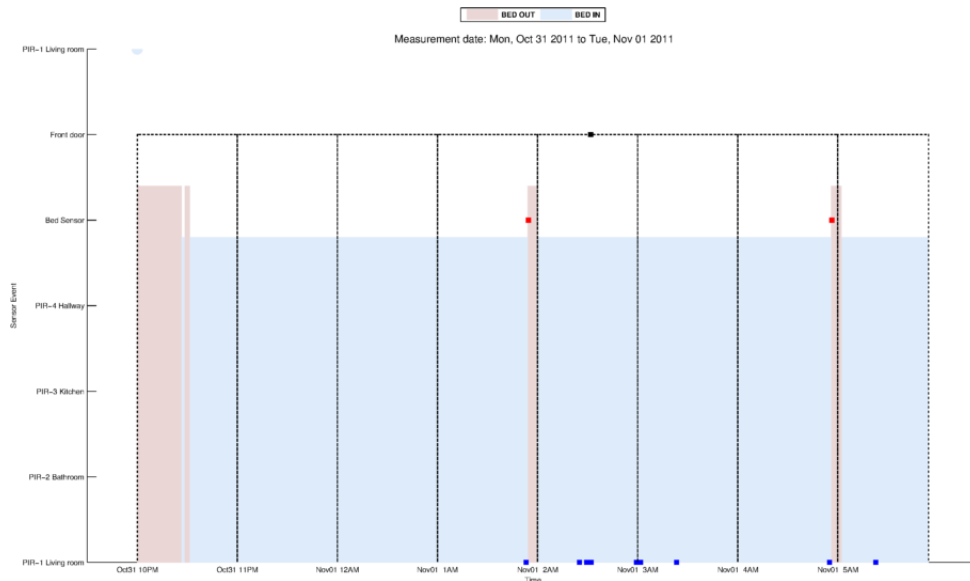


Figure 63: Sensor events and computed bed entrances and exists

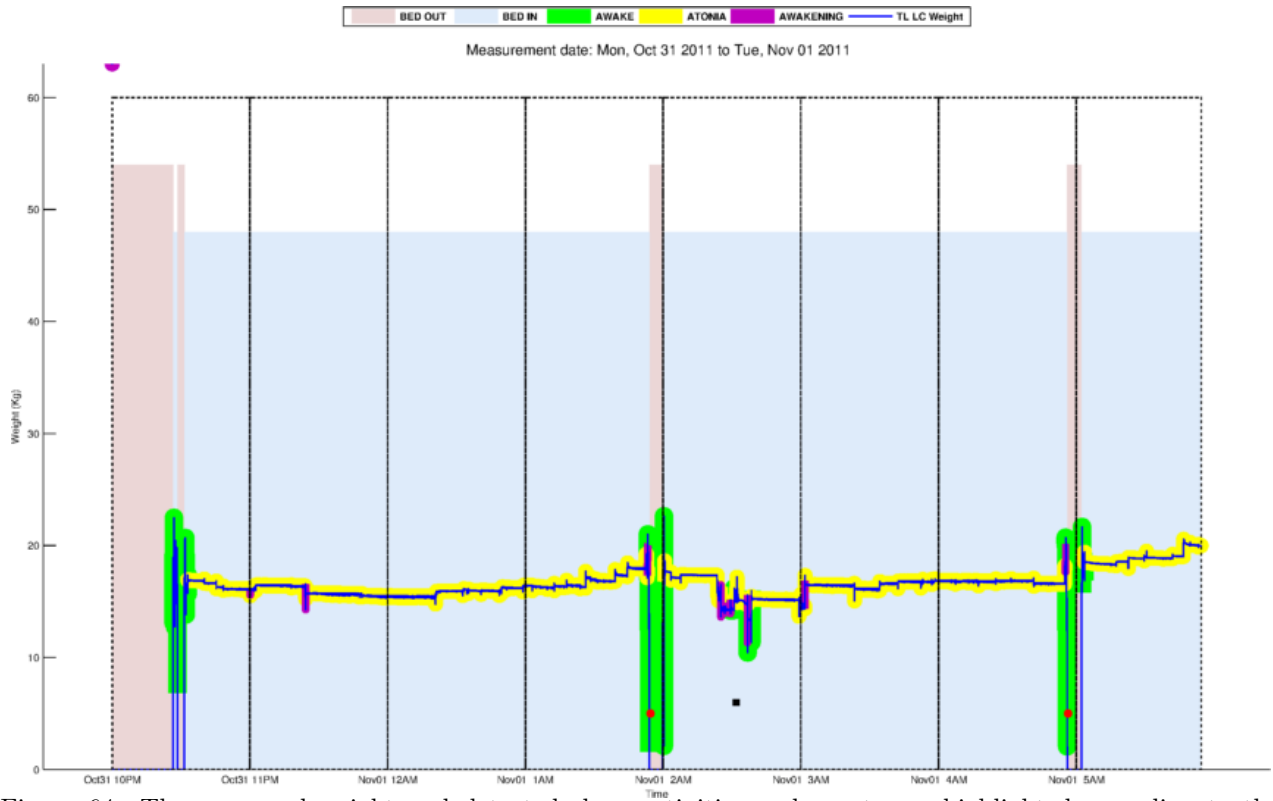


Figure 64: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 64 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 65 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 64).

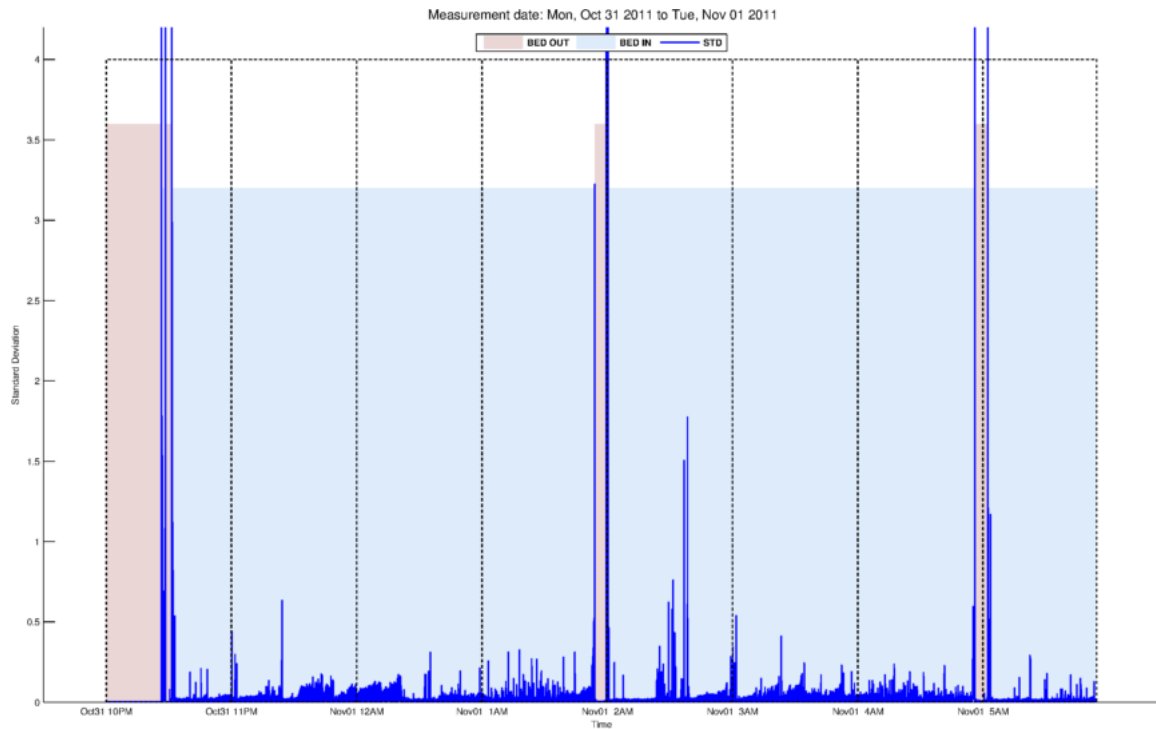


Figure 65: The moving standard deviation for the measured weight.

3.6 5th Night: from Nov 01 2011 to Nov 02 2011

Table 54 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 55 presents the duration of the estimated sleep related activities.

Table 54: Sleep related activities and sensor events measured between Nov 01 and Nov 02

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:07:25	22:05:34	22:22:38	22:07:30	22:09:46	00:57:16		22:01:23		22:03:53	01:42:44
2	00:51:33	00:46:32	00:46:06	22:24:27	22:24:28	01:09:13		01:43:30		00:46:47	01:43:43
3	03:18:39	03:12:31	01:09:14	00:46:09	00:52:07	03:11:50				03:13:00	04:17:15
4	05:13:11	05:07:34	03:11:59	00:51:36	01:09:20	04:55:42				05:07:57	
5			04:11:59	01:09:18	03:19:07	05:05:43					
6			04:56:08	03:12:03	04:12:05						
7			05:05:44	03:18:46	04:56:13						
8				04:12:04	05:13:43						
9				04:56:12							
10				05:05:48							
11				05:13:15							

Table 55: Duration of the sleep related activities presented in Table 54

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	02:39:41	00:01:52	00:01:50	00:02:16	00:12:54
2	02:21:29	00:05:02	00:00:03	00:00:00	02:22:09
3	01:49:19	00:06:09	00:00:03	00:00:22	00:17:11
4	00:46:58	00:05:38	00:00:03	00:00:30	02:03:06
5			00:00:05	00:00:02	00:53:03
6			00:00:04	00:00:28	00:44:12
7			00:00:03	00:00:21	00:09:33
8				00:00:01	00:46:25
9				00:00:00	
10				00:01:47	
11				00:00:28	

Figure 66 presents the measured sensor events and the computed bed entrances and exits.

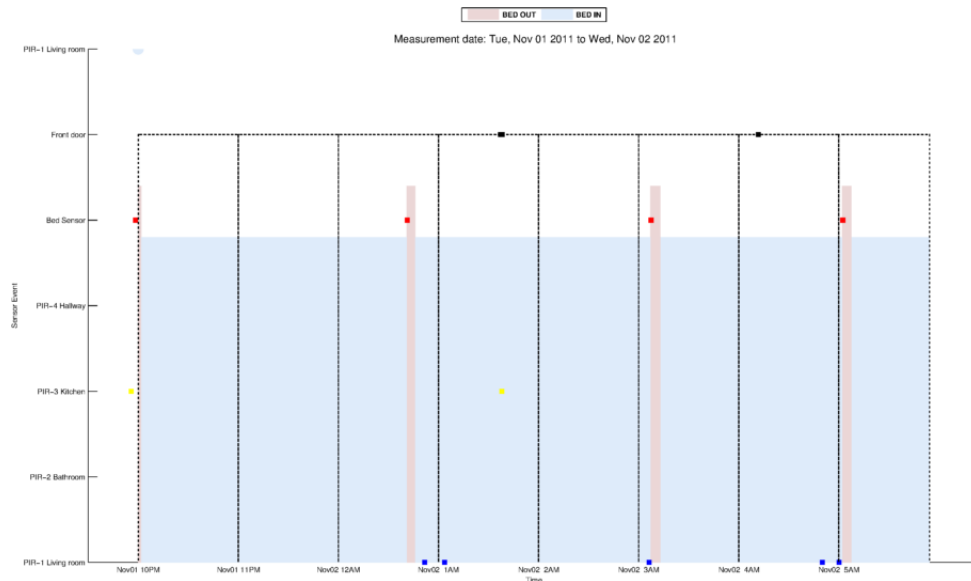


Figure 66: Sensor events and computed bed entrances and exists

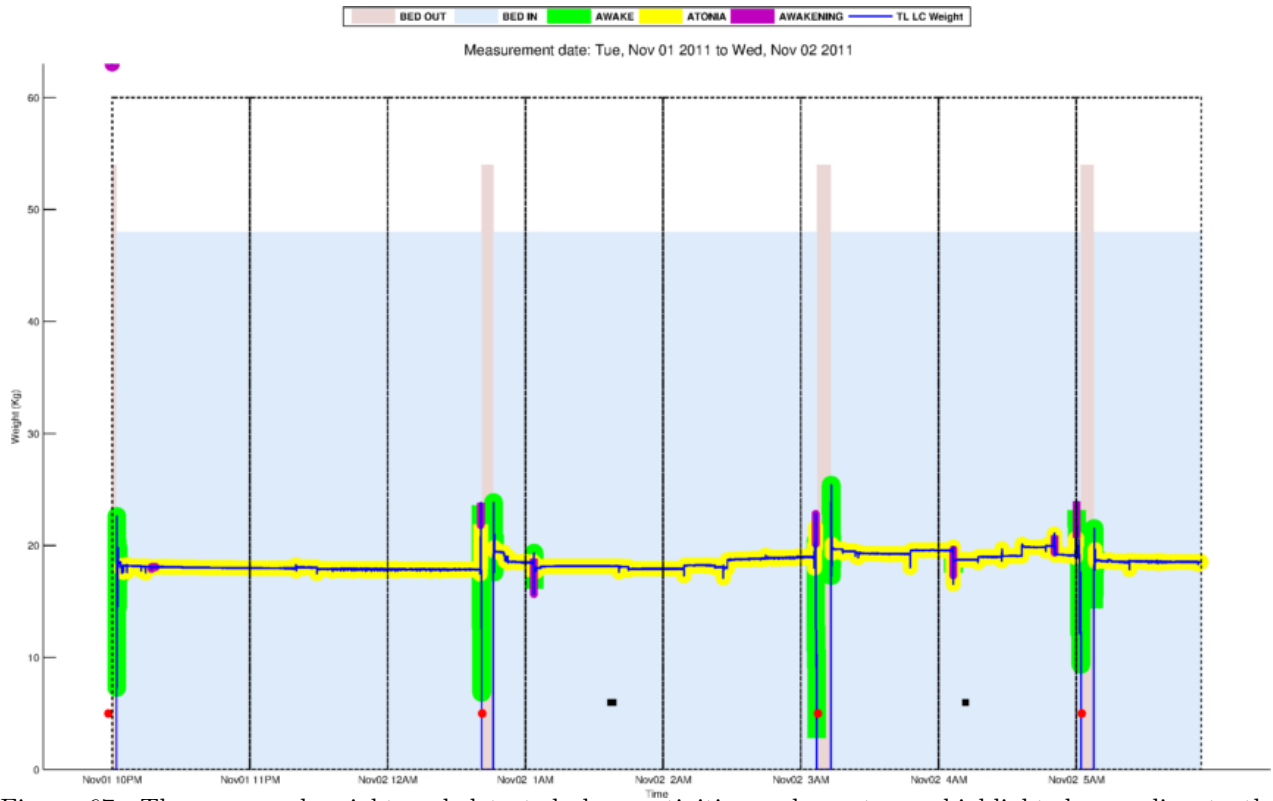


Figure 67: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 67 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 68 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 67).

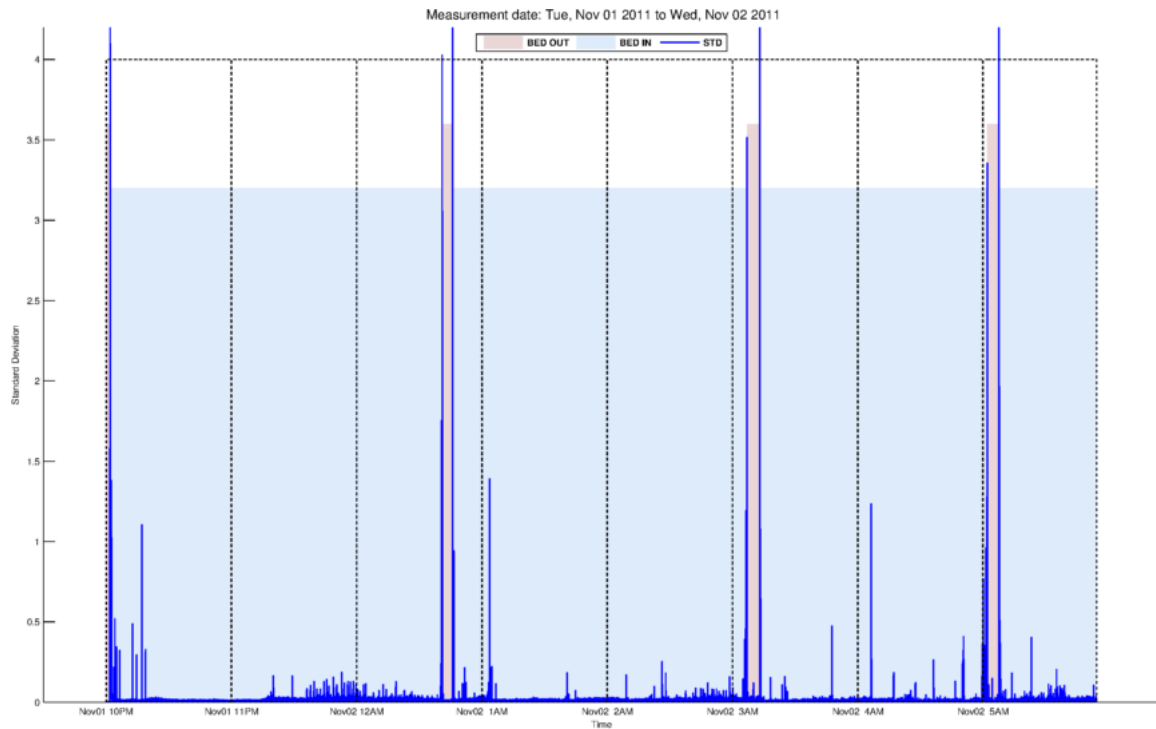


Figure 68: The moving standard deviation for the measured weight.

3.7 6th Night: from Nov 02 2011 to Nov 03 2011

Table 56 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 57 presents the duration of the estimated sleep related activities.

Table 56: Sleep related activities and sensor events measured between Nov 02 and Nov 03

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:08:07	22:06:35	01:07:18	22:08:10	22:15:24	22:14:11	22:11:45	22:06:12		22:09:15	00:17:13
2	22:14:52	22:09:01	03:06:57	22:14:57	01:14:26	00:43:15	03:06:33	22:11:40		01:09:04	03:05:34
3	01:13:55	01:08:10	03:20:37	01:07:21	03:11:41	01:07:08		03:06:41		03:08:07	03:11:56
4	03:10:22	03:07:12	03:42:01	01:14:08	03:22:20	03:05:45				03:10:26	03:17:13
5	03:10:38	03:10:36	04:01:13	03:07:02	03:48:03	03:22:21				03:43:53	
6	03:47:18	03:43:23	04:26:45	03:10:27	04:01:14	03:42:22					
7				03:10:38	04:26:48	03:46:46					
8				03:20:41		05:05:44					
9				03:42:20							
10				03:47:18							

Table 57: Duration of the sleep related activities presented in Table 56

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:54	00:01:32	00:00:03	00:00:51	02:52:31
2	02:53:56	00:05:52	00:00:05	00:00:27	01:52:56
3	01:53:42	00:05:46	00:00:03	00:00:49	00:08:58
4	00:00:14	00:03:11	00:00:19	00:00:18	00:19:45
5	00:32:52	00:00:01	00:00:00	00:00:10	00:13:13
6	02:13:10	00:03:56	00:00:03	00:00:09	00:25:36
7				00:01:04	01:33:31
8				00:01:39	
9				00:01:03	
10				00:00:45	

Figure 69 presents the measured sensor events and the computed bed entrances and exits.

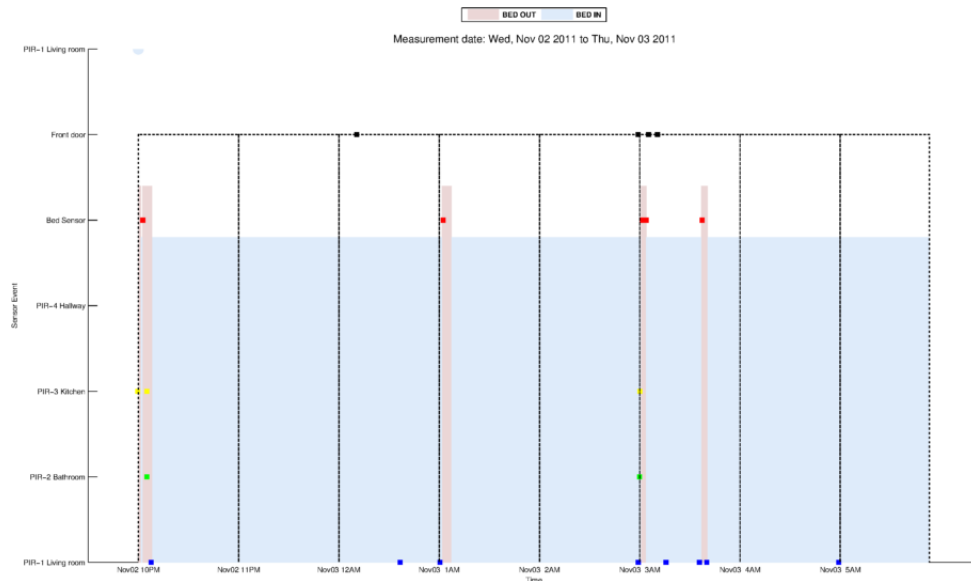


Figure 69: Sensor events and computed bed entrances and exists

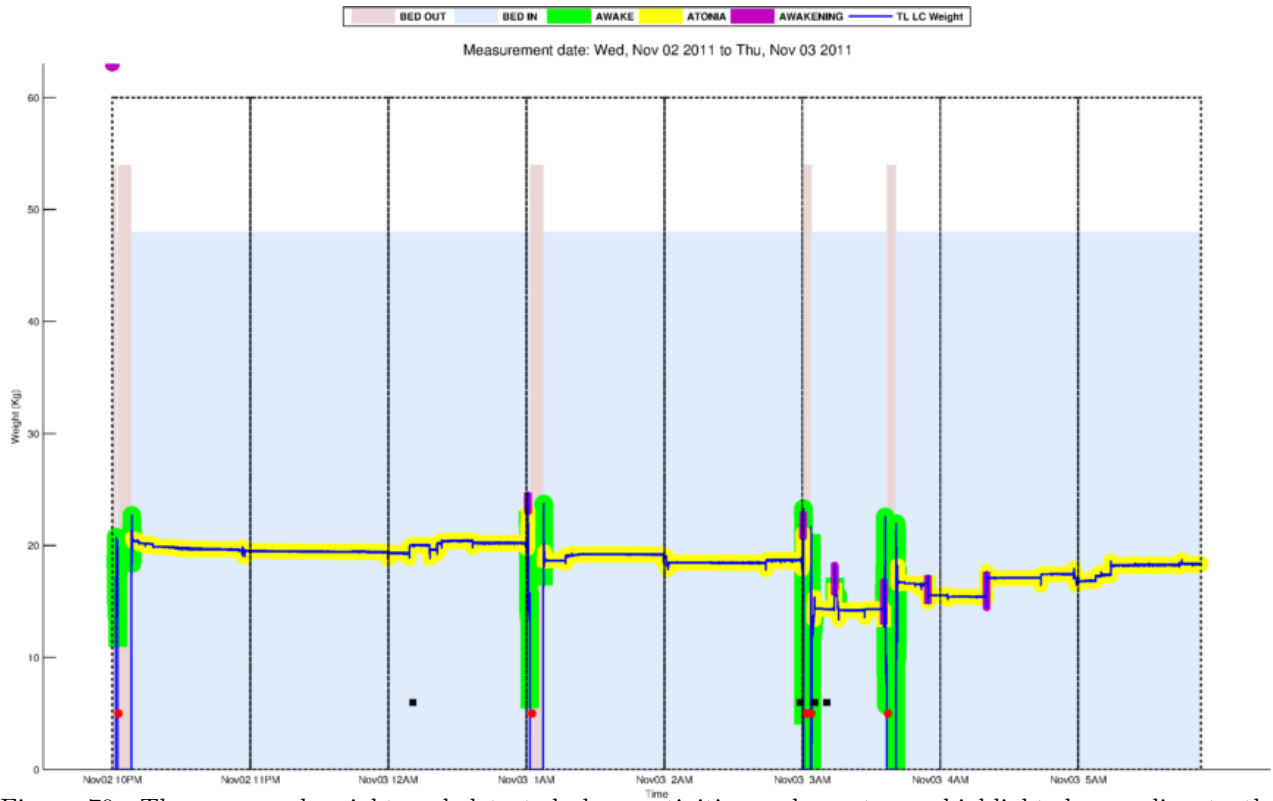


Figure 70: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 70 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 71 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 70).

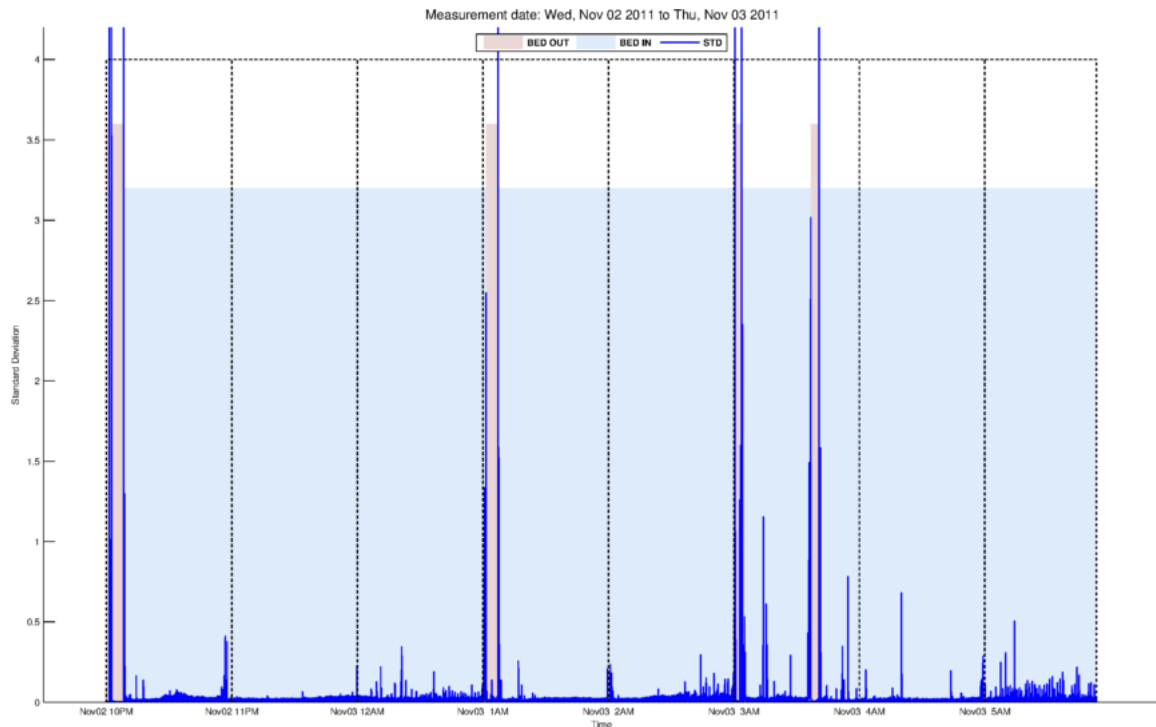


Figure 71: The moving standard deviation for the measured weight.

3.8 7th Night: from Nov 03 2011 to Nov 04 2011

Table 58 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 59 presents the duration of the estimated sleep related activities.

Table 58: Sleep related activities and sensor events measured between Nov 03 and Nov 04

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:04:37	23:18:44	22:06:18	22:24:06	22:04:37	22:06:20	03:24:05			01:39:38	02:17:10
2	23:21:57	01:38:38	22:24:02	23:17:34	22:06:22	22:48:39				01:43:02	03:17:10
3	01:44:53	03:24:29	22:42:20	23:22:01	22:31:23	23:15:57				03:25:36	03:23:02
4	03:26:59	04:53:46	23:15:52	23:48:19	22:42:20	23:46:24				04:54:00	03:27:59
5	05:00:51		23:33:42	01:36:05	23:22:33	00:11:05					
6			23:44:58	01:44:56	23:33:43	00:48:43					
7			00:14:38	02:20:01	23:48:20	01:35:37					
8			01:36:00	03:24:09	00:14:38	02:18:55					
9			02:19:06	03:27:04	01:45:41	03:21:27					
10			02:26:00	04:21:03	02:20:01						
11			03:20:13	04:52:44	02:26:01						
12			04:08:28	05:00:55	03:27:13						
13			04:16:12		04:08:29						
14			04:41:51		04:21:09						
15			04:52:34		04:41:52						
16					05:01:52						

Table 59: Duration of the sleep related activities presented in Table 58

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	01:14:23	00:03:14	00:00:03	00:07:19	00:01:41
2	02:17:11	00:06:16	00:00:03	00:01:10	00:17:44
3	01:39:58	00:02:30	00:00:00	00:00:32	00:10:59
4	01:27:06	00:07:07	00:01:42	00:00:01	00:33:39
5	00:59:20		00:00:01	00:02:34	00:11:11
6			00:03:21	00:00:44	00:11:18
7			00:00:00	00:00:00	00:26:23
8			00:00:05	00:00:20	01:21:39
9			00:00:55	00:00:09	00:33:32
10			00:00:01	00:00:06	00:06:00
11			00:03:56	00:01:02	00:54:24
12			00:00:01	00:00:57	00:41:24
13			00:04:52		00:07:45
14			00:00:01		00:20:46
15			00:00:10		00:10:45
16					00:58:19

Figure 72 presents the measured sensor events and the computed bed entrances and exits.

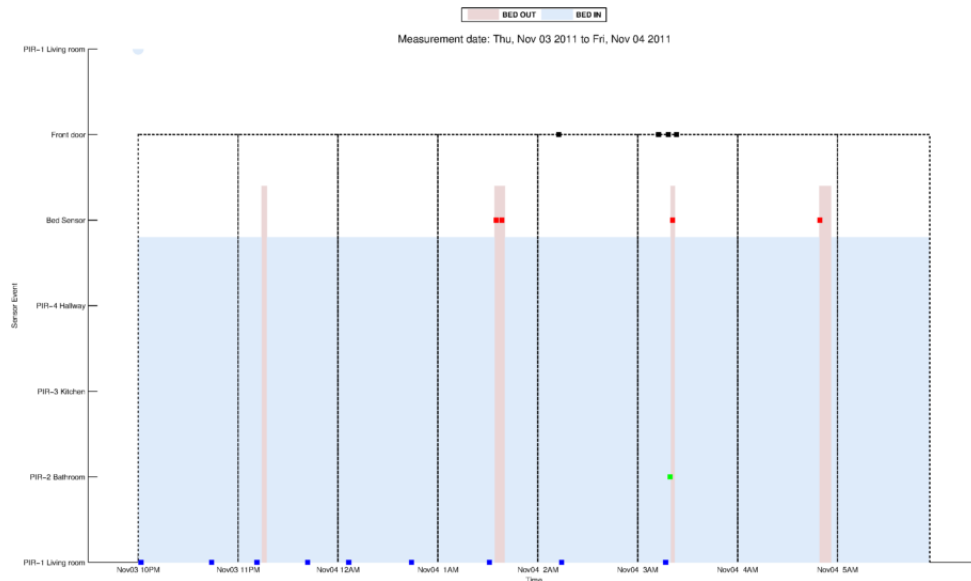


Figure 72: Sensor events and computed bed entrances and exists

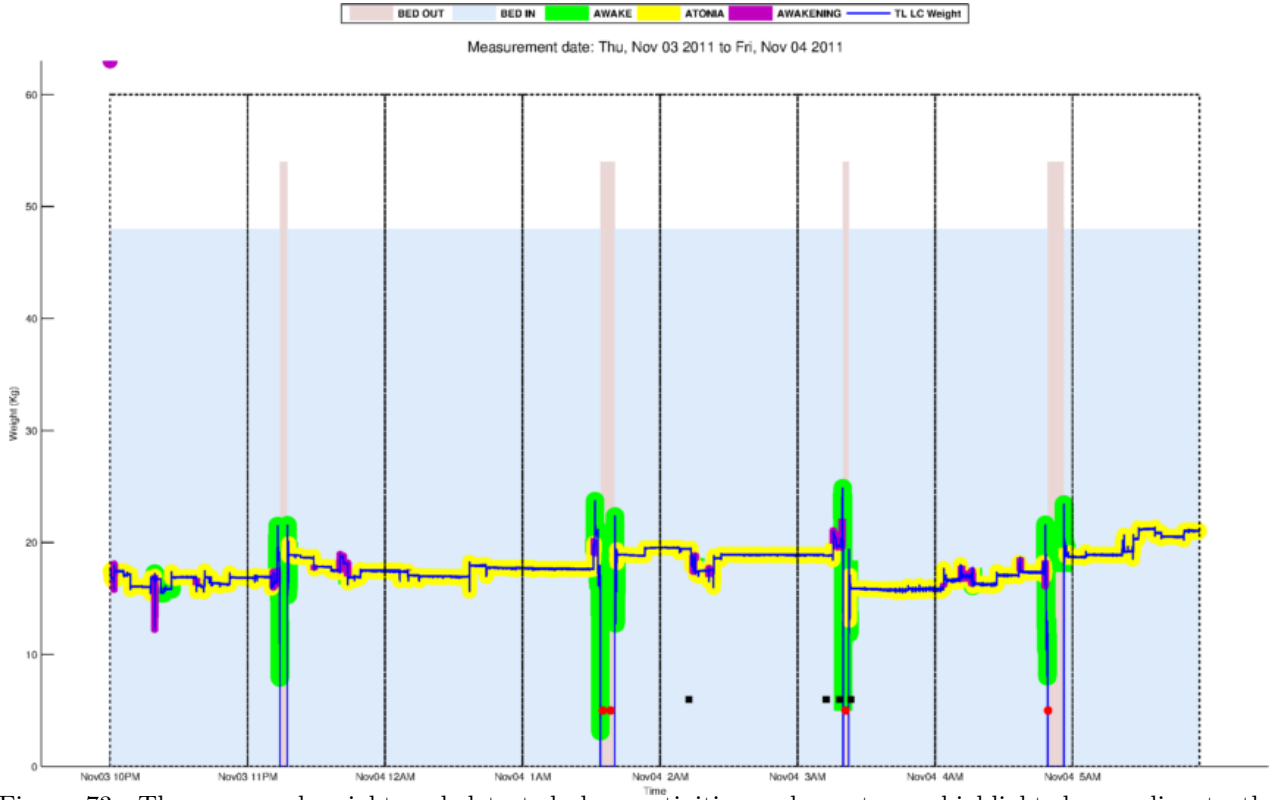


Figure 73: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 73 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 74 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 73).

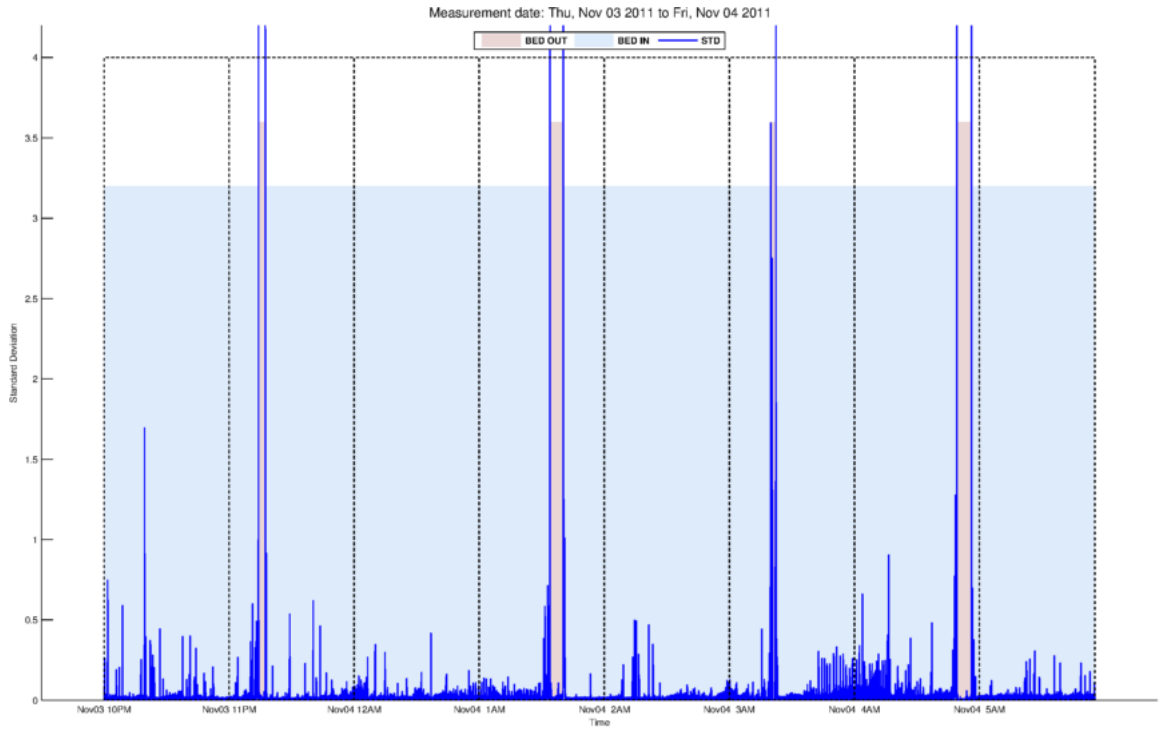


Figure 74: The moving standard deviation for the measured weight.

3.9 8th Night: from Nov 04 2011 to Nov 05 2011

Table 60 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 61 presents the duration of the estimated sleep related activities.

Table 60: Sleep related activities and sensor events measured between Nov 04 and Nov 05

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:22:22	22:04:37	01:16:37	22:22:26	22:25:03	22:05:28		22:17:25		22:23:14	01:17:08
2	22:23:58	22:23:03	01:41:14	22:24:14	01:22:43	01:16:23				23:19:28	03:02:04
3	01:22:19	01:17:20	01:51:35	01:16:43	01:41:15	01:21:44				01:17:54	03:03:07
4	03:38:10	03:32:18	02:19:17	01:22:22	01:51:36	03:02:17				03:33:12	
5	05:18:00	05:06:32	03:28:44	03:31:03	02:21:40	04:59:14				05:07:03	
6			05:01:05	03:38:13	03:38:25	05:05:10					
7				05:05:37	05:18:12	05:17:12					
8				05:18:03							

Table 61: Duration of the sleep related activities presented in Table 60

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:41	00:17:49	00:00:06	00:00:37	02:52:1
2	02:54:01	00:00:55	00:00:00	00:00:50	00:18:35
3	02:10:27	00:04:59	00:00:00	00:00:37	00:10:23
4	01:28:42	00:05:53	00:02:24	00:00:20	00:27:47
5	00:42:08	00:11:30	00:02:19	00:01:15	01:07:19
6			00:04:33	00:00:11	01:22:58
7				00:00:55	00:41:55
8				00:00:09	

Figure 75 presents the measured sensor events and the computed bed entrances and exits.

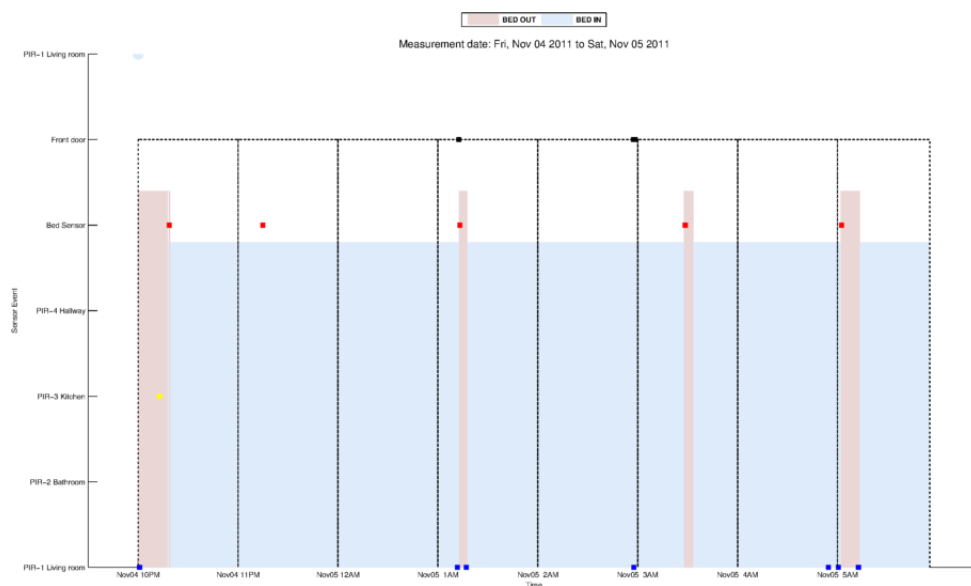


Figure 75: Sensor events and computed bed entrances and exists

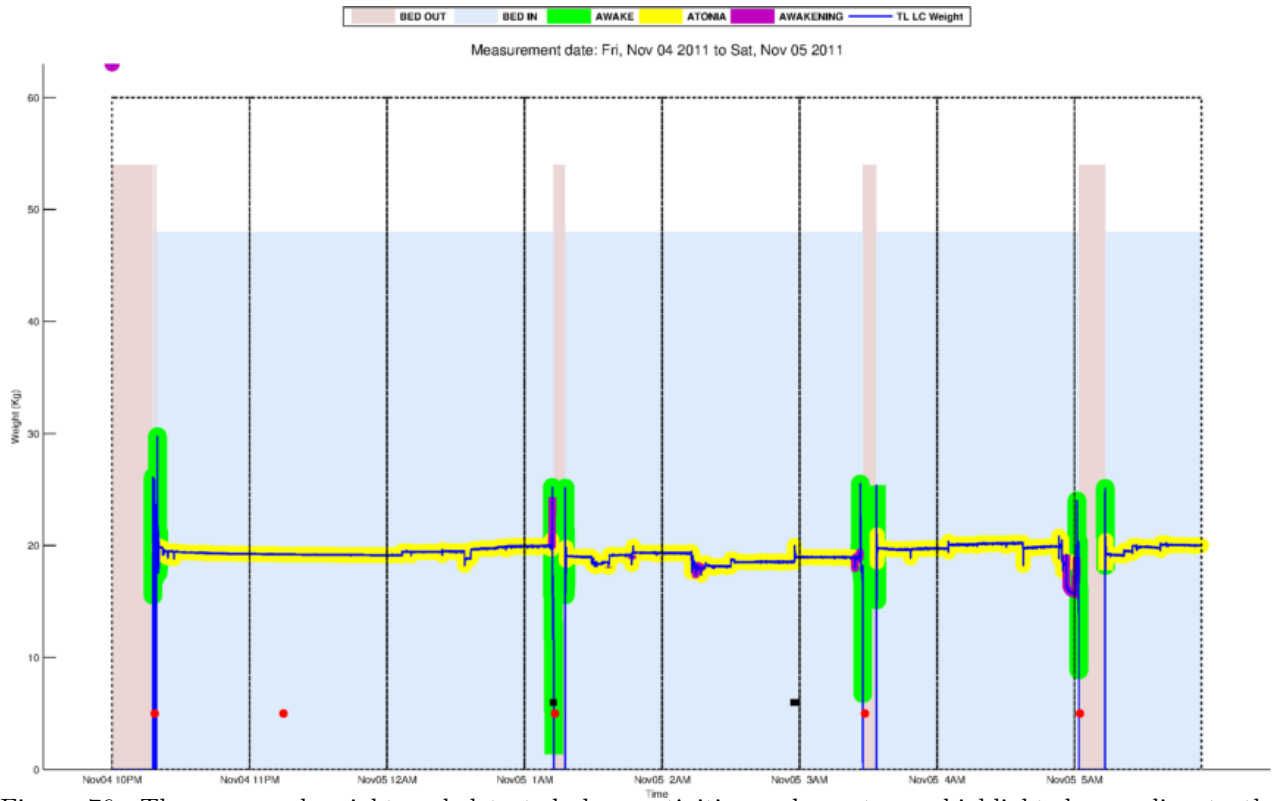


Figure 76: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 76 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 77 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 76).

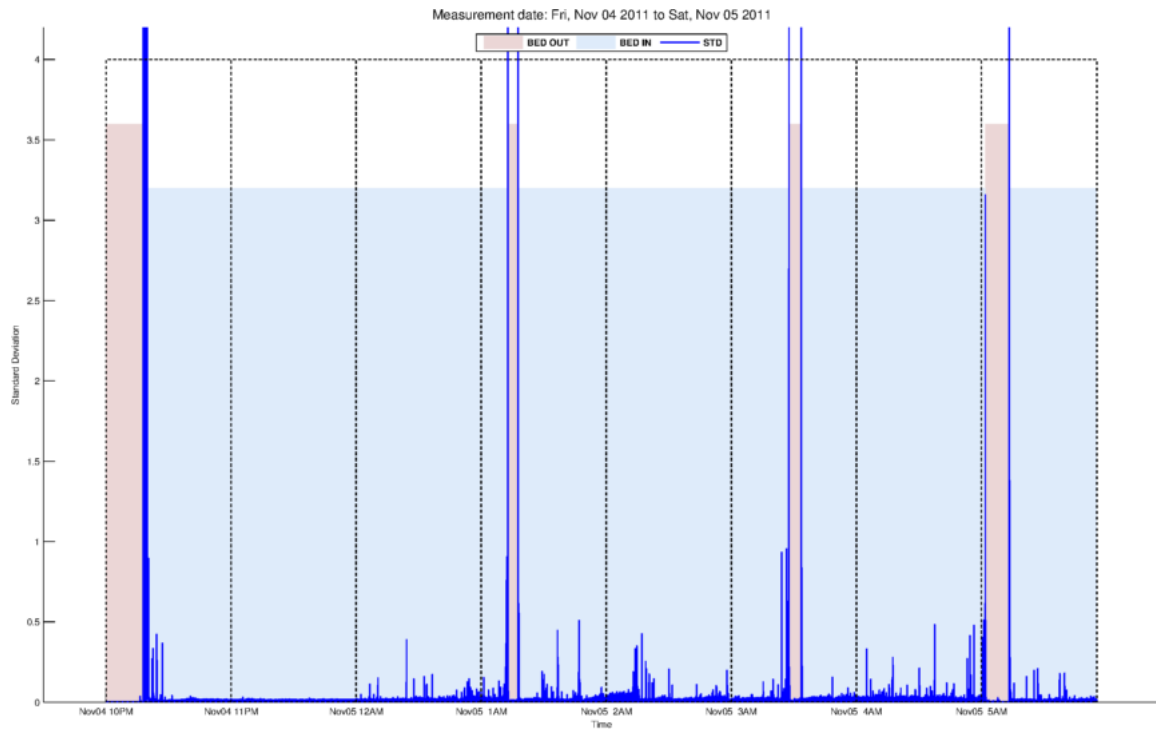


Figure 77: The moving standard deviation for the measured weight.

3.10 9th Night: from Nov 05 2011 to Nov 06 2011

Table 62 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 63 presents the duration of the estimated sleep related activities.

Table 62: Sleep related activities and sensor events measured between Nov 05 and Nov 06

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:20:04	22:06:07	22:37:12	22:20:07	22:27:45	22:09:34	22:21:34	22:21:32		22:20:53	00:17:06
2	22:26:44	22:20:42	22:46:09	22:26:51	22:39:13	22:25:31	03:17:16	22:25:25		00:54:25	03:16:22
3	00:54:36	00:49:55	22:55:41	22:39:12	22:47:23	22:47:23		03:17:12		03:18:47	03:19:56
4	02:40:39	02:36:20	00:48:47	22:47:22	22:55:41	00:48:45				05:18:41	
5	03:18:52	03:18:20	01:20:11	00:48:52	00:55:10	02:06:15					
6	03:19:08	03:18:54	02:36:01	00:54:39	01:20:13	03:16:28					
7	05:21:58	05:18:26	03:16:58	02:36:10	02:41:09	03:41:16					
8			03:41:16	02:40:51	03:20:12	03:46:09					
9			05:17:57	03:17:02	03:45:51	04:21:51					
10			05:45:39	03:19:11	05:22:26	05:45:41					
11				03:45:50	05:51:18	05:50:56					
12				05:18:01							
13				05:22:01							
14				05:50:27							

Table 63: Duration of the sleep related activities presented in Table 62

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:38	00:14:00	00:02:00	00:00:35	00:09:30
2	02:23:42	00:06:03	00:01:13	00:00:54	00:06:58
3	01:42:07	00:04:42	00:00:00	00:00:00	00:08:20
4	00:37:49	00:04:19	00:00:05	00:00:00	01:53:30
5	00:00:02	00:00:32	00:00:02	00:01:03	00:25:06
6	01:59:44	00:00:13	00:00:08	00:00:30	01:16:05
7	00:38:09	00:03:33	00:00:04	00:00:10	00:35:57
8			00:04:35	00:00:18	00:21:08
9			00:00:04	00:01:18	01:32:26
10			00:04:48	00:01:00	00:23:18
11				00:00:01	00:08:43
12				00:00:24	
13				00:00:25	
14				00:00:51	

Figure 78 presents the measured sensor events and the computed bed entrances and exits.

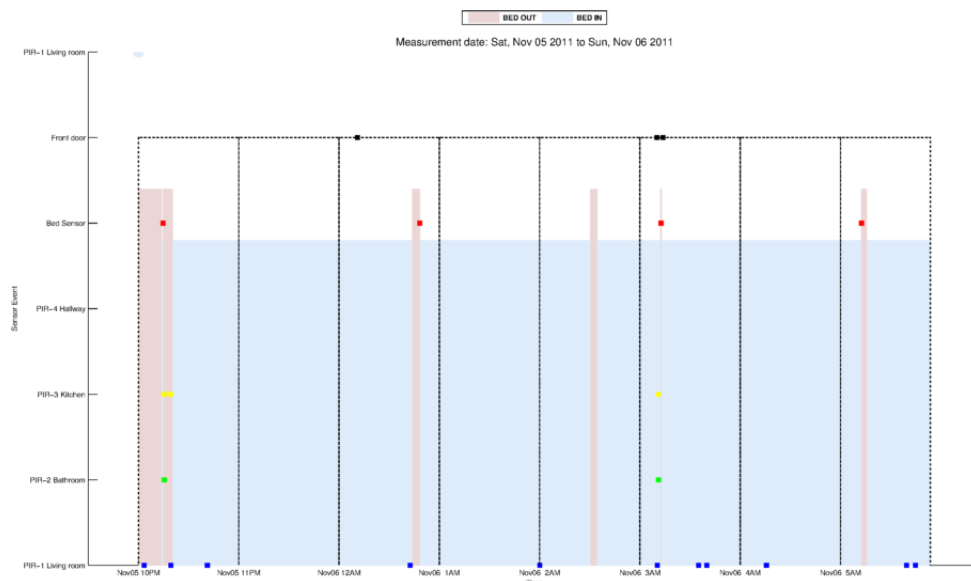


Figure 78: Sensor events and computed bed entrances and exists

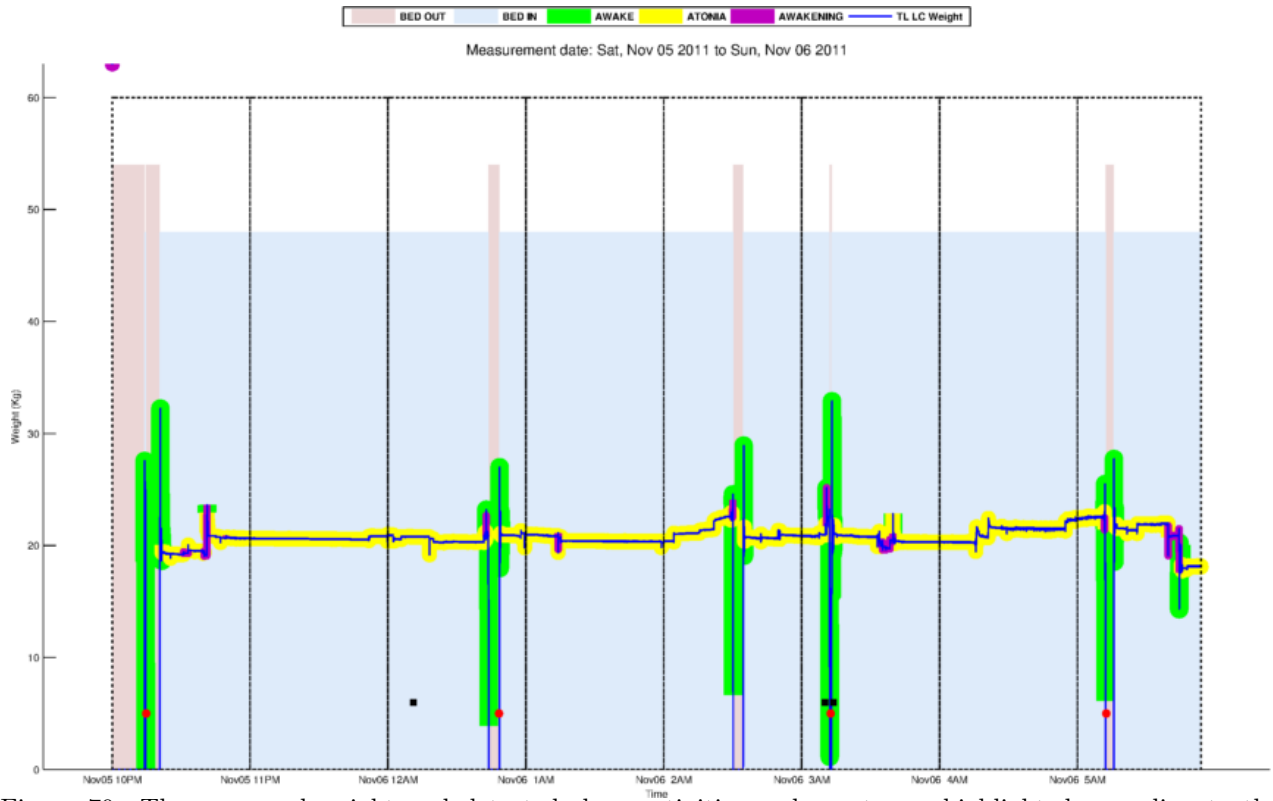


Figure 79: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 79 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 80 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 79).

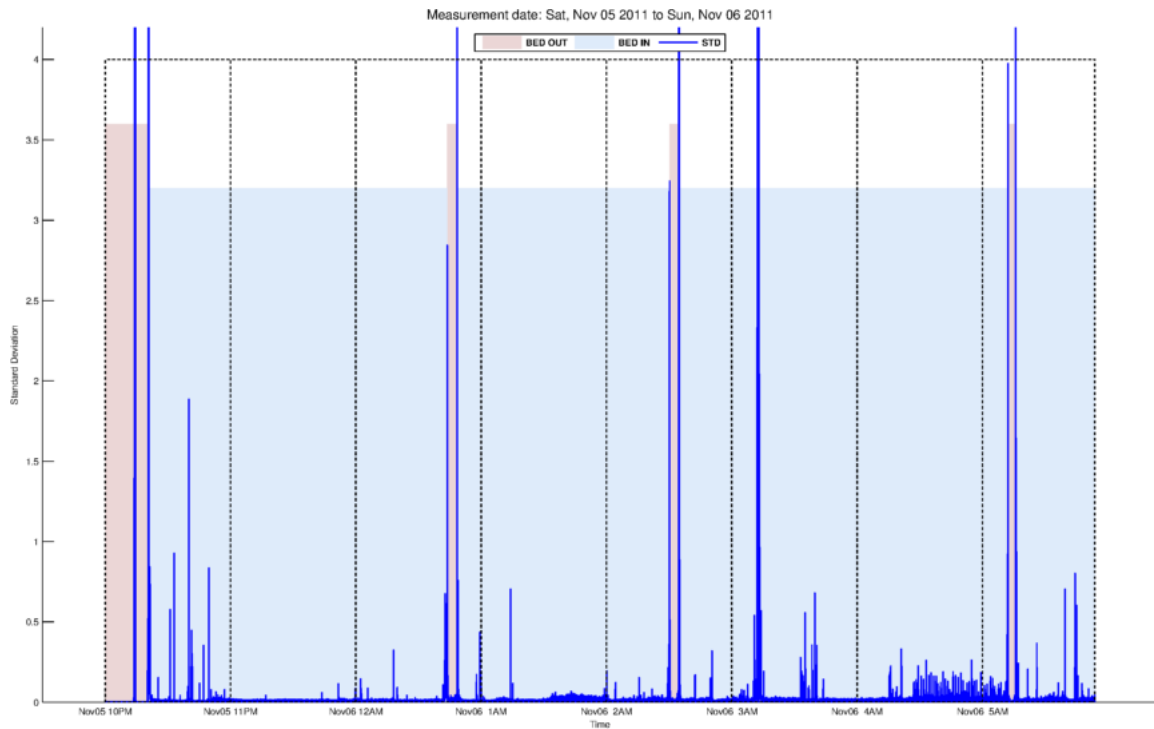


Figure 80: The moving standard deviation for the measured weight.

3.11 10th Night: from Nov 06 2011 to Nov 07 2011

Table 64 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 65 presents the duration of the estimated sleep related activities.

Table 64: Sleep related activities and sensor events measured between Nov 06 and Nov 07

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:22:25	22:06:27	22:54:18	22:22:25	22:48:12	22:28:18	22:25:52	22:18:27		22:23:56	23:16:50
2	22:24:29	22:23:47	00:19:47	22:24:33	23:43:14	23:03:38		22:25:47		22:25:36	23:17:03
3	22:28:59	22:25:26	03:03:21	22:29:04	00:24:10	23:10:34		23:18:32		03:05:33	23:43:49
4	03:12:07	03:05:23	03:54:04	22:56:26	03:12:47	02:26:13				05:47:48	03:17:03
5	05:52:47	05:47:37	04:32:06	00:24:07	03:54:05	03:03:14					03:31:22
6			05:46:55	03:03:29	04:32:07	03:31:31					
7			05:59:24	03:12:15	05:53:24	03:43:26					
8				05:46:59		03:54:03					
9				05:52:58		04:04:49					
10						04:30:03					
11						05:46:54					

Table 65: Duration of the sleep related activities presented in Table 64

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:01:23	00:16:01	00:02:09	00:01:23	00:06:07
2	00:00:57	00:00:42	00:04:21	00:00:54	00:36:41
3	04:37:25	00:03:33	00:00:07	00:19:12	02:39:46
4	02:36:03	00:06:45	00:00:01	00:46:58	00:41:26
5	00:07:13	00:05:11	00:00:00	00:00:02	00:38:09
6			00:00:04	00:01:55	01:15:05
7			00:00:35	00:00:32	00:06:00
8				00:00:37	
9				00:00:26	

Figure 81 presents the measured sensor events and the computed bed entrances and exits.

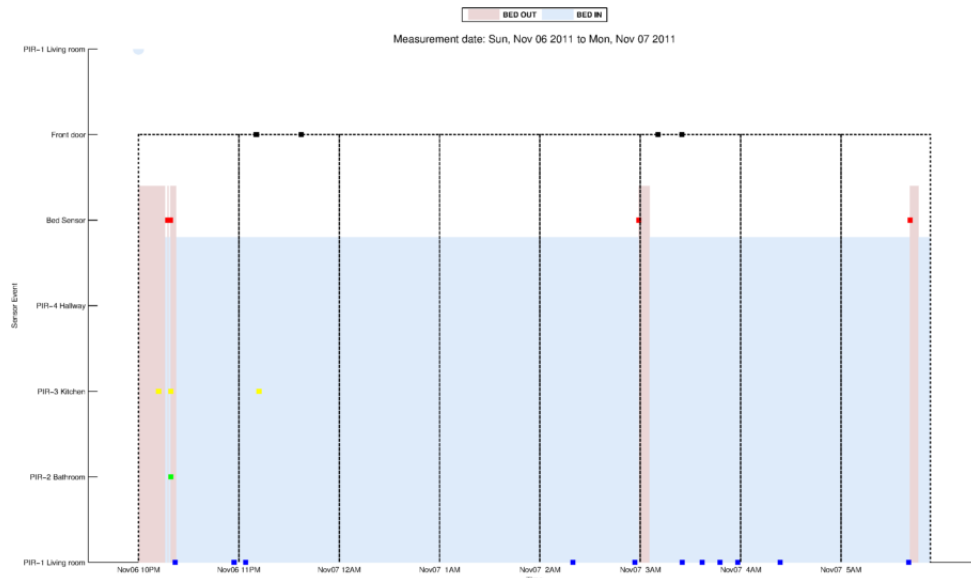


Figure 81: Sensor events and computed bed entrances and exists

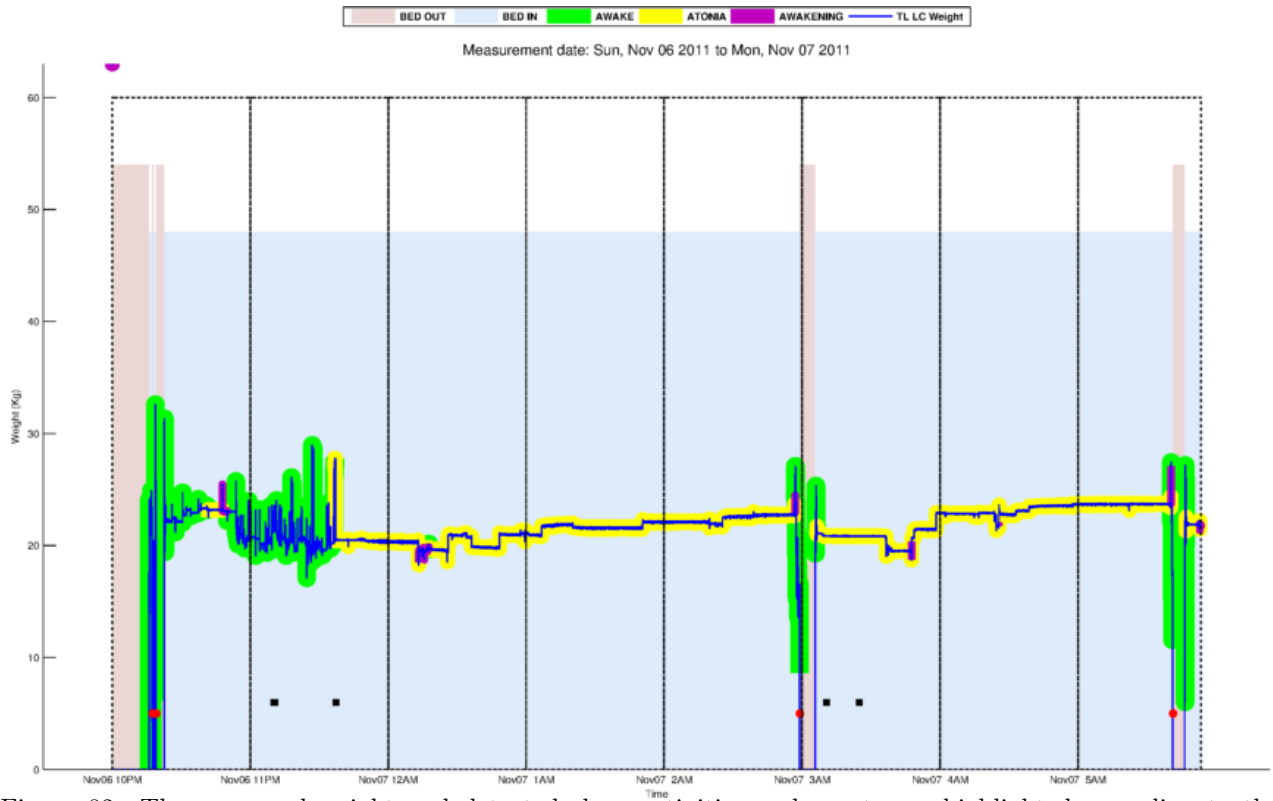


Figure 82: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 82 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 83 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 82).

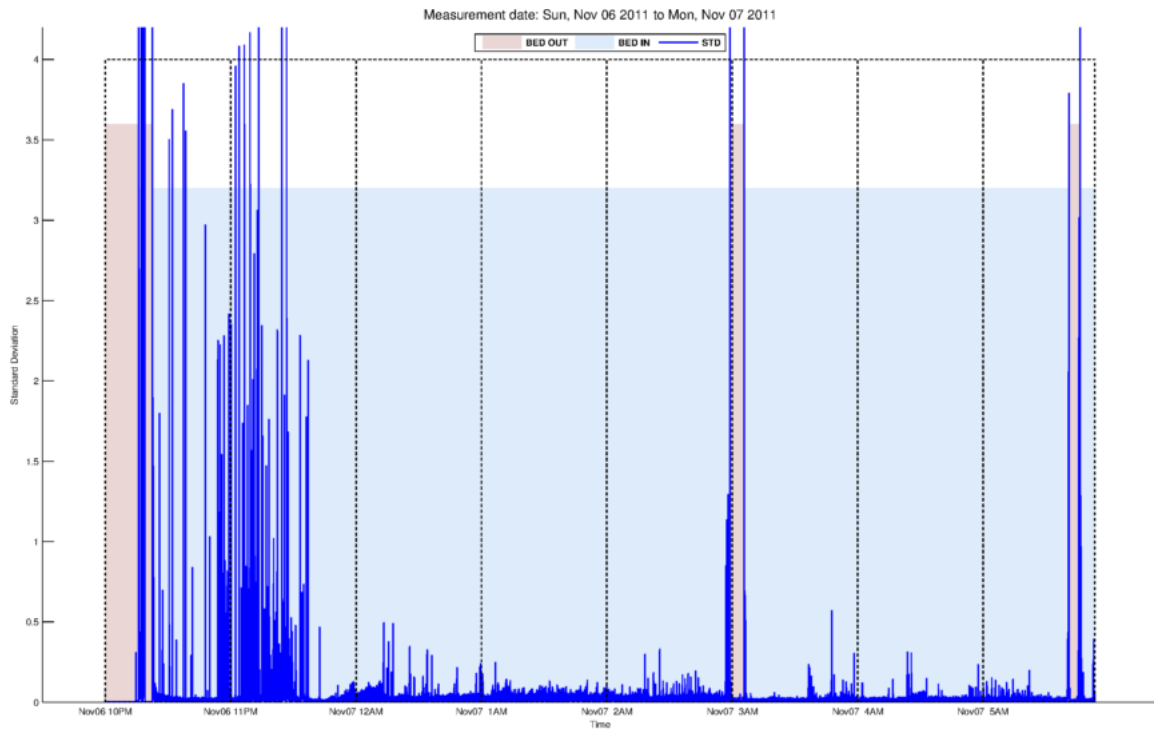


Figure 83: The moving standard deviation for the measured weight.

3.12 11th Night: from Nov 07 2011 to Nov 08 2011

Table 66 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 67 presents the duration of the estimated sleep related activities.

Table 66: Sleep related activities and sensor events measured between Nov 07 and Nov 08

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:23:45	22:09:32	02:38:12	22:23:53	22:35:24	22:11:25	22:26:12	22:21:10		22:24:56	22:17:00
2	22:33:21	22:24:45	03:56:12	22:33:25	02:45:30	22:32:45		22:32:34		02:44:19	02:35:09
3	02:44:49	02:38:32	05:42:30	02:38:19	04:01:23	02:35:19		02:35:23		05:45:42	02:35:56
4	04:00:35	03:56:20		02:45:12	05:48:52	03:53:52				05:48:00	
5	05:48:36	05:43:19		03:56:17		05:42:21					
6				04:01:10							
7				05:42:34							
8				05:48:41							

Table 67: Duration of the sleep related activities presented in Table 66

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:01:00	00:14:16	00:00:06	00:00:52	04:03:41
2	04:06:04	00:08:38	00:00:05	00:01:59	01:10:57
3	01:11:46	00:06:18	00:00:03	00:00:13	01:41:29
4	01:43:06	00:04:16		00:00:18	00:11:09
5	00:11:25	00:05:18		00:00:02	
6				00:00:13	
7				00:00:45	
8				00:00:11	

Figure 84 presents the measured sensor events and the computed bed entrances and exits.

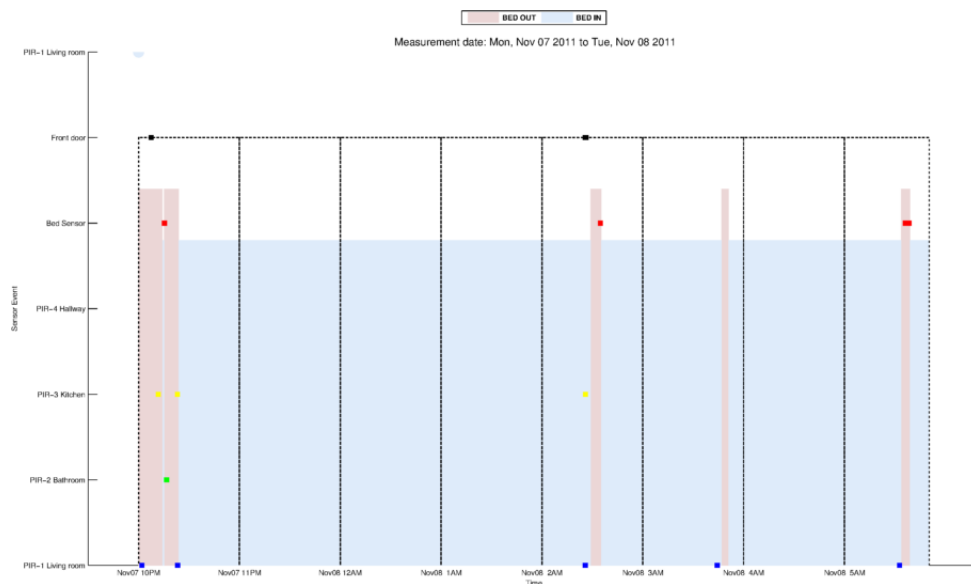


Figure 84: Sensor events and computed bed entrances and exists

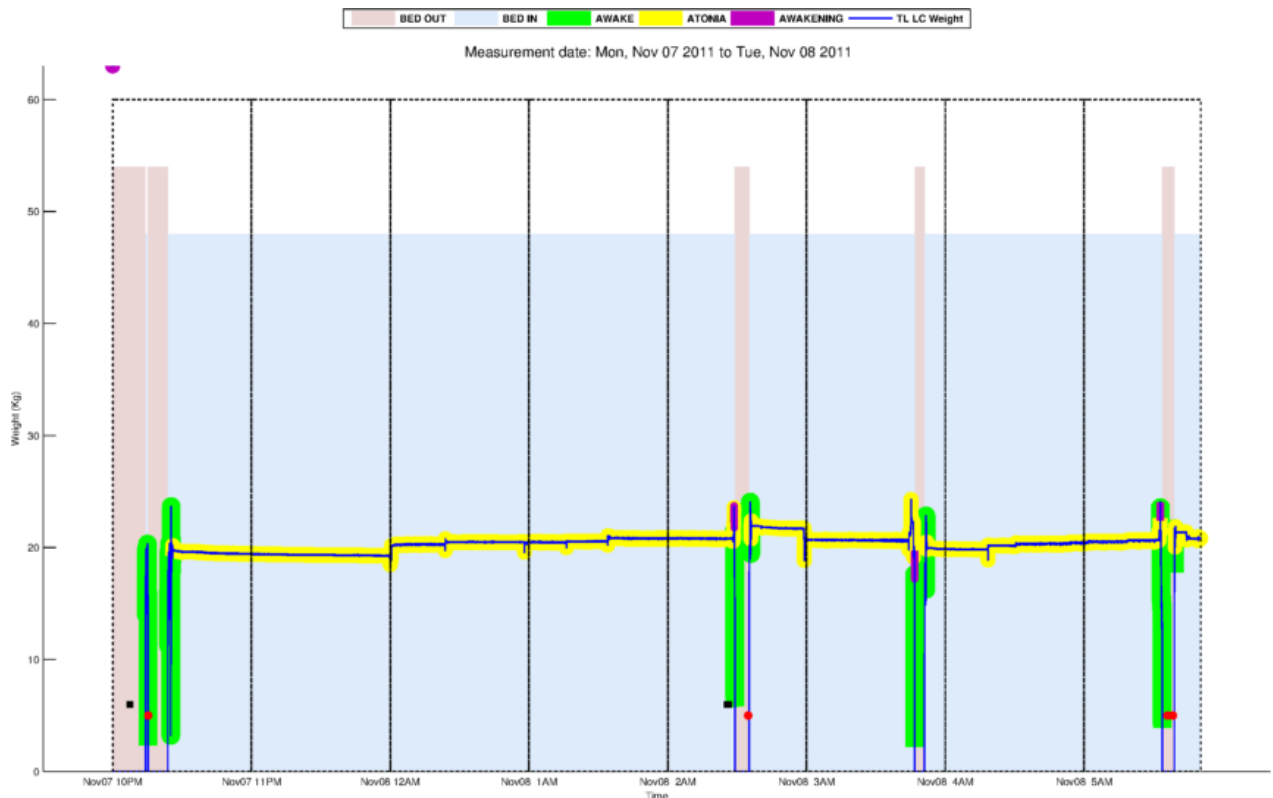


Figure 85: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 85 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 86 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 85).

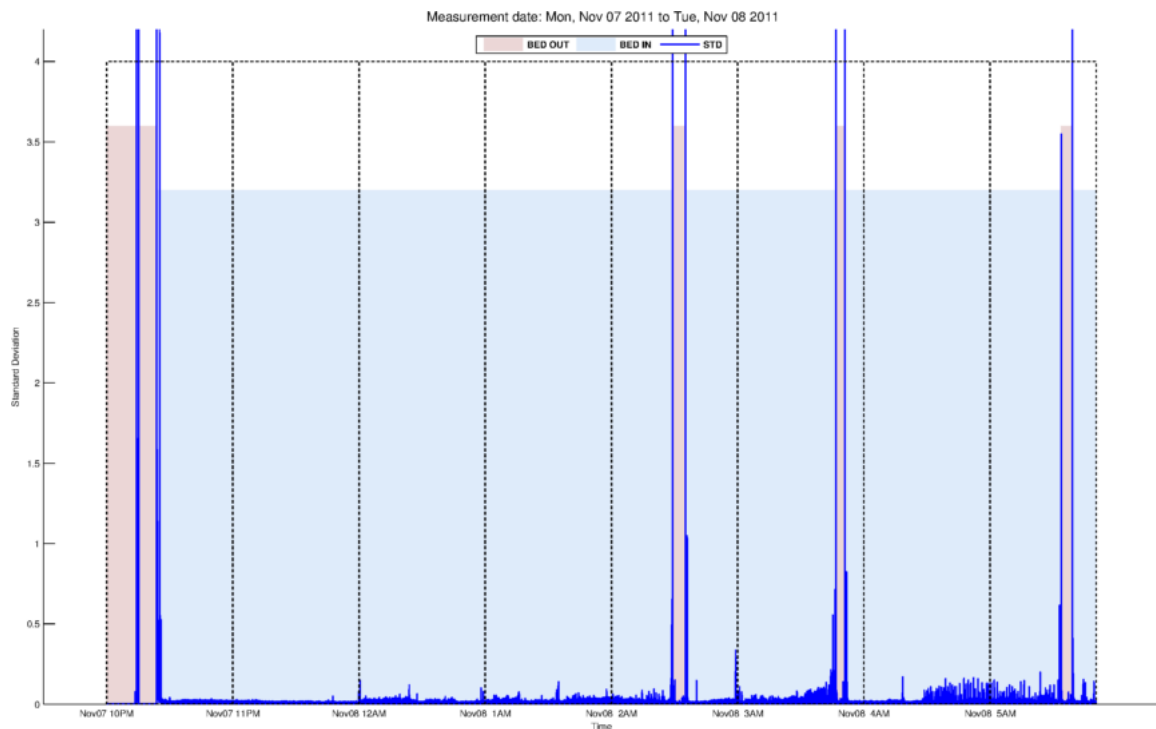


Figure 86: The moving standard deviation for the measured weight.

3.13 12th Night: from Nov 08 2011 to Nov 09 2011

Table 68 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 69 presents the duration of the estimated sleep related activities.

Table 68: Sleep related activities and sensor events measured between Nov 08 and Nov 09

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:28:15	22:07:50	22:44:30	22:28:19	22:35:57	22:10:27	22:22:13	22:22:09		22:29:16	00:16:58
2	22:31:03	22:29:05	22:53:11	22:31:06	22:44:31	22:24:37				22:32:26	02:48:24
3	22:33:08	22:32:17	00:35:35	22:33:33	22:53:12	01:42:22				01:42:57	02:49:14
4	01:49:26	01:42:43	01:42:20	00:35:48	00:38:14	02:21:05				05:07:17	
5	05:13:31	05:06:52	05:06:18	01:42:26	01:49:57	02:48:34					
6			05:36:40	01:49:30	05:28:03	05:06:07					
7				05:06:21	05:38:07						
8				05:13:35							
9				05:38:07							

Table 69: Duration of the sleep related activities presented in Table 68

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:50	00:20:30	00:00:01	00:00:46	00:08:35
2	00:01:14	00:01:58	00:00:01	00:01:10	00:08:42
3	03:10:16	00:00:51	00:00:13	00:02:24	01:42:45
4	03:18:08	00:06:44	00:00:05	00:02:26	01:04:20
5	00:46:37	00:06:41	00:00:03	00:00:17	03:17:02
6			00:01:27	00:00:27	00:08:38
7				00:00:30	00:21:56
8				00:14:31	
9				00:00:00	

Figure 87 presents the measured sensor events and the computed bed entrances and exits.

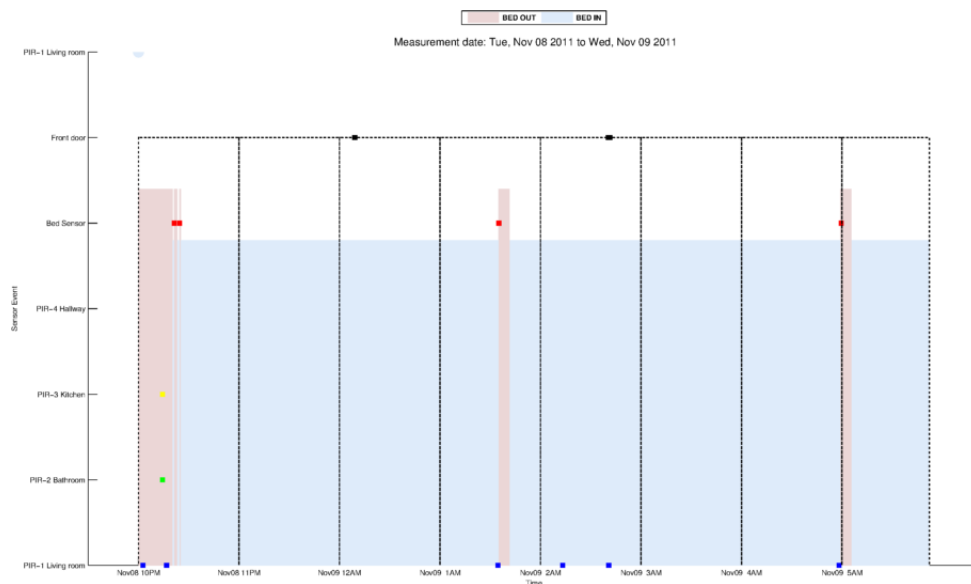


Figure 87: Sensor events and computed bed entrances and exists

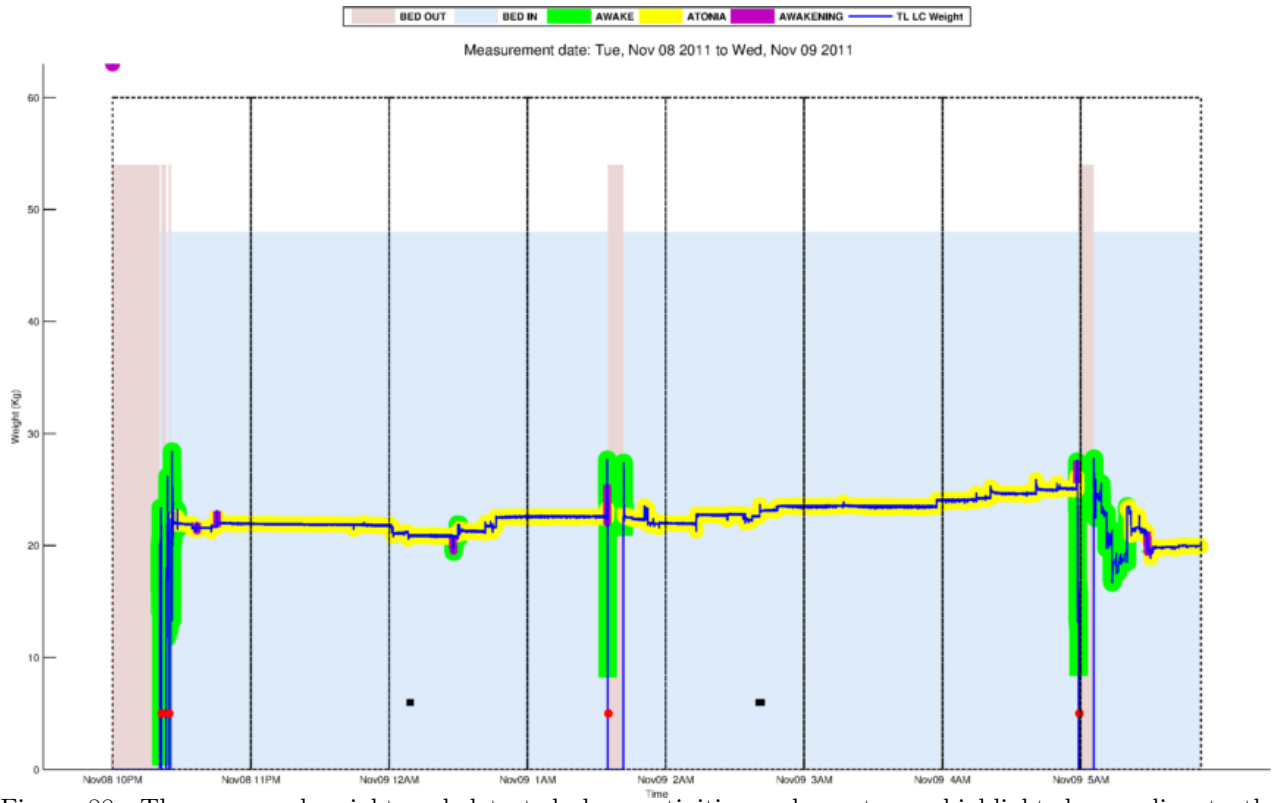


Figure 88: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 88 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 89 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 88).

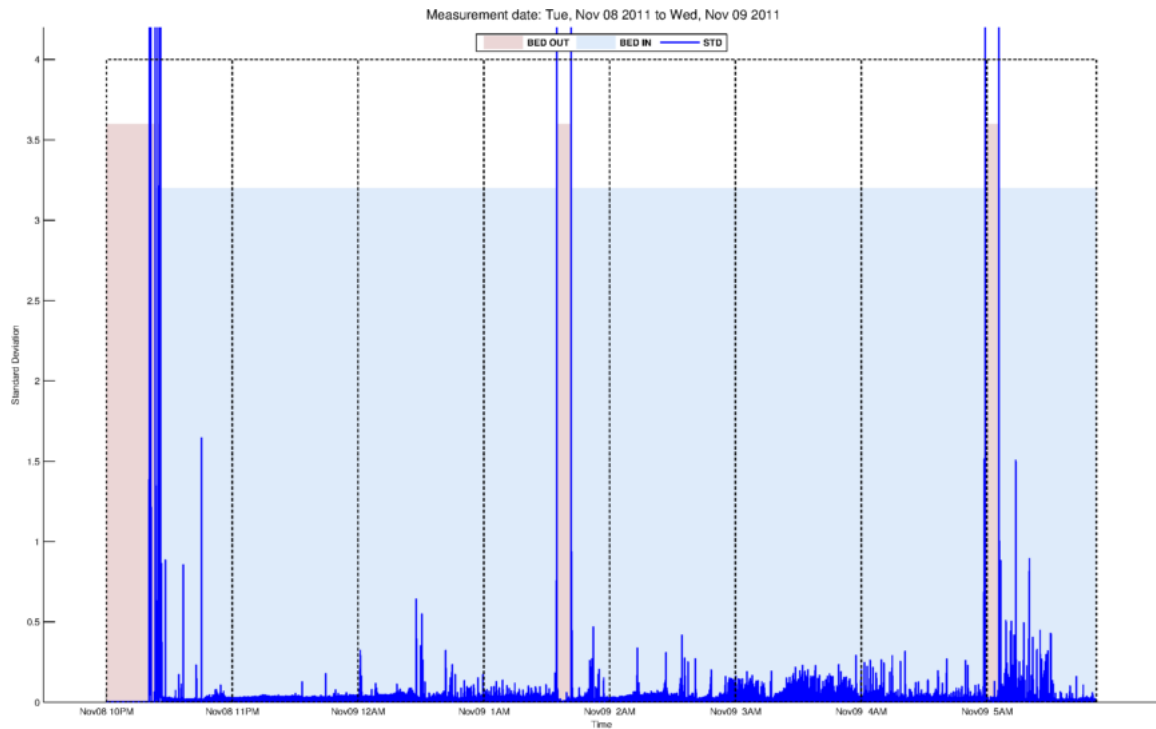


Figure 89: The moving standard deviation for the measured weight.

3.14 13th Night: from Nov 09 2011 to Nov 10 2011

Table 70 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 71 presents the duration of the estimated sleep related activities.

Table 70: Sleep related activities and sensor events measured between Nov 09 and Nov 10

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:34:37	22:01:02	00:08:47	22:34:40	22:40:09	22:22:19	22:36:17			22:35:31	03:16:55
2	22:39:08	22:35:21	00:35:00	22:39:08	00:08:50	00:55:14	03:22:49			00:57:10	03:20:43
3	01:01:35	00:56:20	00:55:04	00:37:17	00:37:37	01:00:40				03:22:25	03:25:23
4	03:24:30	03:22:09	01:13:44	00:55:13	01:02:16	01:42:50				04:18:23	
5	04:25:02	04:18:12	01:43:05	01:01:49	01:18:32	03:20:56					
6			01:50:50	01:13:54	01:43:53	04:17:31					
7			03:18:26	01:43:53	01:50:51	04:22:37					
8			03:38:45	03:21:03	03:33:01						
9			03:52:31	03:24:35	03:41:27						
10			04:17:26	03:39:44	03:52:32						
11			04:37:00	04:17:33	04:31:47						
12			04:56:05	04:25:06	04:39:21						
13			05:04:50	04:39:19	04:56:06						
14			05:09:50	05:14:32	05:04:51						
15					05:21:21						

Table 71: Duration of the sleep related activities presented in Table 70

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:44	00:33:42	00:00:03	00:00:40	01:28:57
2	02:17:41	00:03:48	00:02:17	00:01:01	00:26:15
3	02:21:05	00:05:16	00:00:09	00:00:20	00:17:31
4	00:53:53	00:02:21	00:00:09	00:01:06	00:11:31
5	01:35:17	00:06:52	00:00:48	00:00:27	00:24:38
6			00:00:01	00:04:39	00:06:58
7			00:02:37	00:00:00	01:27:55
8			00:00:59	00:01:06	00:05:44
9			00:00:00	00:08:28	00:11:06
10			00:00:06	00:01:43	00:25:00
11			00:02:19	00:00:39	00:05:14
12			00:00:00	00:06:42	00:16:47
13			00:00:01	00:00:02	00:08:46
14			00:04:42	00:06:50	00:05:00
15					00:38:46

Figure 90 presents the measured sensor events and the computed bed entrances and exits.

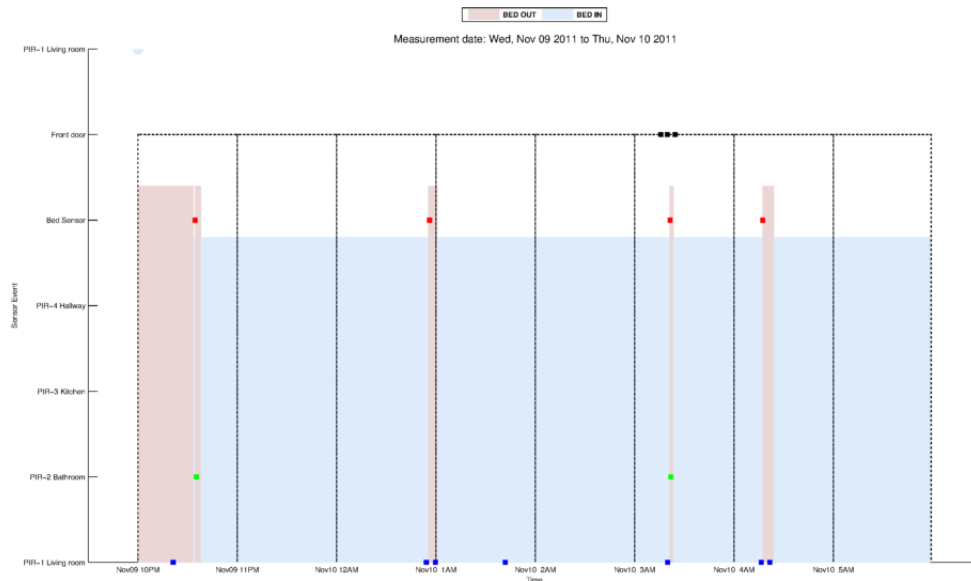


Figure 90: Sensor events and computed bed entrances and exists

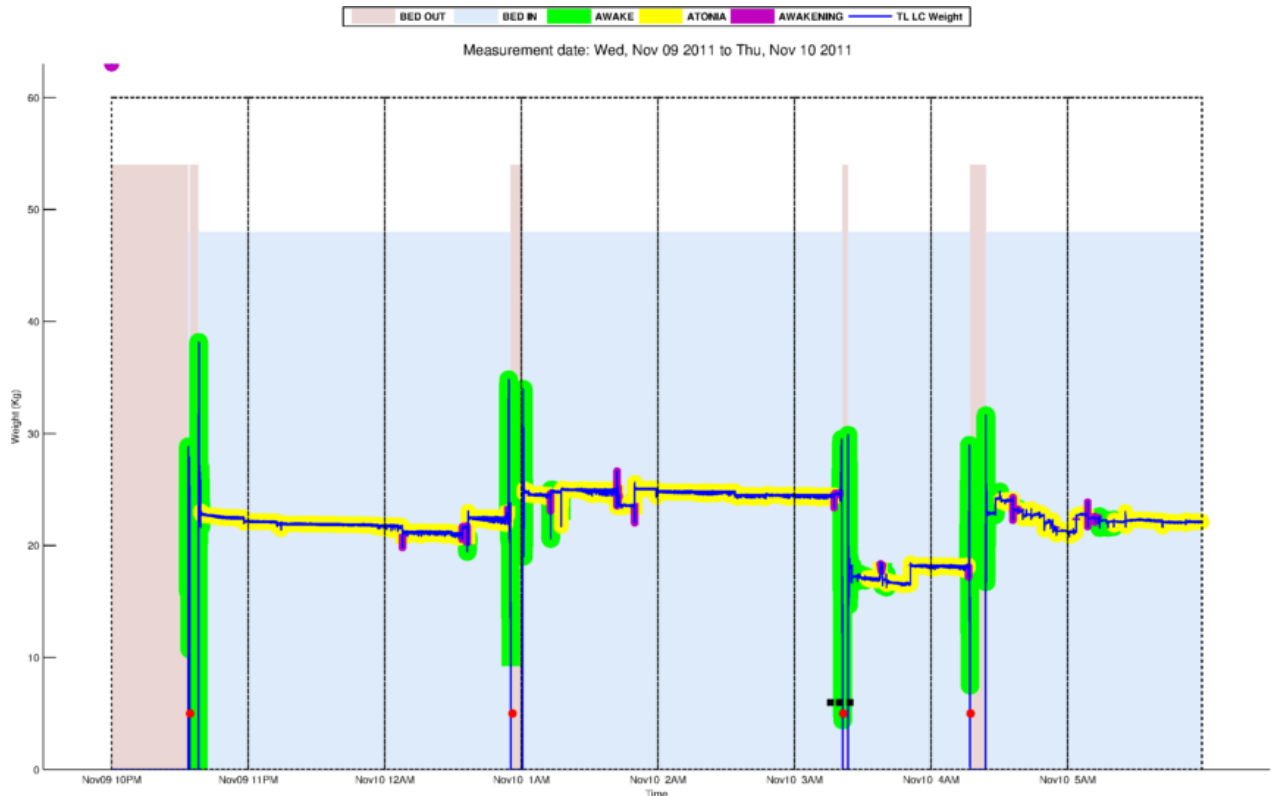


Figure 91: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 91 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 92 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 91).

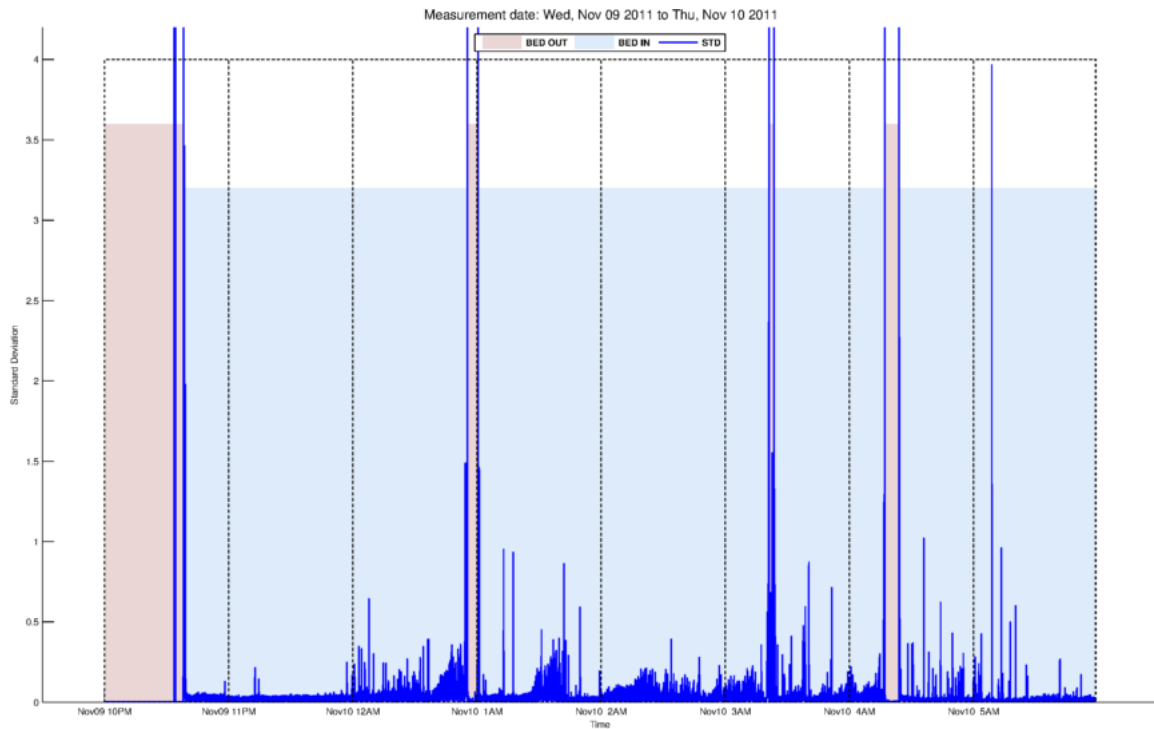


Figure 92: The moving standard deviation for the measured weight.

3.15 14th Night: from Nov 10 2011 to Nov 11 2011

Table 72 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 73 presents the duration of the estimated sleep related activities.

Table 72: Sleep related activities and sensor events measured between Nov 10 and Nov 11

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:26:27	22:00:12	22:55:29	22:26:30	22:28:54	22:12:29	03:23:56	03:22:54		22:27:14	03:29:52
2	22:28:00	22:27:04	23:42:37	22:28:04	22:55:33	22:20:56				03:15:31	
3	03:29:04	03:14:58	00:56:08	22:55:33	23:42:38	02:17:34					
4			01:25:12	00:58:38	00:58:39	03:13:19					
5			01:39:58	01:26:25	01:29:50	03:26:00					
6			02:11:30	02:17:32	01:40:00						
7			02:17:28	03:13:22	02:11:31						
8			02:44:58	03:29:07	02:19:35						
9			03:13:17	03:47:46	02:44:59						
10			03:42:11	04:30:40	03:29:50						
11			03:47:41		03:42:11						
12			04:27:45		03:47:47						
13			05:10:07		04:30:42						
14					05:10:07						

Table 73: Duration of the sleep related activities presented in Table 72

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:37	00:26:20	00:00:03	00:00:34	00:26:41
2	04:48:00	00:00:56	00:00:01	00:00:50	00:47:14
3	02:31:28	00:14:09	00:02:30	00:00:00	01:13:45
4			00:01:12	00:00:01	00:26:39
5			00:00:02	00:03:26	00:10:10
6			00:00:00	00:02:03	00:31:37
7			00:00:04	00:01:36	00:05:58
8			00:00:00	00:00:43	00:25:29
9			00:00:04	00:00:01	00:28:24
10			00:00:00	00:00:02	00:12:23
11			00:00:05		00:05:31
12			00:02:55		00:40:06
13			00:00:00		00:39:33
14					00:50:02

Figure 93 presents the measured sensor events and the computed bed entrances and exits.

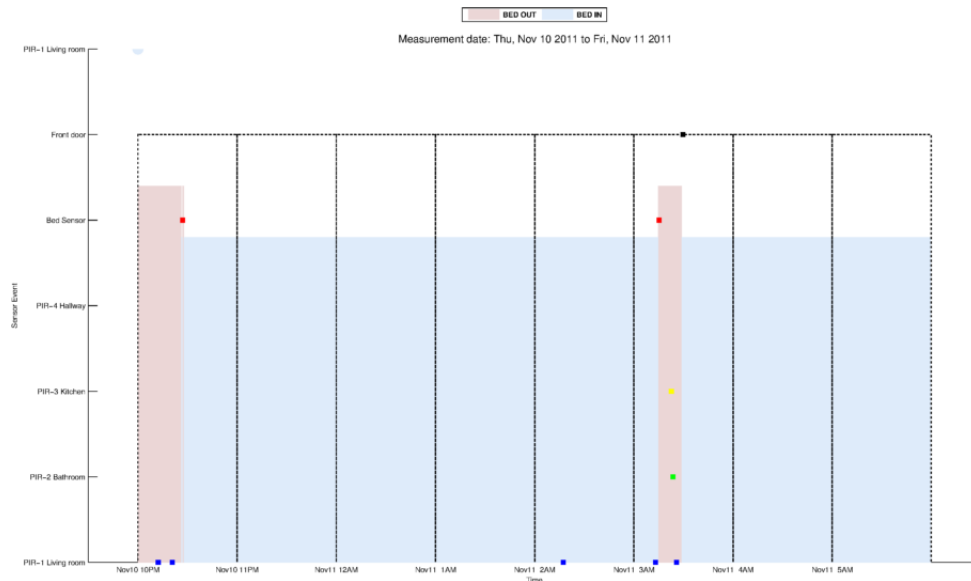


Figure 93: Sensor events and computed bed entrances and exists

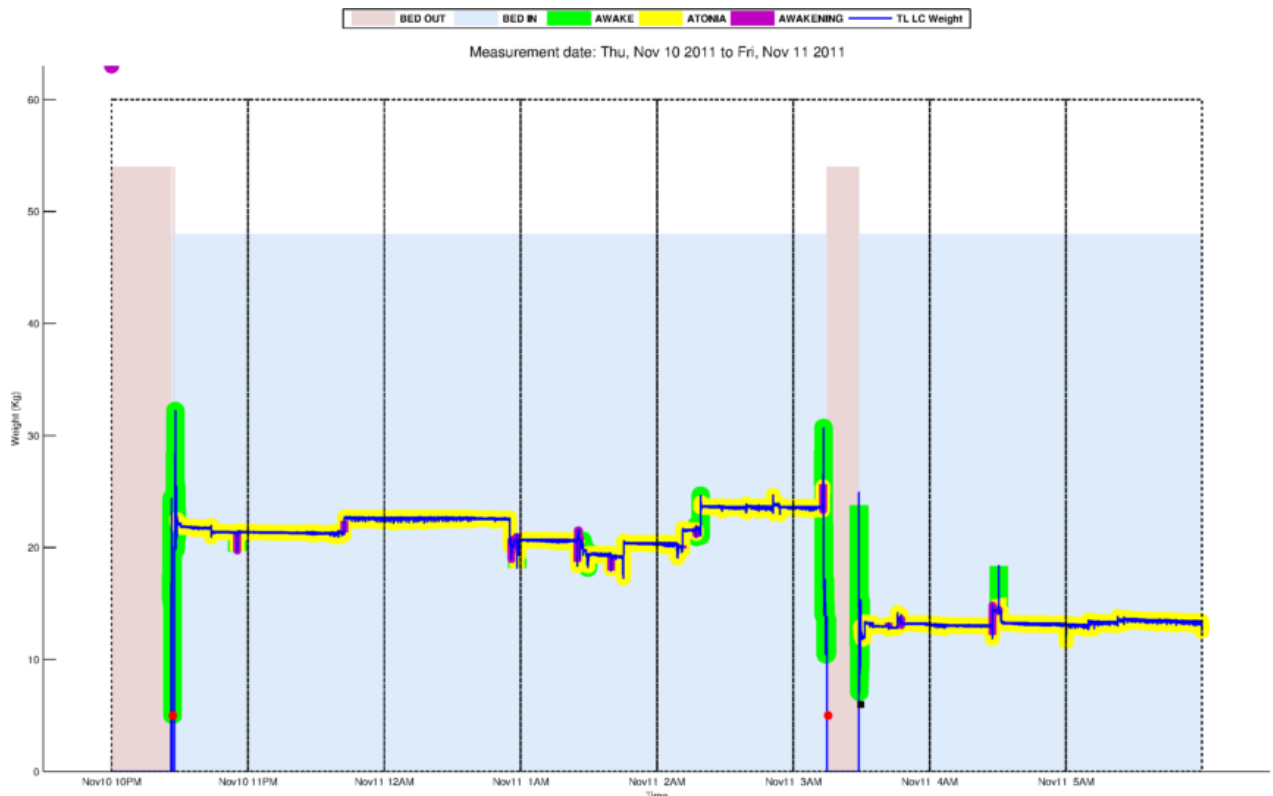


Figure 94: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 94 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 95 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 94).

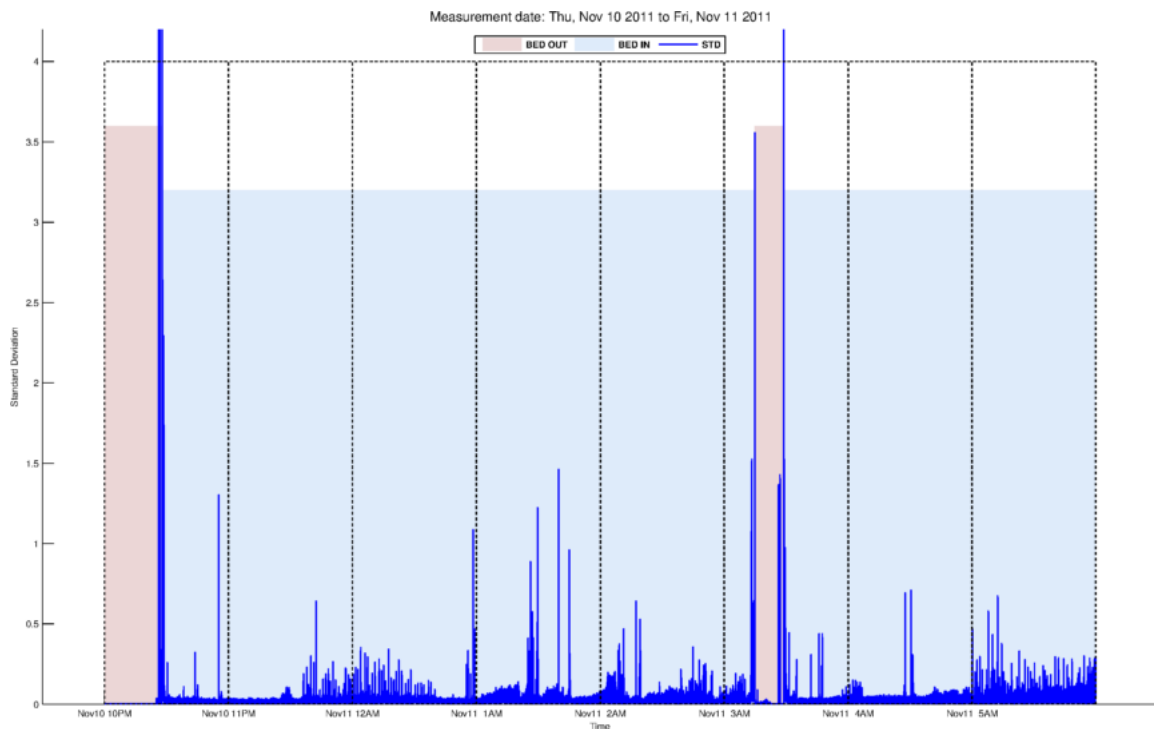


Figure 95: The moving standard deviation for the measured weight.

3.16 15th Night: from Nov 11 2011 to Nov 12 2011

Table 74 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 75 presents the duration of the estimated sleep related activities.

Table 74: Sleep related activities and sensor events measured between Nov 11 and Nov 12

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:36:42	22:00:12	23:04:30	22:36:46	22:56:48	22:06:58	22:29:25	22:26:24		22:37:26	03:43:39
2	22:39:03	22:37:14	23:10:46	22:39:03	23:04:31	22:35:02	02:57:00	02:56:55		02:52:54	03:49:41
3	03:03:48	02:50:46	23:22:58	23:11:37	23:12:54	02:50:25	03:45:22	03:02:40		02:56:29	
4	03:47:48	03:44:36	00:39:39	01:17:22	23:23:00	03:03:22		03:45:20		03:44:06	
5	04:21:42	04:17:39	01:07:06	02:50:23	00:39:40	03:31:09				04:17:53	
6			01:16:10	03:03:52	01:07:07	03:43:52					
7			02:18:52	03:44:25	01:17:25	04:17:25					
8			02:46:27	03:47:51	02:18:52						
9			03:31:09	04:17:03	03:06:56						
10			03:44:21	04:21:42	03:31:10						
11			03:58:08	04:34:01	03:48:26						
12			04:16:23		03:58:09						
13			04:33:46		04:22:28						
14			04:41:44		04:34:02						
15			05:37:35		04:41:45						
16			05:50:43		05:37:39						
17					05:50:44						

Table 75: Duration of the sleep related activities presented in Table 74

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:31	00:36:38	00:00:01	00:00:28	00:07:44
2	04:12:38	00:01:50	00:00:51	00:17:48	00:06:16
3	00:40:57	00:13:05	00:00:02	00:01:17	00:10:06
4	00:29:58	00:03:12	00:00:01	00:00:03	01:16:56
5	01:38:38	00:04:03	00:00:00	00:00:22	00:27:33
6			00:01:11	00:03:04	00:09:05
7			00:00:00	00:00:11	01:01:41
8			00:03:57	00:00:34	00:27:40
9			00:00:00	00:00:36	00:24:19
10			00:00:03	00:00:46	00:13:14
11			00:00:00	00:00:01	00:09:44
12			00:00:41		00:18:18
13			00:00:14		00:11:20
14			00:00:01		00:07:43
15			00:00:03		00:56:02
16			00:00:00		00:13:07
17					00:09:17

Figure 96 presents the measured sensor events and the computed bed entrances and exits.

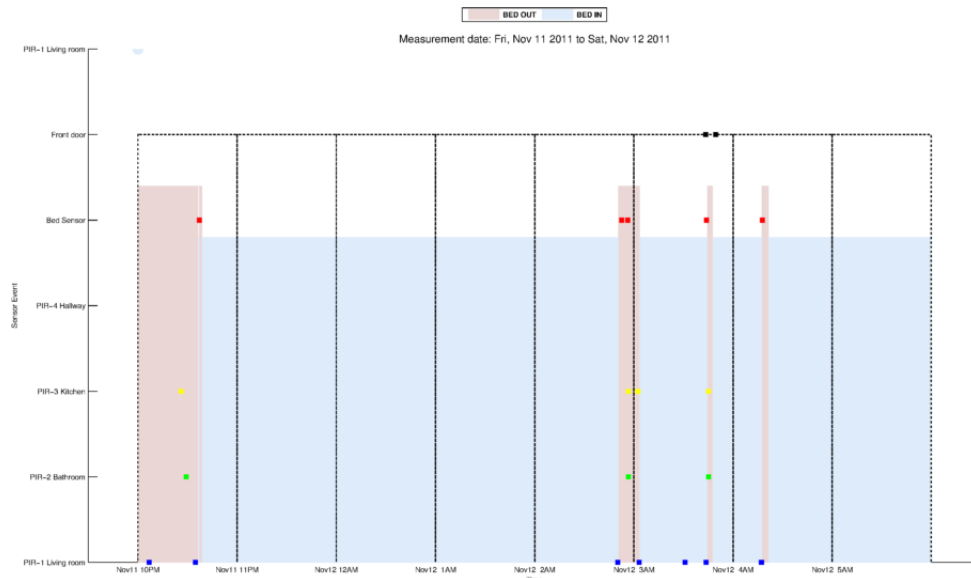


Figure 96: Sensor events and computed bed entrances and exists

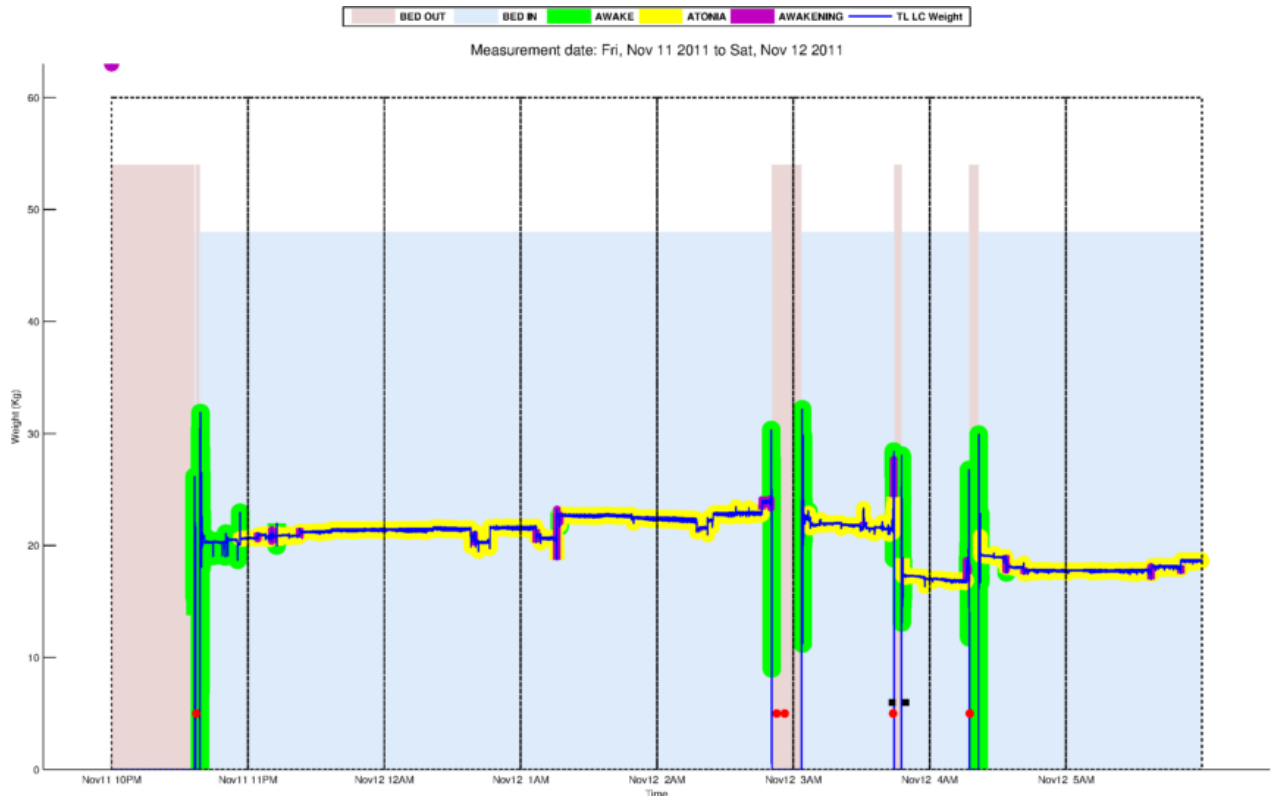


Figure 97: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 97 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 98 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 97).

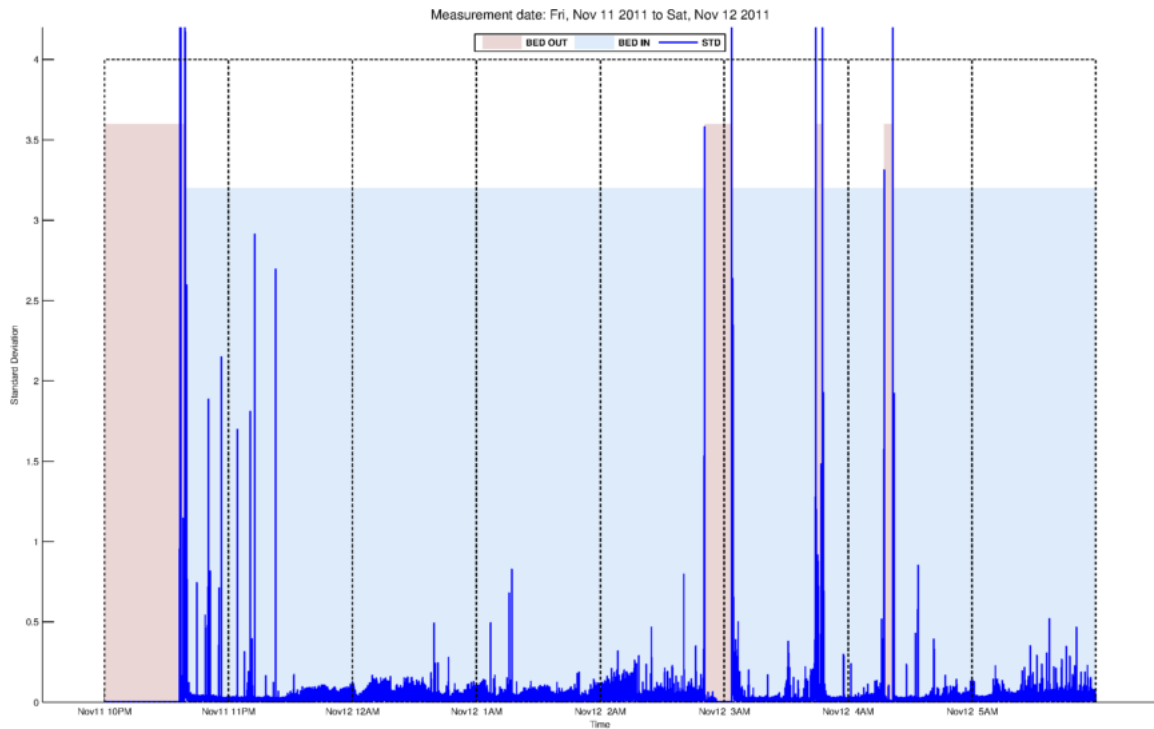


Figure 98: The moving standard deviation for the measured weight.

3.17 16th Night: from Nov 12 2011 to Nov 13 2011

Table 76 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 77 presents the duration of the estimated sleep related activities.

Table 76: Sleep related activities and sensor events measured between Nov 12 and Nov 13

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:00:13	00:37:47	00:35:08	00:35:39	22:00:13	00:35:13	03:35:09	03:34:40		00:38:31	03:33:21
2	00:38:03	00:38:07	00:52:06	00:38:06	00:43:51	02:10:39		03:37:35		03:03:39	03:40:42
3	00:43:17	03:03:07	01:04:14	00:43:21	00:52:32	03:02:33				03:37:07	
4	03:08:12	03:34:58	01:19:34	00:52:16	01:04:19	03:33:28				05:34:31	
5	03:38:23	05:31:12	01:59:09	01:04:18	01:20:51	05:29:53					
6	05:37:33		02:10:28	01:19:38	01:59:29	05:57:42					
7			02:29:35	01:59:28	02:10:42						
8			02:54:25	02:10:33	02:32:50						
9			03:01:01	02:29:38	02:54:26						
10			03:24:28	03:01:10	03:08:50						
11			03:33:30	03:08:21	03:24:30						
12			04:01:59	03:33:34	03:43:56						
13			04:40:51	03:38:26	04:02:01						
14			04:55:23	04:45:27	04:46:43						
15			05:29:46	05:29:53	04:55:25						
16			05:57:35	05:37:37	05:38:45						
17				05:57:38							

Table 77: Duration of the sleep related activities presented in Table 76

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	02:38:08	00:00:16	00:00:30	00:02:08	02:35:29
2	00:00:04	00:05:11	00:00:10	00:00:01	00:08:16
3	02:20:20	00:05:05	00:00:03	00:00:30	00:11:45
4	00:26:52	00:03:25	00:00:04	00:00:16	00:15:18
5	01:53:14	00:06:22	00:00:19	00:00:01	00:38:26
6	00:22:30		00:00:05	00:01:13	00:11:01
7			00:00:03	00:00:00	00:18:56
8			00:00:00	00:00:09	00:21:39
9			00:00:09	00:03:13	00:06:36
10			00:00:02	00:01:58	00:15:41
11			00:00:04	00:00:29	00:09:01
12			00:00:01	00:01:24	00:18:07
13			00:04:37	00:05:31	00:38:58
14			00:00:02	00:01:16	00:08:42
15			00:00:07	00:01:20	00:34:28
16			00:00:03	00:01:08	00:18:54
17				00:02:21	

Figure 99 presents the measured sensor events and the computed bed entrances and exits.

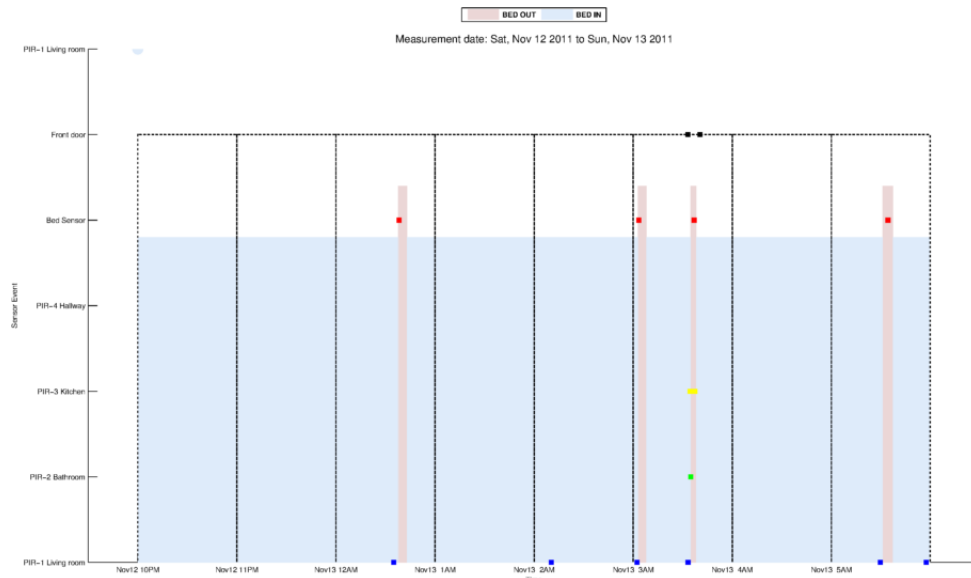


Figure 99: Sensor events and computed bed entrances and exists

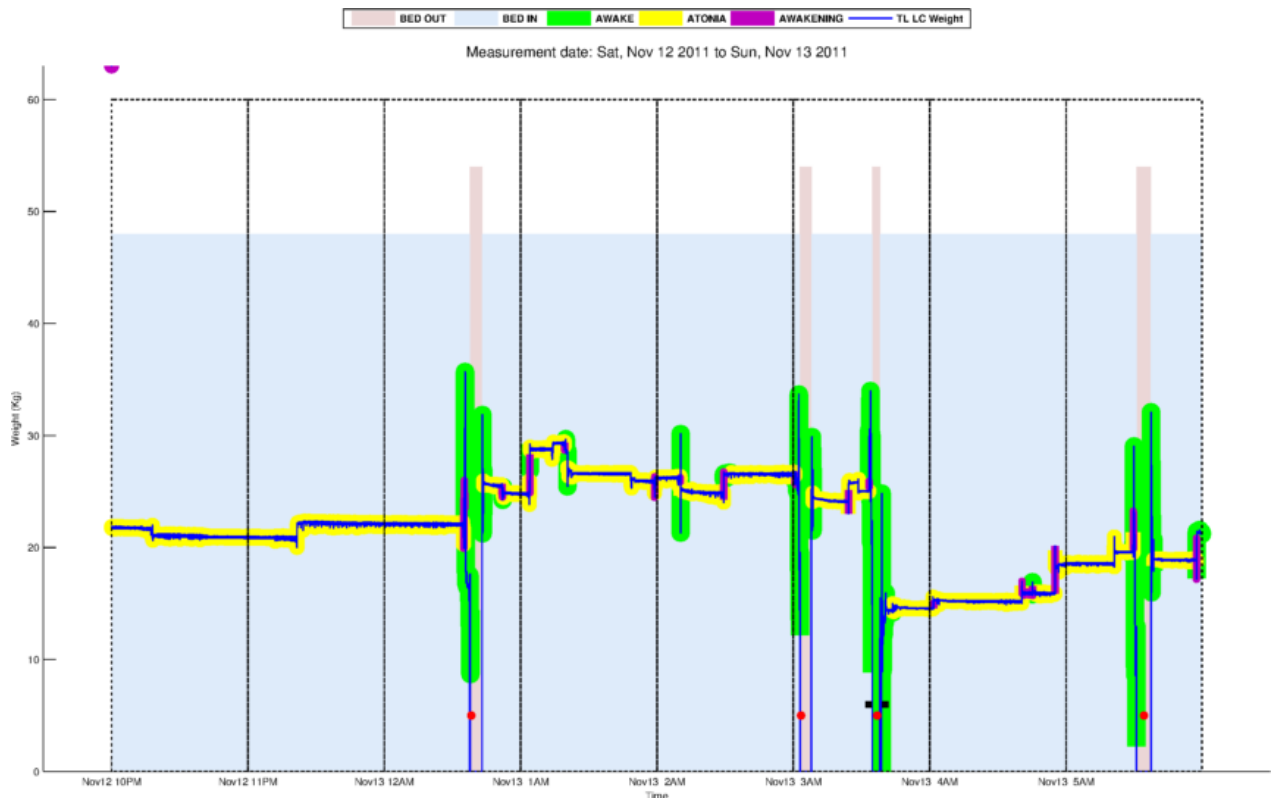


Figure 100: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 100 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 101 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 100).

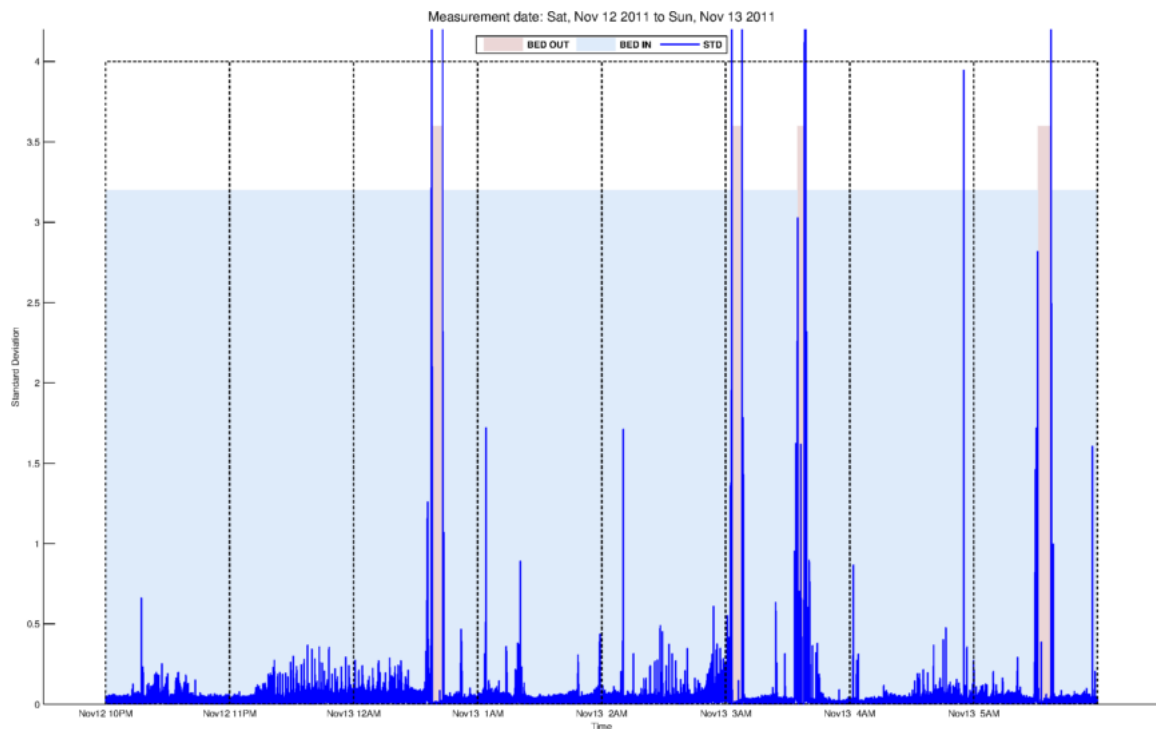


Figure 101: The moving standard deviation for the measured weight.

3.18 17th Night: from Nov 13 2011 to Nov 14 2011

Table 78 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 79 presents the duration of the estimated sleep related activities.

Table 78: Sleep related activities and sensor events measured between Nov 13 and Nov 14

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:20:58	22:00:14	22:37:02	22:21:01	22:26:37	01:35:39		22:17:45		22:21:55	04:13:47
2	22:25:33	22:21:44	22:44:20	22:25:36	22:37:03	03:12:56		04:14:02		01:37:35	
3	01:41:00	01:37:08	23:10:08	22:44:23	22:47:37	04:47:47				03:14:19	
4	03:17:11	03:13:54	23:29:32	23:10:15	23:10:50	04:53:44				04:50:39	
5	04:55:02	04:50:13	23:38:38	23:38:41	23:29:32	05:16:23				05:17:59	
6	05:25:31	05:17:46	23:45:45	23:45:48	23:38:43	05:24:39					
7			00:02:26	00:05:46	23:47:47						
8			00:15:50	00:15:57	00:05:50						
9			00:28:15	00:28:19	00:15:58						
10			00:57:29	00:57:42	00:36:21						
11			01:24:31	01:35:05	00:57:57						
12			01:35:01	01:41:00	01:24:33						
13			02:04:29	02:04:33	01:41:42						
14			02:09:42	02:09:45	02:04:35						
15			02:16:58	03:12:59	02:09:46						
16			02:58:50	03:17:16	02:17:01						
17			03:12:55	03:33:37	02:58:52						
18			03:33:32	03:57:59	03:17:51						
19			03:42:54	04:14:35	03:36:34						
20			03:50:20	04:35:01	03:42:55						
21			03:56:03	04:49:05	03:50:21						
22			04:14:23	04:55:06	03:57:59						
23			04:34:54	05:16:22	04:14:36						
24			04:47:43	05:25:34	04:39:31						
25			05:15:44		04:57:48						
26					05:27:46						

Table 79: Duration of the sleep related activities presented in Table 78

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:46	00:20:49	00:00:00	00:00:43	00:10:27
2	03:12:17	00:03:50	00:00:03	00:01:01	00:07:18
3	01:33:14	00:03:53	00:00:07	00:03:15	00:22:36
4	01:33:22	00:03:18	00:00:00	00:00:35	00:18:45
5	00:22:49	00:04:50	00:00:03	00:00:02	00:09:07
6	00:34:36	00:07:46	00:00:03	00:01:59	00:07:03
7			00:03:20	00:00:04	00:14:42
8			00:00:07	00:00:00	00:10:01
9			00:00:03	00:08:04	00:12:20
10			00:00:13	00:00:15	00:21:13
11			00:00:01	00:02:04	00:26:40
12			00:00:03	00:00:41	00:10:30
13			00:00:03	00:00:02	00:22:52
14			00:00:03	00:00:00	00:05:08
15			00:00:03	00:00:55	00:07:13
16			00:00:02	00:00:35	00:41:58
17			00:00:03	00:02:58	00:14:06
18			00:00:05	00:00:00	00:15:44
19			00:00:00	00:00:01	00:06:21
20			00:00:01	00:04:31	00:07:27
21			00:01:56	00:01:08	00:05:43
22			00:00:12	00:02:42	00:16:27
23			00:00:07	00:01:25	00:20:22
24			00:01:22	00:02:12	00:08:14
25			00:00:38		00:18:00
26					00:32:20

Figure 102 presents the measured sensor events and the computed bed entrances and exits.

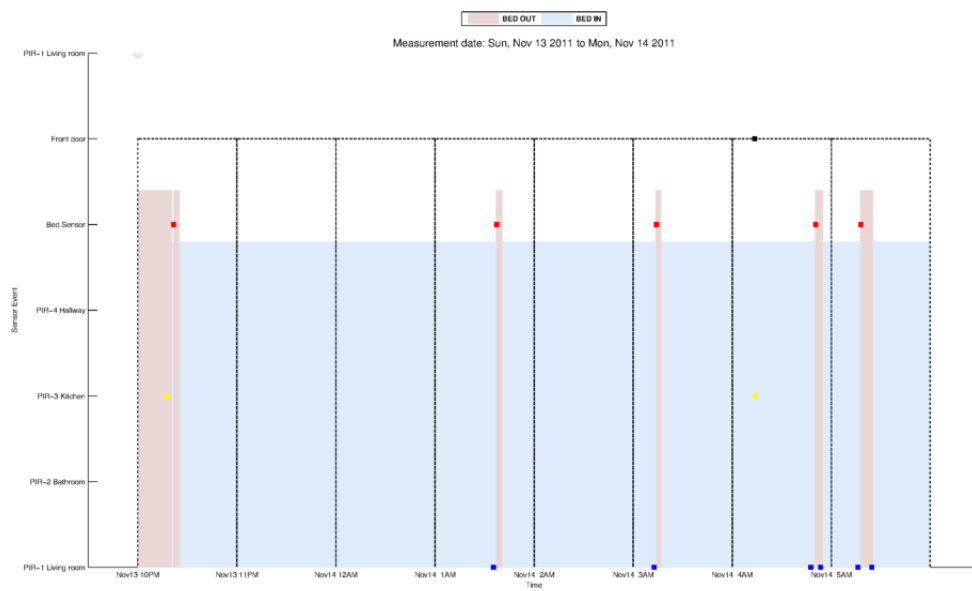


Figure 102: Sensor events and computed bed entrances and exists

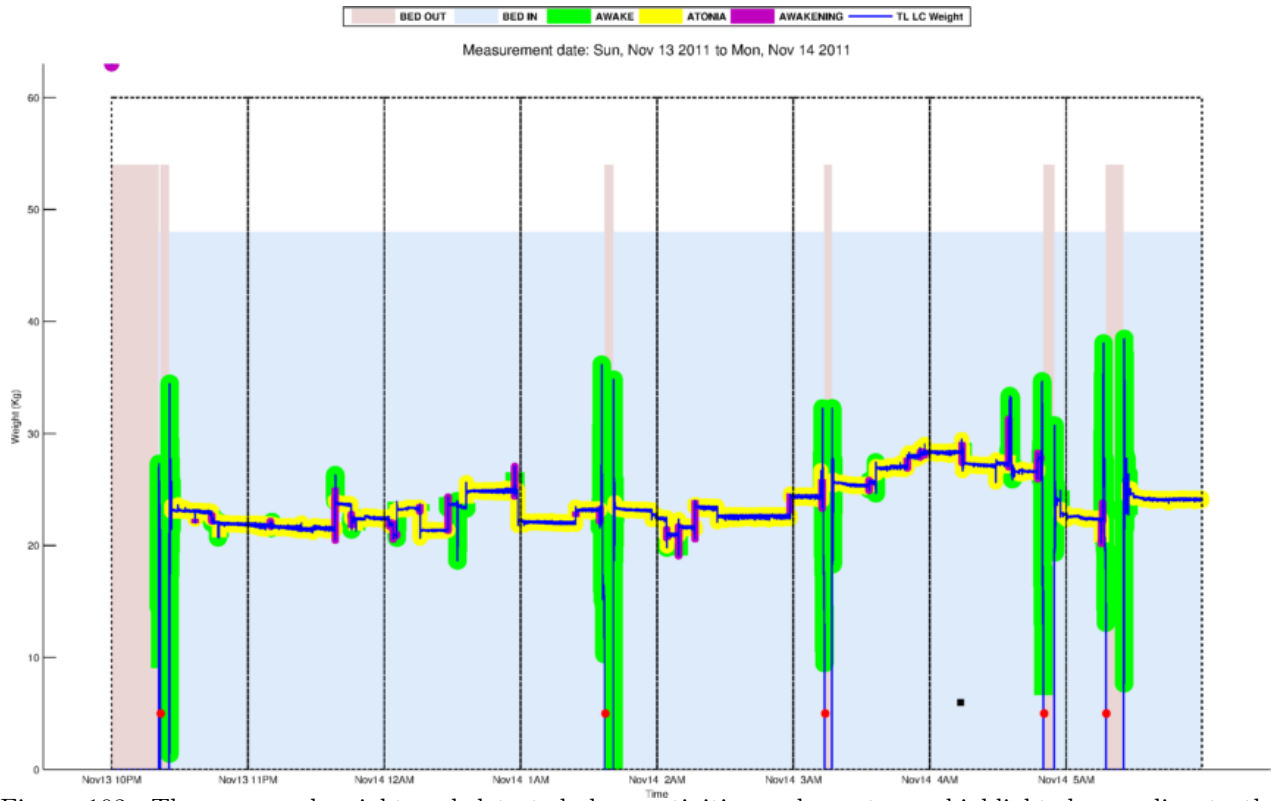


Figure 103: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 103 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 104 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 103).

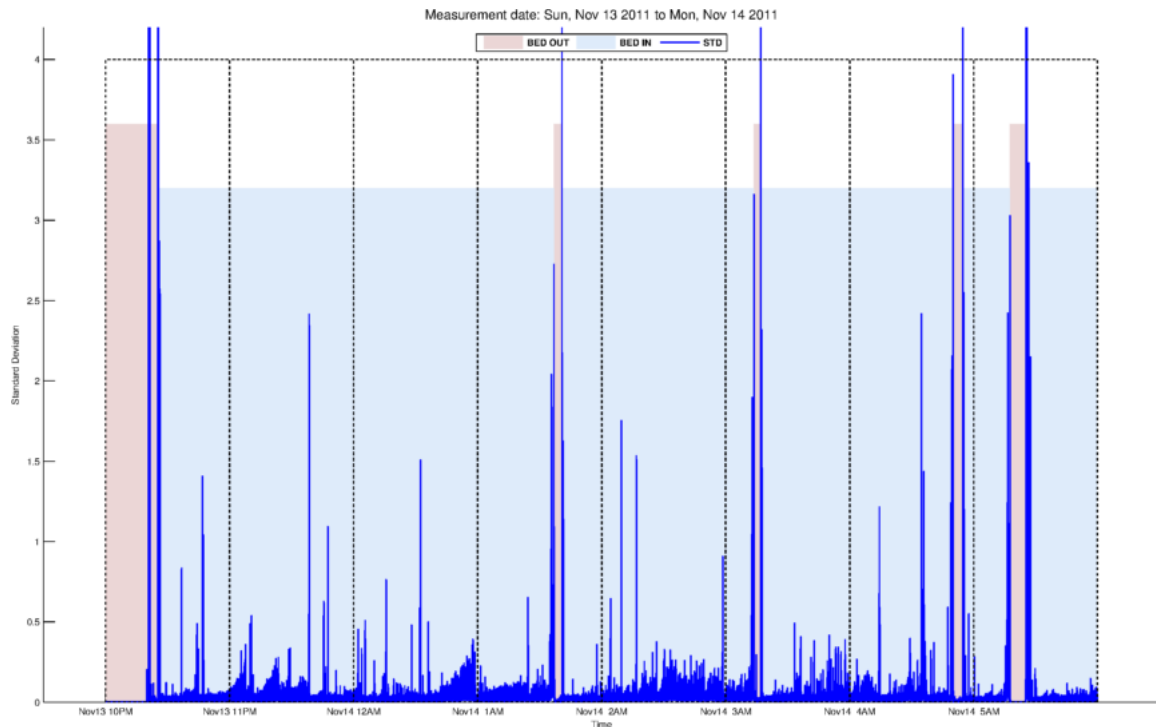


Figure 104: The moving standard deviation for the measured weight.

3.19 18th Night: from Nov 14 2011 to Nov 15 2011

Table 80 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 81 presents the duration of the estimated sleep related activities.

Table 80: Sleep related activities and sensor events measured between Nov 14 and Nov 15

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:29:18	22:00:14	22:40:27	22:29:22	22:35:18	01:06:04	22:25:22	22:21:43		22:30:07	00:16:41
2	22:31:40	22:29:57	22:48:26	22:31:43	22:40:29	01:22:37	03:17:16	22:25:19		01:23:35	03:15:16
3	01:28:48	01:23:07	23:10:43	22:53:25	23:00:06	02:29:56		22:28:28		03:16:59	03:20:36
4	03:19:35	03:16:44	00:37:23	00:41:50	23:10:45	02:39:57		03:15:56		04:38:46	
5	04:38:34	04:38:33	01:05:59	01:22:38	00:41:51	03:15:24				05:50:19	
6	04:43:26	04:38:37	01:22:35	01:28:48	01:06:02	04:37:55					
7		05:50:09	01:42:48	01:43:40	01:29:19	04:42:35					
8			01:54:00	01:54:05	01:43:43	05:48:56					
9			02:28:42	02:29:55	01:56:02	05:55:30					
10			02:39:53	02:39:56	02:30:46						
11			03:15:43	03:15:59	02:46:51						
12			04:06:24	03:19:35	03:20:04						
13			04:20:57	04:38:04	04:06:25						
14			04:38:01	04:38:34	04:21:00						
15			04:50:39	04:43:26	04:45:16						
16			04:56:30	05:12:02	04:50:39						
17			05:11:26	05:17:36	04:56:31						
18			05:17:27	05:47:58	05:12:03						
19			05:40:55		05:17:37						
20			05:47:55		05:40:55						

Table 81: Duration of the sleep related activities presented in Table 80

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:38	00:29:11	00:00:01	00:00:35	00:05:11
2	02:52:05	00:01:43	00:05:00	00:03:35	00:07:58
3	01:48:19	00:05:42	00:00:01	00:06:42	00:10:40
4	01:19:15	00:02:52	00:04:28	00:00:00	01:26:57
5	00:00:02	00:00:01	00:00:03	00:00:29	00:24:13
6	01:06:58	00:04:50	00:00:03	00:00:30	00:16:36
7		00:09:52	00:00:52	00:00:02	00:13:32
8			00:00:04	00:01:57	00:10:20
9			00:01:13	00:00:50	00:32:47
10			00:00:03	00:06:56	00:09:09
11			00:00:16	00:00:44	00:28:58
12			00:00:00	00:00:29	00:46:30
13			00:00:02	00:00:29	00:14:35
14			00:00:03	00:00:02	00:17:05
15			00:00:00	00:01:50	00:05:24
16			00:00:01	00:00:00	00:05:52
17			00:00:36	00:00:01	00:14:59
18			00:00:09	00:02:11	00:05:25
19			00:00:00		00:23:23
20			00:00:03		00:07:01

Figure 105 presents the measured sensor events and the computed bed entrances and exits.

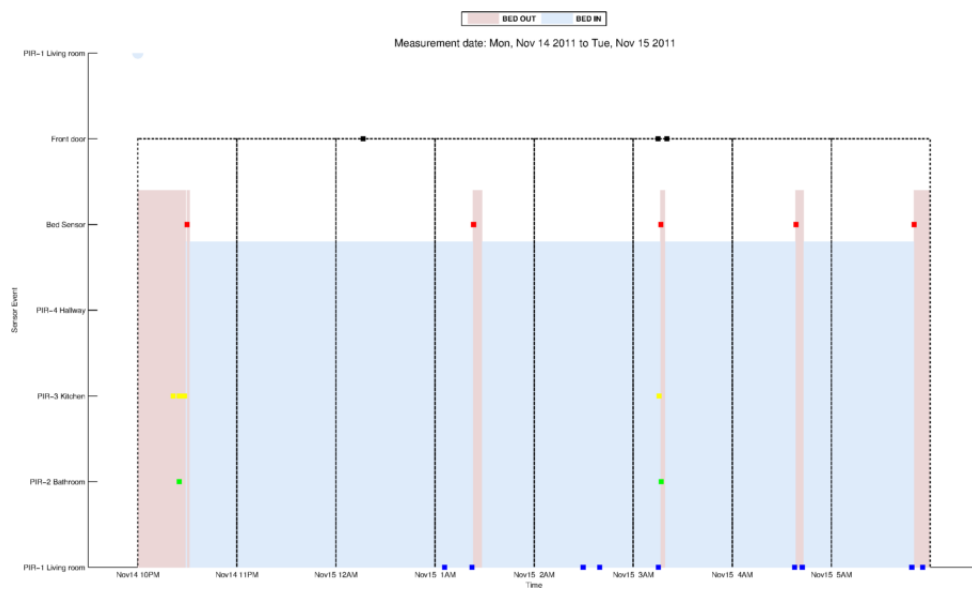


Figure 105: Sensor events and computed bed entrances and exists

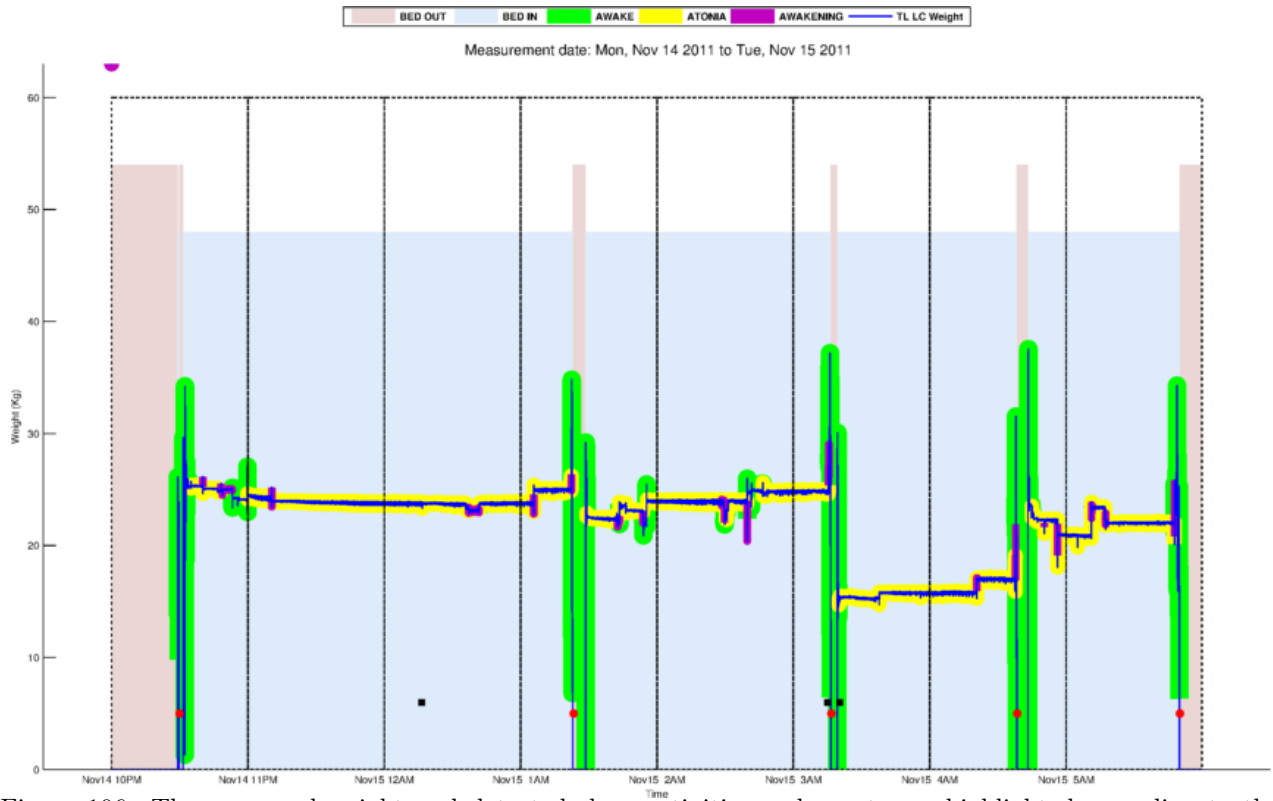


Figure 106: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 106 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 107 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 106).

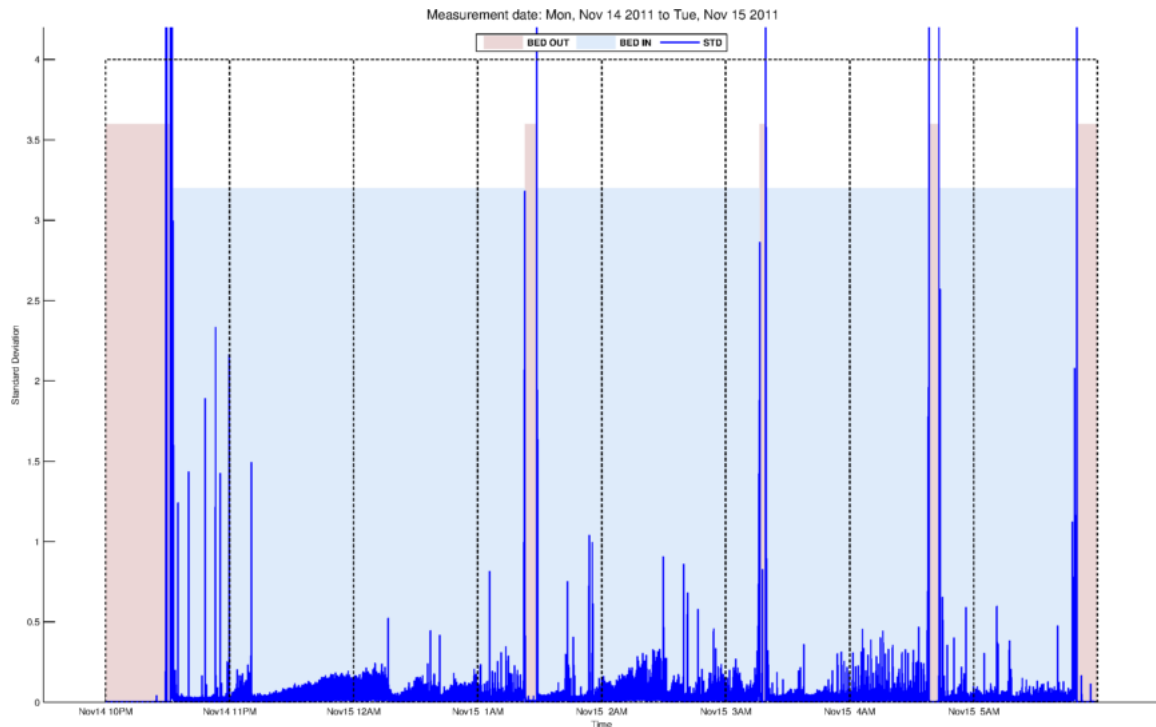


Figure 107: The moving standard deviation for the measured weight.

3.20 19th Night: from Nov 15 2011 to Nov 16 2011

Table 82 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 83 presents the duration of the estimated sleep related activities.

Table 82: Sleep related activities and sensor events measured between Nov 15 and Nov 16

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:00:43	01:36:39	22:01:41	00:52:38	22:00:43	00:13:07				01:37:06	03:16:38
2	01:39:53	02:36:35	22:22:04	01:36:16	22:01:42	01:36:19				02:36:58	03:37:41
3	02:41:05	04:57:06	00:51:30	01:39:53	22:22:05	02:35:30				04:57:34	
4	05:01:39		01:13:42	02:35:27	00:52:53	03:12:52					
5			01:23:28	02:41:10	01:13:43	03:27:51					
6			01:35:22	03:27:52	01:23:28	03:37:52					
7			02:35:10	04:35:42	01:42:01	04:55:07					
8			03:27:49	04:55:18	02:41:40						
9			03:57:50	05:01:39	03:36:48						
10			04:24:51	05:31:51	03:57:51						
11			04:34:51	05:48:24	04:24:51						
12			04:47:26	05:56:11	04:35:47						
13			04:55:14		04:47:31						
14			05:31:47		05:04:13						
15			05:38:57		05:31:52						
16			05:44:52		05:38:58						
17			05:56:07		05:48:31						

Table 83: Duration of the sleep related activities presented in Table 82

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	03:36:44	00:03:15	00:00:01	00:00:15	00:00:58
2	00:56:54	00:04:31	00:00:01	00:00:22	00:20:26
3	02:16:31	00:04:34	00:01:07	00:02:08	02:29:58
4	00:58:33		00:00:01	00:01:07	00:20:54
5			00:00:00	00:00:29	00:09:46
6			00:00:55	00:08:57	00:11:56
7			00:00:17	00:00:05	00:53:21
8			00:00:03	00:01:48	00:46:19
9			00:00:00	00:02:34	00:21:07
10			00:00:00	00:00:01	00:27:06
11			00:00:50	00:00:06	00:10:02
12			00:00:05	00:03:48	00:11:41
13			00:00:03		00:07:45
14			00:00:03		00:27:40
15			00:00:01		00:07:06
16			00:03:32		00:05:56
17			00:00:04		00:07:38

Figure 108 presents the measured sensor events and the computed bed entrances and exits.

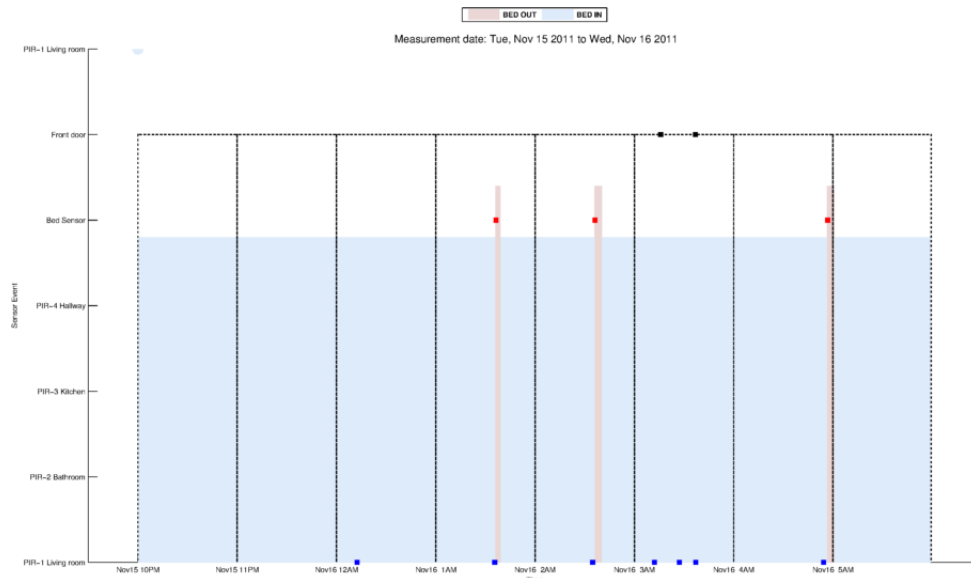


Figure 108: Sensor events and computed bed entrances and exists

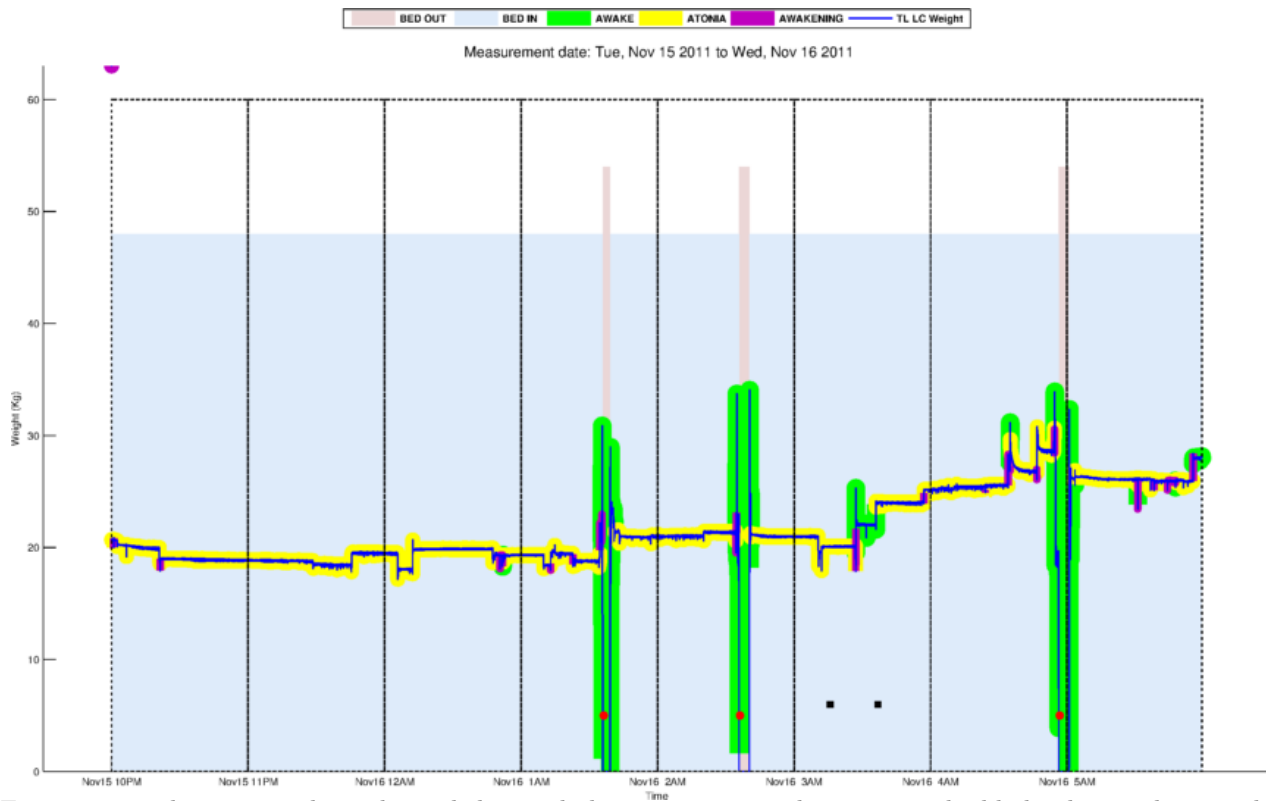


Figure 109: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 109 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 110 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 109).

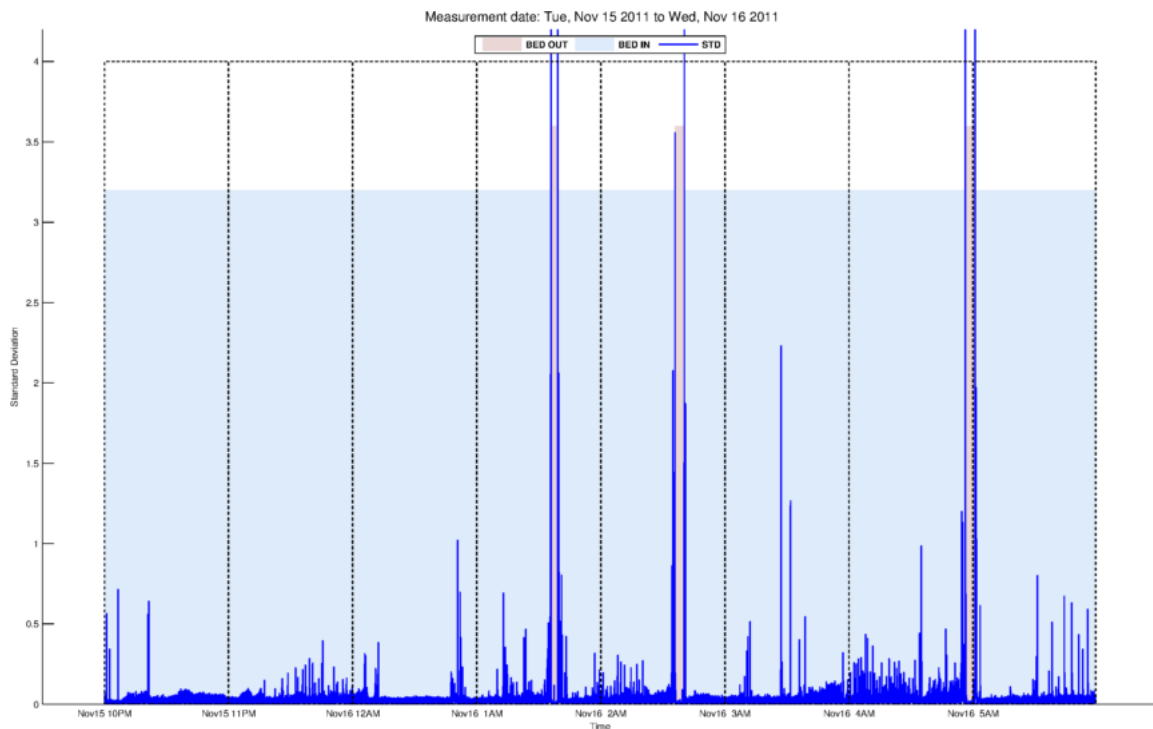


Figure 110: The moving standard deviation for the measured weight.

3.21 20th Night: from Nov 16 2011 to Nov 17 2011

Table 84 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 85 presents the duration of the estimated sleep related activities.

Table 84: Sleep related activities and sensor events measured between Nov 16 and Nov 17

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:37:21	22:00:43	22:51:42	22:37:26	22:46:32	02:46:11	22:31:52	22:27:40		22:38:43	04:24:08
2	22:39:41	22:38:33	23:00:21	22:39:44	22:52:14	02:51:42	04:25:18	22:31:47		01:31:02	
3	01:35:18	01:30:28	23:05:28	22:52:12	23:00:23	04:24:18		22:36:17		02:47:23	
4	02:52:15	02:46:25	00:47:14	01:29:52	23:05:31	05:04:15		04:25:17		04:25:54	
5	04:28:59	04:25:38	01:29:46	01:35:23	00:47:14					05:05:52	
6	05:07:53	05:05:25	02:29:12	02:46:09	01:36:07						
7			02:39:47	02:52:15	02:29:13						
8			02:45:48	03:25:04	02:39:48						
9			03:02:44	04:25:06	02:55:59						
10			03:20:41	04:29:02	03:05:41						
11			04:18:47	04:39:50	03:28:42						
12			04:24:20	05:04:14	04:18:48						
13			04:39:47	05:07:56	04:30:12						
14			05:04:04	05:38:48	04:39:51						
15			05:38:45	05:51:27	05:08:25						
16			05:45:29		05:38:52						
17			05:51:22		05:45:31						
18					05:51:29						

Table 85: Duration of the sleep related activities presented in Table 84

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:01:12	00:36:47	00:00:30	00:01:07	00:05:10
2	02:51:24	00:01:08	00:00:02	00:06:49	00:08:09
3	01:11:22	00:04:51	00:00:03	00:00:02	00:05:05
4	01:33:43	00:05:51	00:00:00	00:00:35	01:42:05
5	00:36:33	00:03:22	00:00:06	00:00:44	00:42:41
6	00:52:17	00:02:28	00:00:01	00:00:16	00:53:16
7			00:00:00	00:03:45	00:10:36
8			00:00:21	00:03:39	00:06:01
9			00:02:57	00:00:32	00:06:46
10			00:04:24	00:01:10	00:15:03
11			00:00:00	00:00:00	00:50:16
12			00:00:46	00:01:11	00:05:33
13			00:00:03	00:00:28	00:09:37
14			00:00:10	00:00:04	00:24:18
15			00:00:03	00:00:02	00:30:26
16			00:00:02		00:06:38
17			00:00:05		00:05:52
18					00:08:31

Figure 111 presents the measured sensor events and the computed bed entrances and exits.

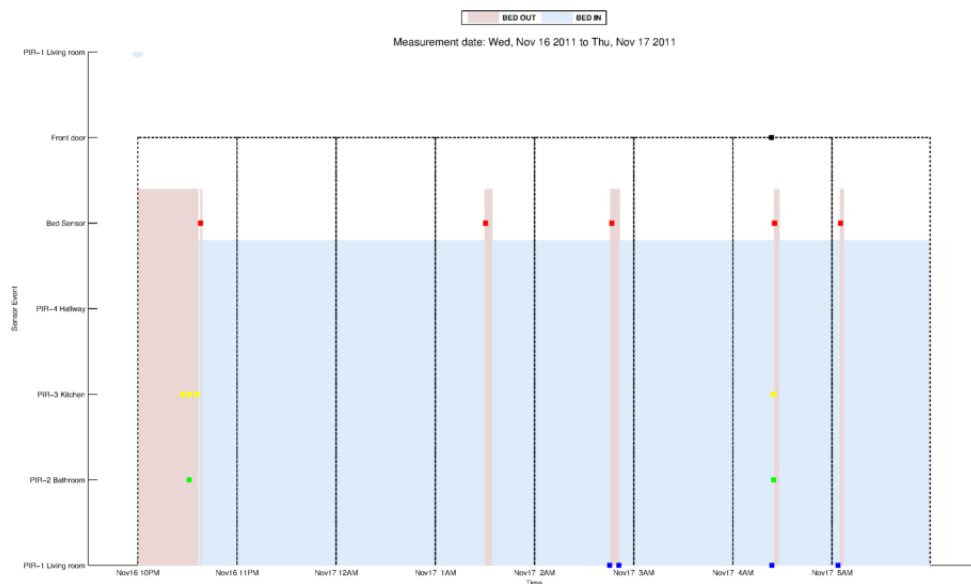


Figure 111: Sensor events and computed bed entrances and exists

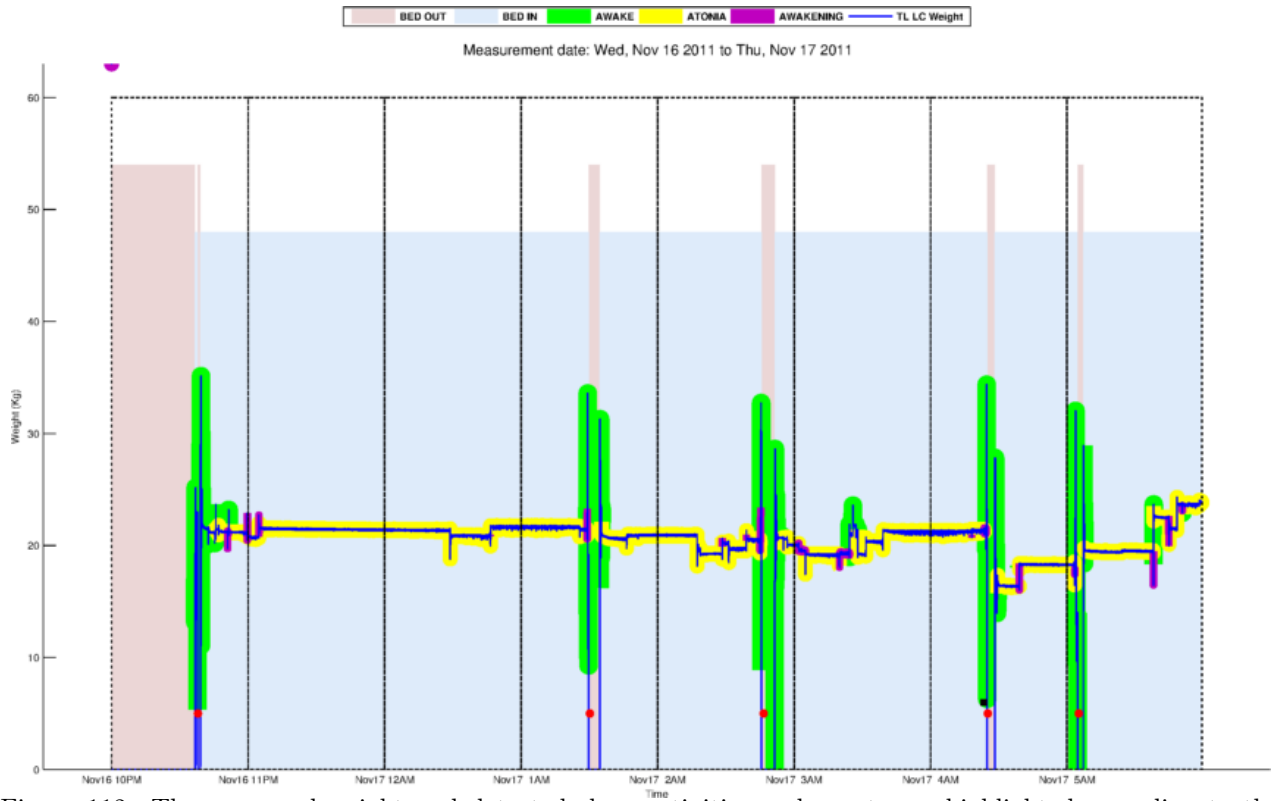


Figure 112: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 112 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 113 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 112).

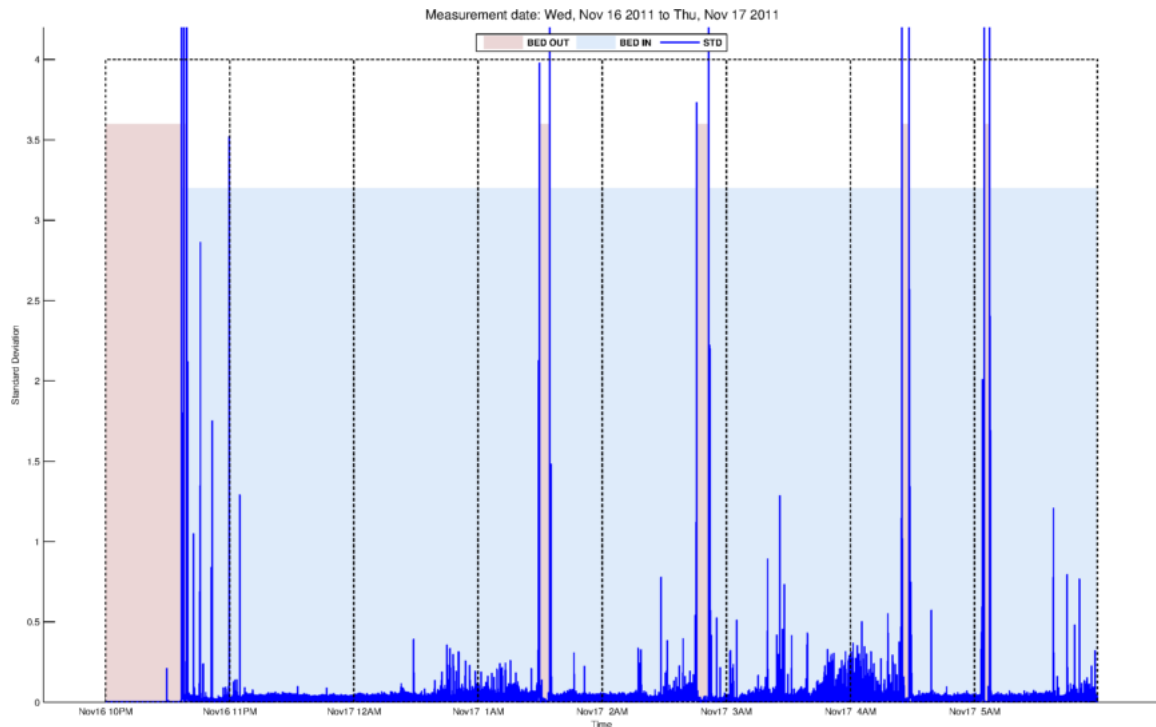


Figure 113: The moving standard deviation for the measured weight.

3.22 21st Night: from Nov 17 2011 to Nov 18 2011

Table 86 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 87 presents the duration of the estimated sleep related activities.

Table 86: Sleep related activities and sensor events measured between Nov 17 and Nov 18

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:06:52	23:16:39	22:06:59	22:39:37	22:06:52	23:14:18				23:16:51	03:25:09
2	23:19:04	01:06:25	22:34:55	23:14:24	22:06:59	00:57:26				01:06:34	
3	01:09:06	05:21:15	23:14:17	23:19:04	22:39:38	01:25:57				05:21:57	
4	05:24:50		00:57:25	00:57:41	23:19:45	03:20:06					
5			01:37:30	01:09:10	01:13:02	03:25:26					
6			01:52:10	01:39:30	01:44:53						
7			02:03:10	02:19:49	01:52:11						
8			02:15:54	02:56:19	02:03:12						
9			02:55:36	03:20:08	02:37:19						
10			03:20:05	04:59:55	03:00:27						
11			03:52:06	05:19:44	03:25:44						
12			04:26:21	05:24:54	03:52:07						
13			04:35:58	05:36:34	04:26:22						
14			04:49:02		04:36:58						
15			04:59:51		04:49:02						
16			05:19:41		05:03:49						
17			05:36:30		05:30:53						
18			05:56:45		05:40:12						

Table 87: Duration of the sleep related activities presented in Table 86

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	01:10:02	00:02:25	00:00:00	00:00:00	00:00:07
2	01:47:44	00:02:42	00:04:43	00:02:16	00:28:02
3	04:13:04	00:03:35	00:00:06	00:00:41	00:34:47
4	00:35:16		00:00:15	00:08:46	01:38:01
5			00:02:00	00:03:53	00:24:33
6			00:00:01	00:05:24	00:07:18
7			00:00:02	00:17:33	00:11:01
8			00:03:56	00:04:09	00:12:45
9			00:00:42	00:05:36	00:18:21
10			00:00:03	00:03:55	00:19:42
11			00:00:01	00:01:31	00:26:28
12			00:00:01	00:06:00	00:34:21
13			00:00:59	00:03:39	00:09:38
14			00:00:00		00:12:07
15			00:00:03		00:10:51
16			00:00:03		00:15:55
17			00:00:03		00:05:38
18			00:03:14		00:16:37

Figure 114 presents the measured sensor events and the computed bed entrances and exits.

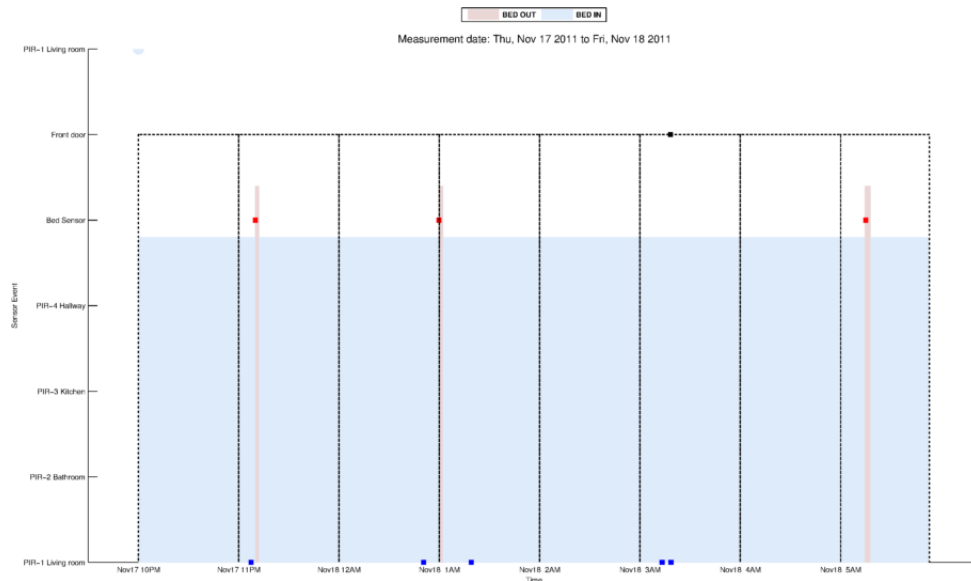


Figure 114: Sensor events and computed bed entrances and exists

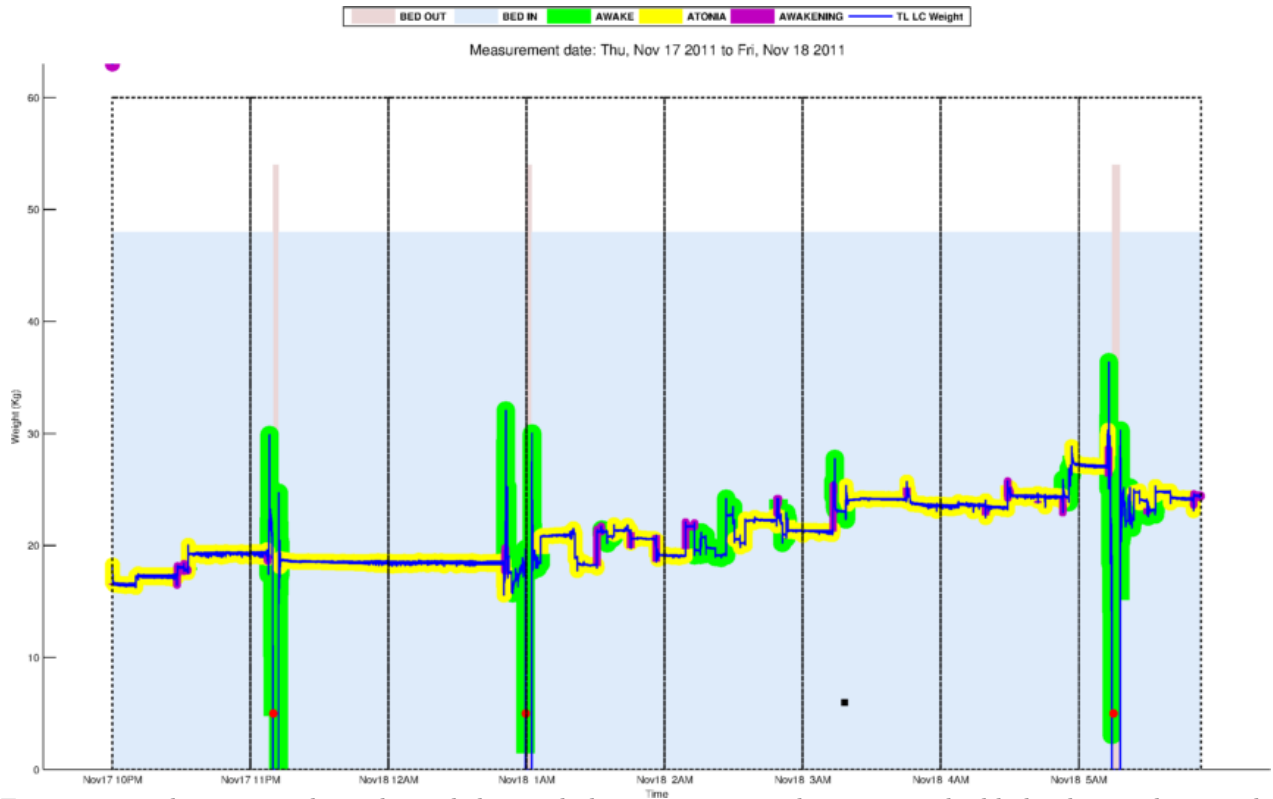


Figure 115: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 115 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 116 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 115).

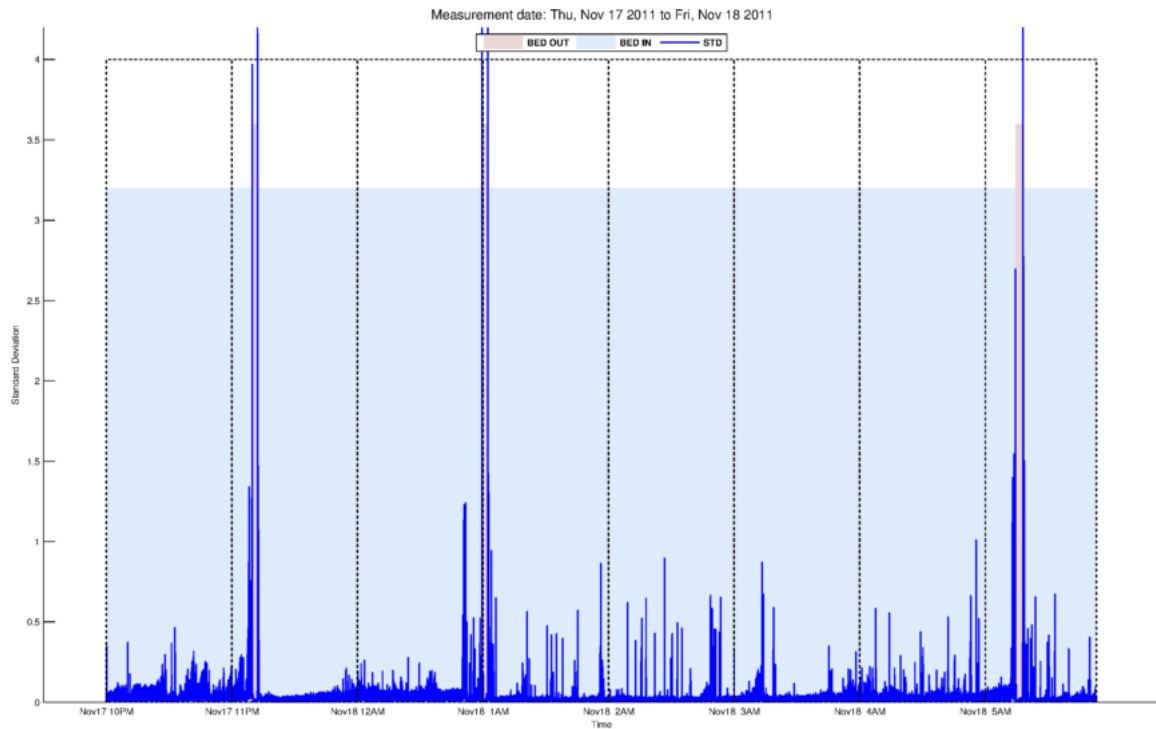


Figure 116: The moving standard deviation for the measured weight.

3.23 22nd Night: from Nov 18 2011 to Nov 19 2011

Table 88 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 89 presents the duration of the estimated sleep related activities.

Table 88: Sleep related activities and sensor events measured between Nov 18 and Nov 19

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:20:42	22:09:43	22:47:12	22:20:46	22:40:31	22:26:44	22:22:15	22:17:27		22:21:52	03:16:31
2	22:27:36	22:21:42	23:16:08	22:27:40	23:00:39	23:16:10		22:26:37		01:20:24	03:19:40
3	22:27:56	22:27:52	23:39:18	22:28:23	23:16:10	01:18:55		03:20:37		04:21:14	
4	01:24:00	01:19:59	00:30:16	22:49:28	23:39:24	03:12:00					
5	04:24:48	04:20:47	01:00:49	23:39:22	00:30:38	03:20:02					
6			01:06:57	00:30:37	01:00:49	04:19:50					
7			01:18:35	01:07:00	01:07:01	04:36:09					
8			01:35:06	01:18:53	01:25:22						
9			02:00:08	01:24:00	01:35:07						
10			02:12:14	02:01:47	02:01:49						
11			02:32:03	03:11:27	02:12:17						
12			02:45:21	03:31:04	02:32:04						
13			03:11:23	04:19:19	02:45:21						
14			03:29:58	04:24:48	03:20:59						
15			03:43:54	05:02:17	03:31:05						
16			03:49:53	05:28:10	03:43:55						
17			04:18:07	05:45:04	03:53:38						
18			05:01:21	05:54:18	04:43:59						
19			05:15:44		05:02:23						
20			05:28:06		05:15:45						
21			05:44:55		05:28:13						
22			05:54:14		05:45:43						

Table 89: Duration of the sleep related activities presented in Table 88

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:59	00:11:01	00:02:16	00:00:56	00:06:43
2	00:00:16	00:05:56	00:00:01	00:00:12	00:15:33
3	02:52:41	00:00:04	00:00:03	00:12:10	00:23:14
4	02:57:25	00:04:02	00:00:20	00:11:13	00:51:03
5	01:35:31	00:04:02	00:00:00	00:00:02	00:30:17
6			00:00:03	00:00:01	00:06:09
7			00:00:18	00:00:01	00:11:36
8			00:00:00	00:01:06	00:09:47
9			00:01:39	00:01:21	00:25:07
10			00:00:03	00:00:01	00:10:27
11			00:00:01	00:09:34	00:19:50
12			00:00:00	00:00:00	00:13:20
13			00:00:03	00:01:28	00:26:07
14			00:01:07	00:19:15	00:09:01
15			00:00:00	00:00:06	00:12:52
16			00:03:45	00:00:03	00:06:00
17			00:01:13	00:00:39	00:24:34
18			00:00:56	00:05:42	00:17:25
19			00:00:01		00:13:24
20			00:00:04		00:12:23
21			00:00:09		00:16:45
22			00:00:03		00:08:33

Figure 117 presents the measured sensor events and the computed bed entrances and exits.

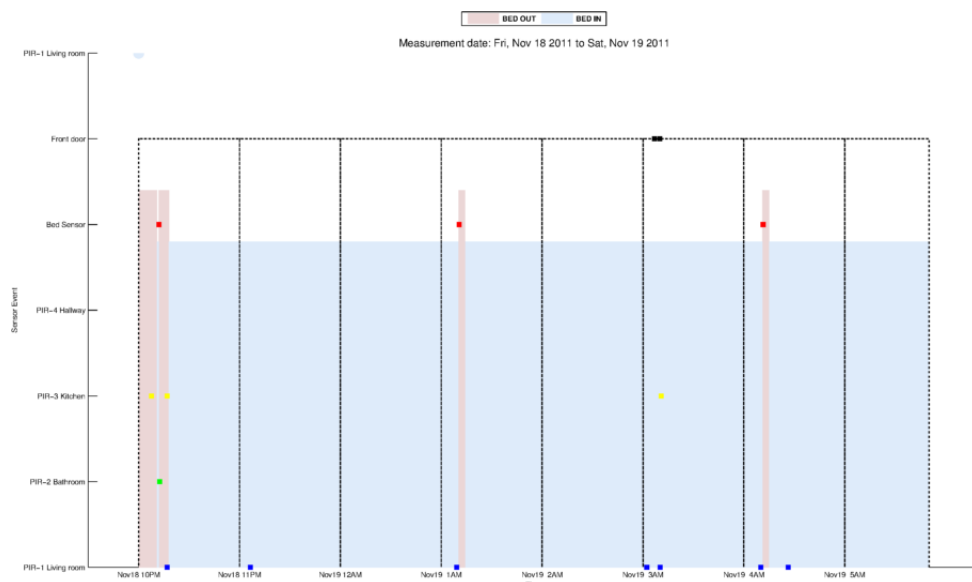


Figure 117: Sensor events and computed bed entrances and exists

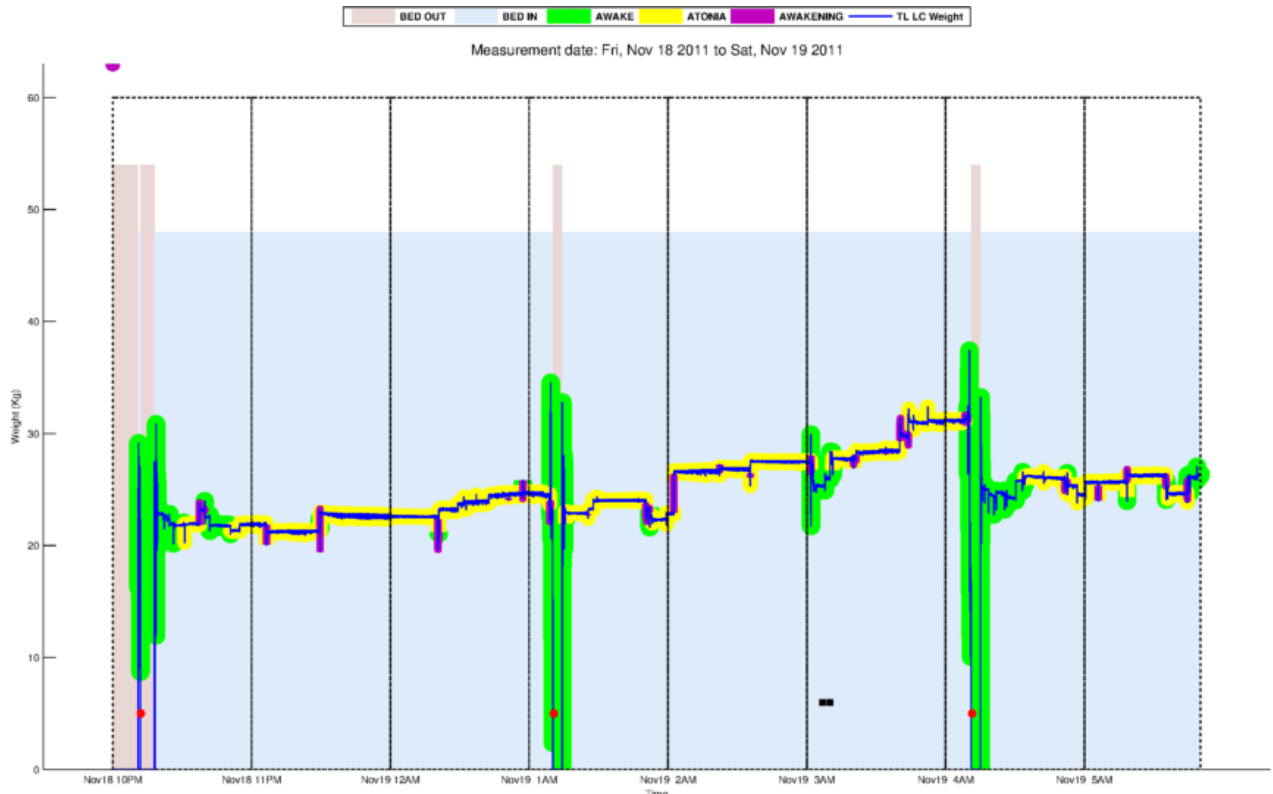


Figure 118: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 118 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 119 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 118).

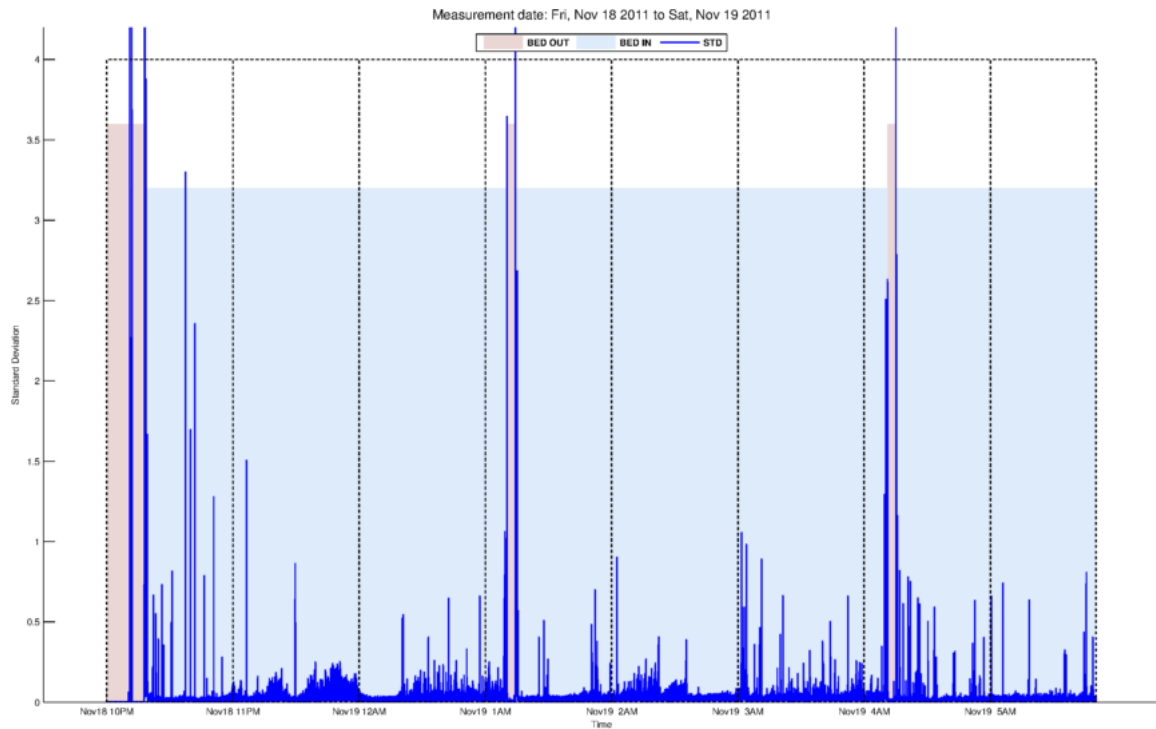


Figure 119: The moving standard deviation for the measured weight.

3.24 23rd Night: from Nov 19 2011 to Nov 20 2011

Table 90 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 91 presents the duration of the estimated sleep related activities.

Table 90: Sleep related activities and sensor events measured between Nov 19 and Nov 20

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:14:51	22:09:35	22:28:02	22:14:55	22:19:28	22:02:58		22:11:41		22:15:31	05:33:24
2	22:18:21	22:15:21	22:33:25	22:18:35	22:28:03	22:10:38		05:33:29		00:32:56	
3	00:36:14	00:32:30	23:20:27	23:24:30	22:33:26	00:31:13				02:43:54	
4	02:47:16	02:43:27	23:30:11	00:31:18	23:24:31	02:42:08					
5			00:31:10	00:36:14	23:30:12	02:46:49					
6			01:11:53	01:25:30	00:36:45	04:08:39					
7			01:25:14	02:41:26	01:11:54	04:19:59					
8			01:34:01	02:47:16	01:25:32	04:29:36					
9			02:41:23	03:01:33	01:34:01	04:53:36					
10			02:59:13	03:44:16	02:52:46	05:33:39					
11			03:17:16	04:05:04	03:01:33						
12			03:25:36	04:19:27	03:17:19						
13			03:44:11	04:29:34	03:25:38						
14			03:53:17	04:53:36	03:44:17						
15			04:05:00	05:13:06	03:53:19						
16			04:19:01	05:33:38	04:08:38						
17			04:27:51		04:21:18						
18			04:37:01		04:29:35						
19			04:53:31		04:37:03						
20			05:04:04		04:57:08						
21			05:13:03		05:07:22						
22			05:18:55		05:13:24						
23			05:24:29		05:18:57						
24			05:32:51		05:24:29						
25					05:33:41						

Table 91: Duration of the sleep related activities presented in Table 90

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:29	00:05:17	00:00:01	00:00:26	00:08:36
2	02:14:38	00:03:00	00:00:01	00:00:53	00:05:22
3	02:07:41	00:03:44	00:04:03	00:00:01	00:47:11
4	03:13:24	00:03:49	00:00:00	00:01:12	00:05:42
5			00:00:07	00:00:31	01:01:11
6			00:00:01	00:00:01	00:35:15
7			00:00:16	00:02:01	00:13:23
8			00:00:00	00:05:31	00:08:31
9			00:00:03	00:00:00	01:07:36
10			00:02:20	00:00:00	00:06:28
11			00:00:03	00:03:35	00:15:45
12			00:00:01	00:01:52	00:08:19
13			00:00:05	00:00:01	00:18:37
14			00:00:02	00:03:33	00:09:02
15			00:00:03	00:00:17	00:11:43
16			00:00:25	00:00:02	00:10:25
17			00:01:43		00:06:34
18			00:00:02		00:07:27
19			00:00:04		00:16:31
20			00:03:19		00:06:57
21			00:00:03		00:05:41
22			00:00:01		00:05:33
23			00:00:00		00:05:33
24			00:00:47		00:08:24
25					00:26:23

Figure 120 presents the measured sensor events and the computed bed entrances and exits.

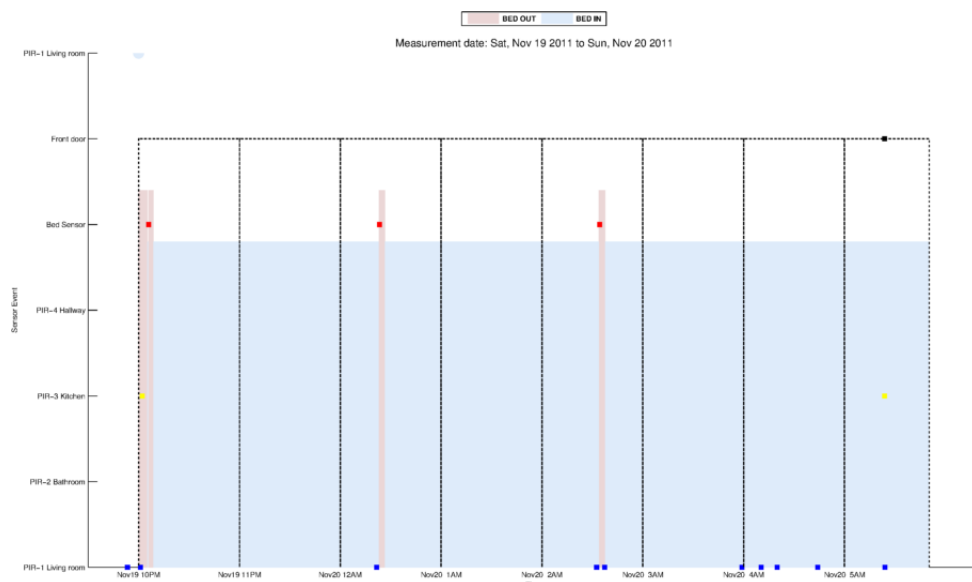


Figure 120: Sensor events and computed bed entrances and exists

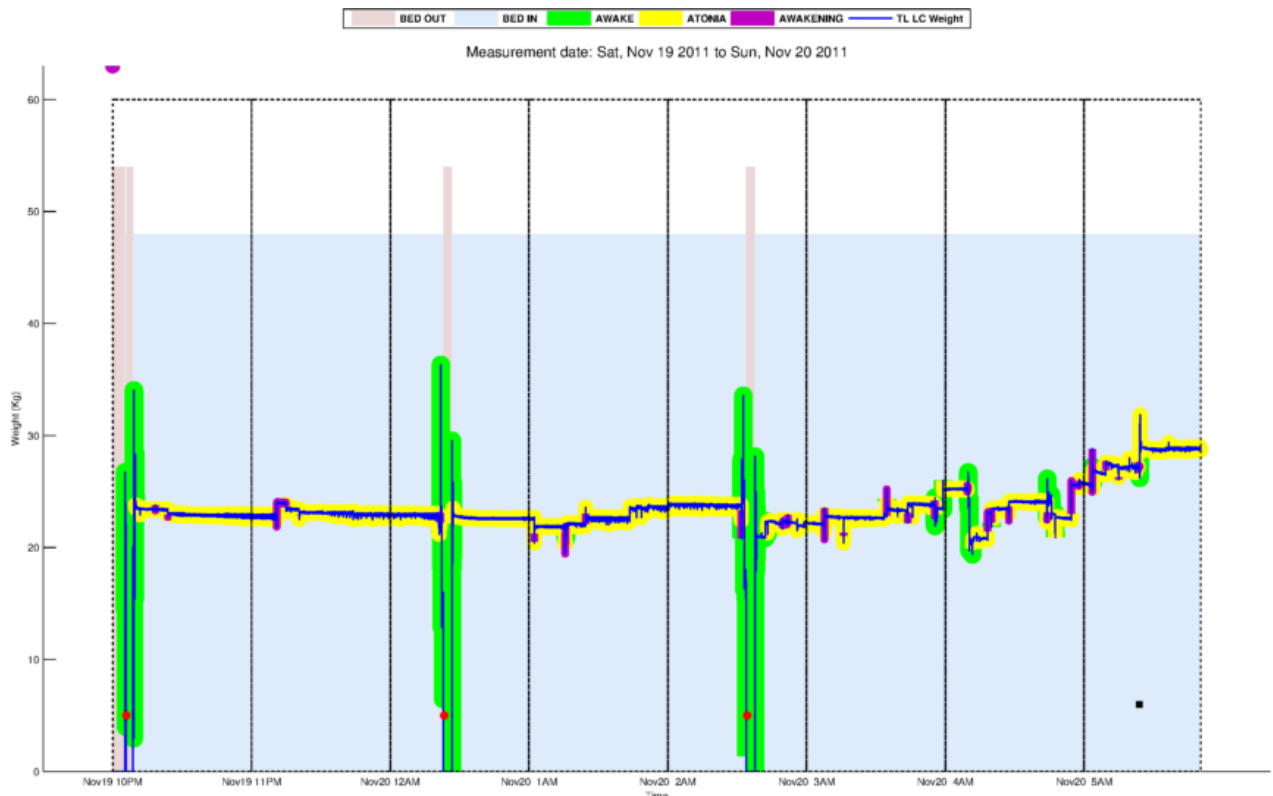


Figure 121: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 121 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 122 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 121).

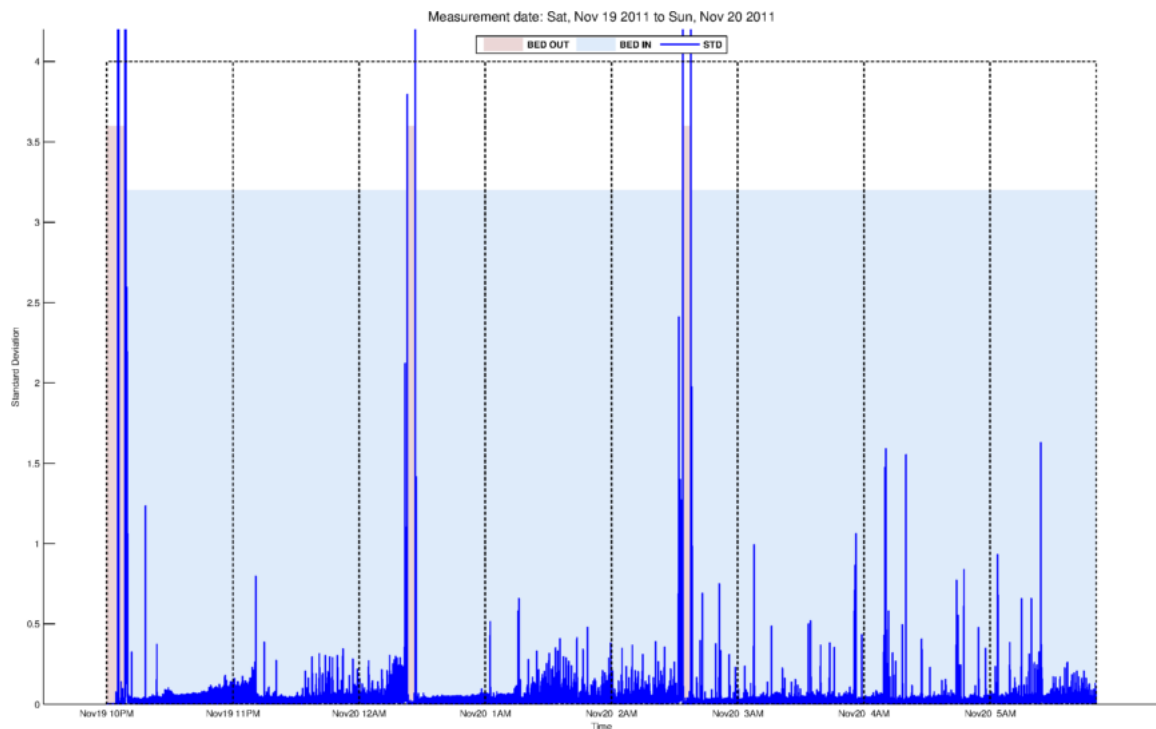


Figure 122: The moving standard deviation for the measured weight.

3.25 24th Night: from Nov 20 2011 to Nov 21 2011

Table 92 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 93 presents the duration of the estimated sleep related activities.

Table 92: Sleep related activities and sensor events measured between Nov 20 and Nov 21

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 Hallway	Bed Sensor	Front door
1	22:18:49	22:09:56	22:46:21	22:18:52	22:23:51	01:17:32		22:15:46		22:19:33	03:29:59
2	22:20:23	22:19:22	23:10:08	22:21:11	22:46:22	02:18:02		03:30:12		01:19:03	
3	01:23:45	01:18:41	23:20:56	23:21:00	23:10:13	02:29:24				02:53:06	
4	02:59:08	02:52:41	23:28:55	23:33:52	23:21:00	02:51:42				04:51:42	
5	04:56:55	04:51:07	23:39:00	23:39:04	23:33:53	03:30:25				05:41:34	
6	05:46:03	05:41:10	23:54:03	23:56:03	23:46:15	04:49:16					
7			00:10:10	00:11:23	23:56:06	05:38:16					
8			00:22:13	00:46:27	00:11:25	05:45:05					
9			00:35:15	01:17:48	00:22:16						
10			00:43:55	01:23:45	00:35:15						
11			01:17:33	01:43:15	00:46:30						
12			01:40:07	01:54:15	01:24:18						
13			01:52:49	02:17:03	01:43:19						
14			02:17:00	02:29:23	01:55:06						
15			02:29:18	02:46:24	02:21:48						
16			02:45:44	02:59:08	02:31:43						
17			03:21:58	03:22:39	02:59:40						
18			03:50:16	03:53:29	03:29:09						
19			04:14:58	04:18:31	04:06:14						
20			04:49:14	04:49:21	04:34:57						
21			05:10:27	04:57:00	04:57:39						
22			05:19:53	05:22:37	05:10:28						
23			05:37:23	05:37:27	05:24:55						
24				05:46:21							

Table 93: Duration of the sleep related activities presented in Table 92

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:33	00:08:55	00:00:01	00:00:29	00:22:34
2	02:58:56	00:01:02	00:00:04	00:02:41	00:23:51
3	01:29:15	00:05:04	00:00:03	00:00:00	00:10:46
4	01:52:23	00:06:28	00:04:58	00:00:01	00:07:56
5	00:44:25	00:05:49	00:00:03	00:07:12	00:05:08
6	00:13:58	00:04:54	00:02:00	00:00:02	00:07:50
7			00:01:13	00:00:02	00:14:07
8			00:00:03	00:00:02	00:10:50
9			00:00:00	00:00:53	00:13:01
10			00:02:33	00:00:33	00:08:41
11			00:00:15	00:00:04	00:31:10
12			00:03:09	00:00:50	00:15:52
13			00:01:27	00:04:46	00:09:31
14			00:00:03	00:02:20	00:21:59
15			00:00:04	00:06:18	00:07:31
16			00:00:39	00:00:32	00:14:04
17			00:00:42	00:06:31	00:22:22
18			00:03:13	00:12:48	00:21:11
19			00:03:34	00:16:29	00:08:46
20			00:00:06	00:01:46	00:14:20
21			00:00:01	00:00:39	00:12:50
22			00:02:44	00:02:18	00:09:27
23			00:00:04	00:03:44	00:12:31
24				00:13:41	

Figure 123 presents the measured sensor events and the computed bed entrances and exits.

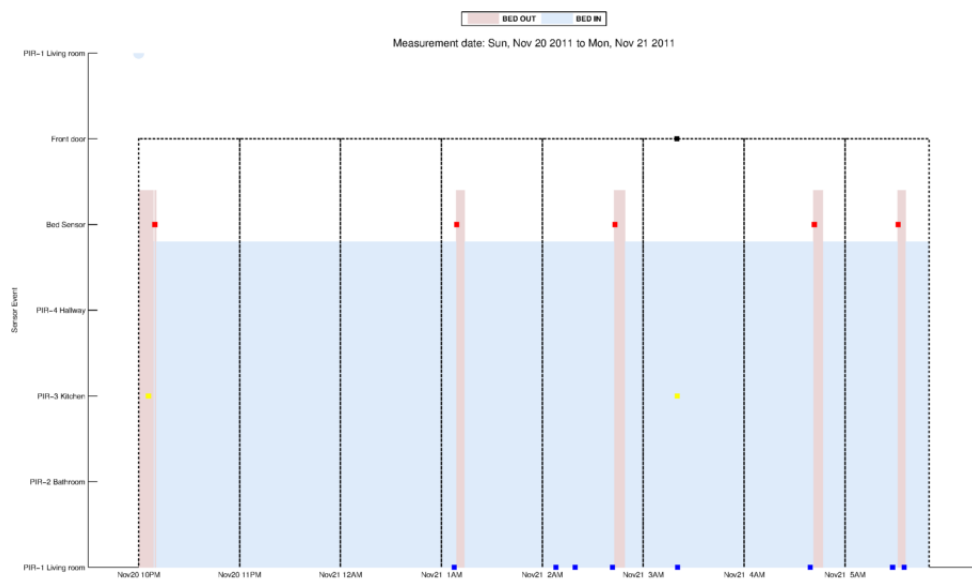


Figure 123: Sensor events and computed bed entrances and exists

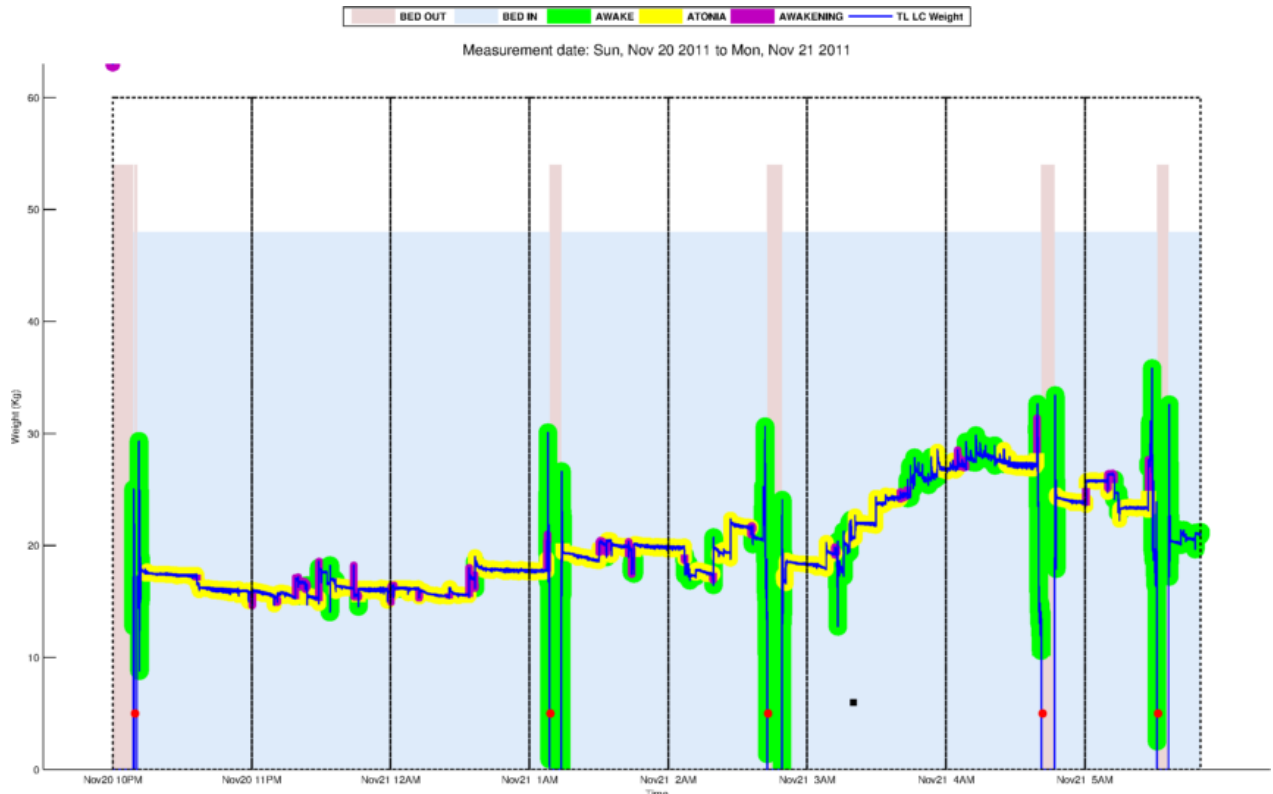


Figure 124: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 124 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 125 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 124).

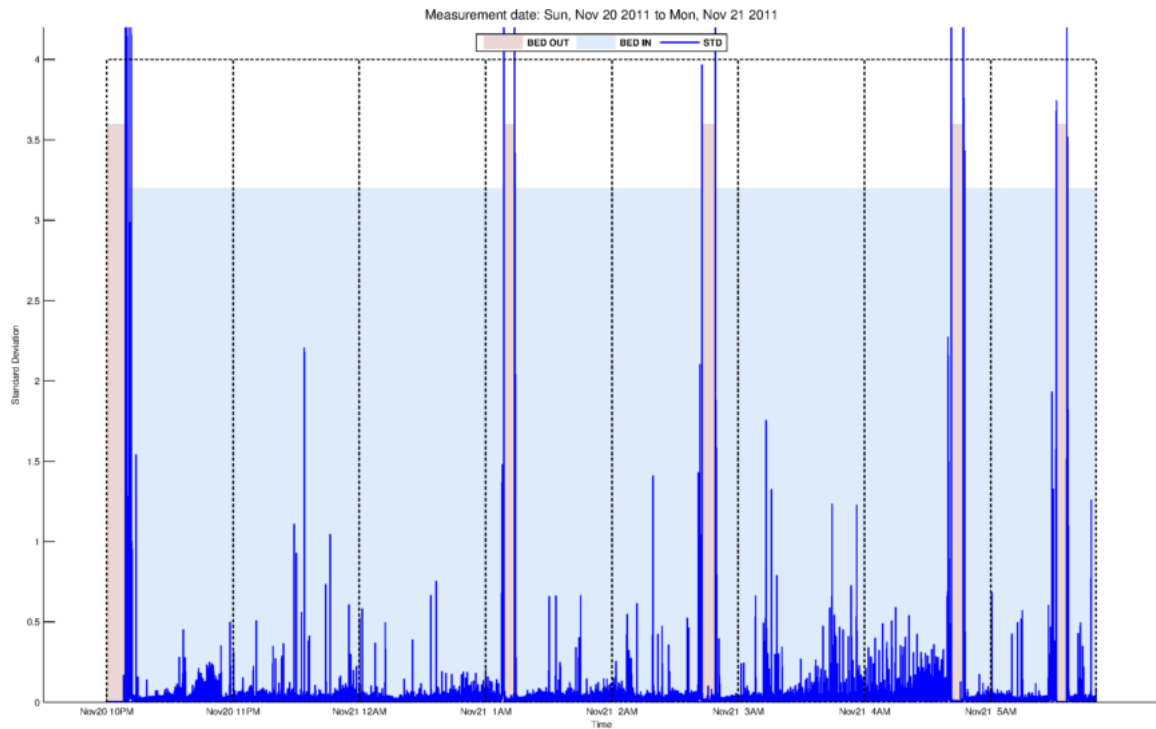


Figure 125: The moving standard deviation for the measured weight.

4 Participant 3: *PersonGamma*

4.1 Summary

Start of data collection: May 30 2011.

End of data collection: Jun 17 2011.

Total Number of nights: 17.

A summary of estimated sleep activities and measured sensor events for each night are presented in Table 94.

Table 94: A summary of detected activities and sensor events. **Sleep efficiency** is the ratio of the estimated time asleep (**Time in Atonia**) to the estimated **Time in Bed**

Date	Bed Exits	Bed Entrances	Awake	Atonia	Awanening	Bed Sensor	Visits	Time in Bed	Time in Atonia	Sleep Efficiency
May 30-May 31	2	2	9	9	8	0	2	06:43:45	06:00:59	89%
May 31-Jun 01	3	3	11	14	13	0	2	06:59:03	04:36:28	66%
Jun 01-Jun 02	2	2	8	8	7	0	6	06:08:34	05:06:46	83%
Jun 02-Jun 03	2	2	11	10	9	0	2	06:41:49	04:51:18	72%
Jun 03-Jun 04	4	4	11	10	9	0	2	06:49:14	05:26:49	80%
Jun 04-Jun 05	3	3	14	17	17	0	0	06:51:25	03:57:07	58%
Jun 05-Jun 06	8	8	16	13	13	0	0	06:11:51	03:37:16	58%
Jun 06-Jun 07	2	2	6	9	8	0	0	06:26:51	05:16:57	82%
Jun 07-Jun 08	11	10	18	18	17	0	2	06:00:50	04:20:59	72%
Jun 08-Jun 09	15	15	24	13	13	0	2	06:24:33	05:14:25	82%
Jun 09-Jun 10	11	11	17	12	12	0	3	06:26:43	05:23:38	84%
Jun 10-Jun 11	4	4	8	14	13	0	3	06:18:27	04:44:32	75%
Jun 11-Jun 12	8	8	15	14	14	0	3	06:09:17	04:49:24	78%
Jun 12-Jun 13	8	8	9	10	9	0	2	06:06:02	05:29:04	90%
Jun 13-Jun 14	15	15	16	14	14	0	3	06:00:52	05:18:50	88%
Jun 14-Jun 15	8	8	10	6	6	0	3	06:44:50	05:00:30	74%
Jun 15-Jun 16	7	7	8	7	6	0	2	06:37:13	06:19:22	96%
Jun 16-Jun 17	7	7	14	16	16	0	3	06:08:10	05:25:49	88%

4.2 1st Night: from May 30 2011 to May 31 2011

Table 95 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 96 presents the duration of the estimated sleep related activities.

Table 95: Sleep related activities and sensor events measured between May 30 and May 31

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	23:00:22	22:05:40	23:16:18	23:00:34	23:08:33	22:25:40	22:30:08	02:30:34			02:02:13
2	02:36:38	02:19:14	23:30:09	23:16:24	23:23:08	22:29:55	02:19:56				02:05:30
3			23:39:41	23:30:26	23:34:37	02:03:28					
4			00:21:48	00:21:51	23:39:43	02:19:45					
5			00:34:18	00:34:53	00:21:54	02:34:38					
6			02:03:32	02:03:38	00:34:54						
7			02:57:38	02:36:41	02:37:31						
8			03:15:48	02:57:54	02:58:37						
9				03:20:37	03:20:38						

Table 96: Duration of the sleep related activities presented in Table 95

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	03:19:37	00:54:55	00:00:05	00:08:01	00:07:46
2	03:24:08	00:17:28	00:00:17	00:06:46	00:07:02
3			00:00:01	00:04:11	00:05:05
4			00:00:03	00:00:02	00:42:14
5			00:00:35	00:00:01	00:12:27
6			00:00:06	00:15:39	01:28:58
7			00:00:16	00:00:50	00:20:11
8			00:04:50	00:00:43	00:17:15
9				00:00:00	02:39:57

Figure 126 presents the measured sensor events and the computed bed entrances and exits.

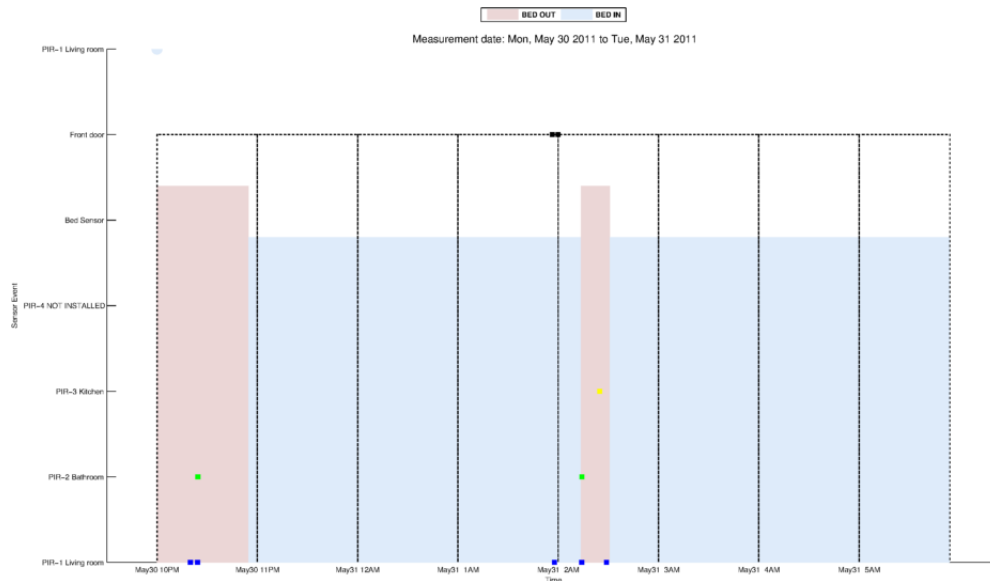


Figure 126: Sensor events and computed bed entrances and exists

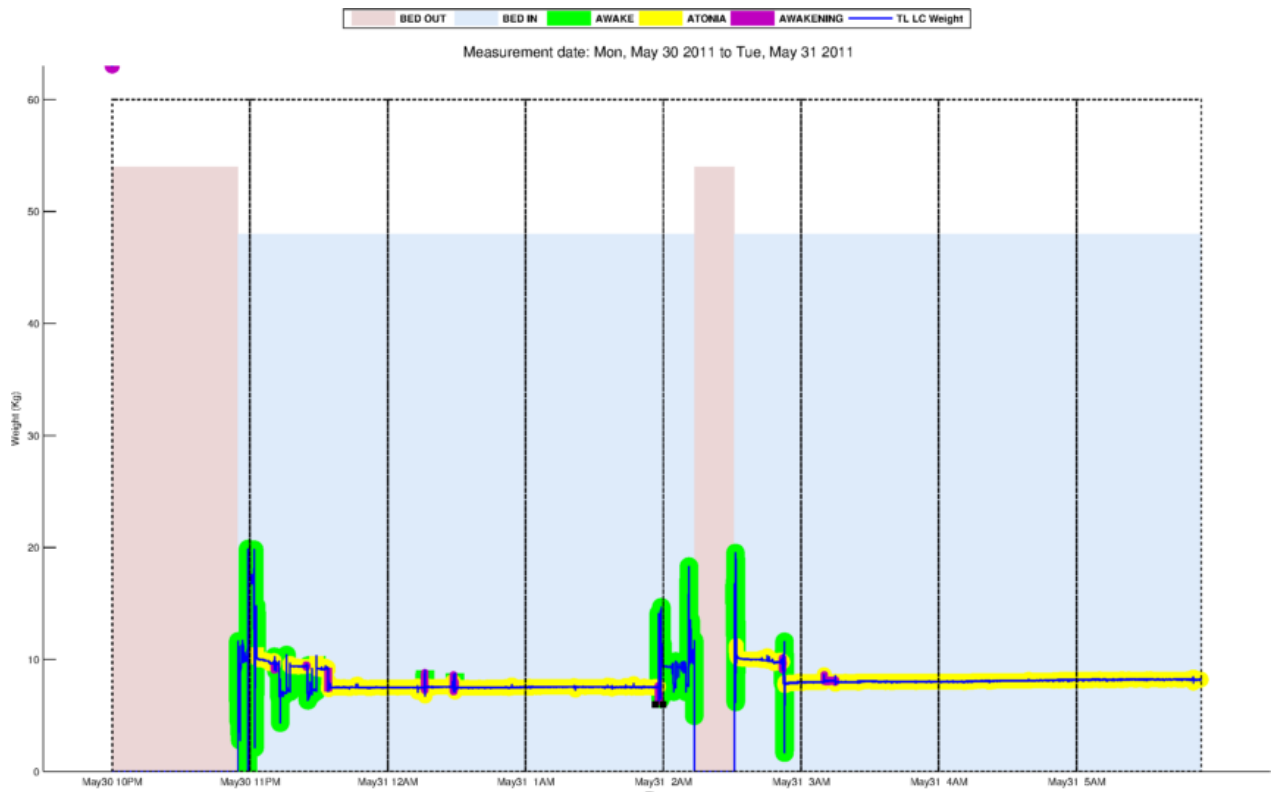


Figure 127: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 127 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 128 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 127).

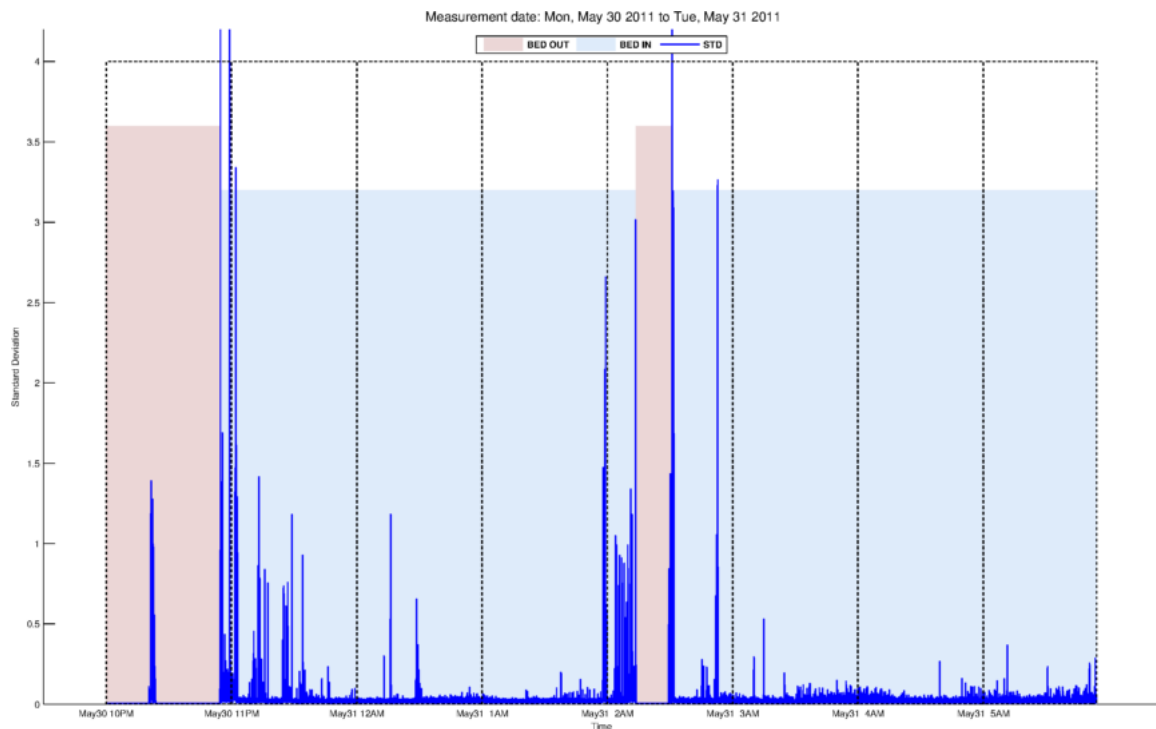


Figure 128: The moving standard deviation for the measured weight.

4.3 2nd Night: from May 31 2011 to Jun 01 2011

Table 97 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 98 presents the duration of the estimated sleep related activities.

Table 97: Sleep related activities and sensor events measured between May 31 and Jun 01

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	22:47:23	22:02:45	23:13:45	22:47:26	22:53:25	22:13:59	22:21:37	02:28:03			02:28:00
2	22:49:47	22:49:35	23:54:14	22:52:19	23:45:03	22:21:18	02:41:07	02:49:47			02:34:01
3	02:55:28	02:40:32	00:54:44	23:14:23	00:43:44	22:45:47					
4			01:28:42	23:54:18	01:13:02	02:29:05					
5			01:38:34	00:54:54	01:28:42						
6			02:25:12	01:40:09	01:52:35						
7			03:06:06	02:29:13	02:56:13						
8			03:14:15	02:55:33	03:08:08						
9			03:34:09	03:07:58	03:14:17						
10			03:43:39	03:34:41	03:36:52						
11			04:39:19	03:44:11	03:45:48						
12			05:14:28		04:39:20						
13			05:52:52		05:14:30						
14					05:52:53						

Table 98: Duration of the sleep related activities presented in Table 97

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:02:12	00:44:47	00:00:38	00:02:09	00:20:25
2	03:51:38	00:00:12	00:00:04	00:01:06	00:09:13
3	03:05:13	00:15:00	00:00:09	00:30:46	00:11:03
4			00:00:00	00:49:37	00:15:43
5			00:01:36	00:18:12	00:09:53
6			00:04:02	00:12:28	00:32:44
7			00:01:52	00:11:21	00:09:55
8			00:00:01	00:00:40	00:06:08
9			00:00:33	00:00:10	00:19:56
10			00:00:32	00:02:11	00:06:48
11			00:00:00	00:01:37	00:53:43
12			00:00:02		00:35:16
13			00:00:01		00:38:30
14					00:07:07

Figure 129 presents the measured sensor events and the computed bed entrances and exits.

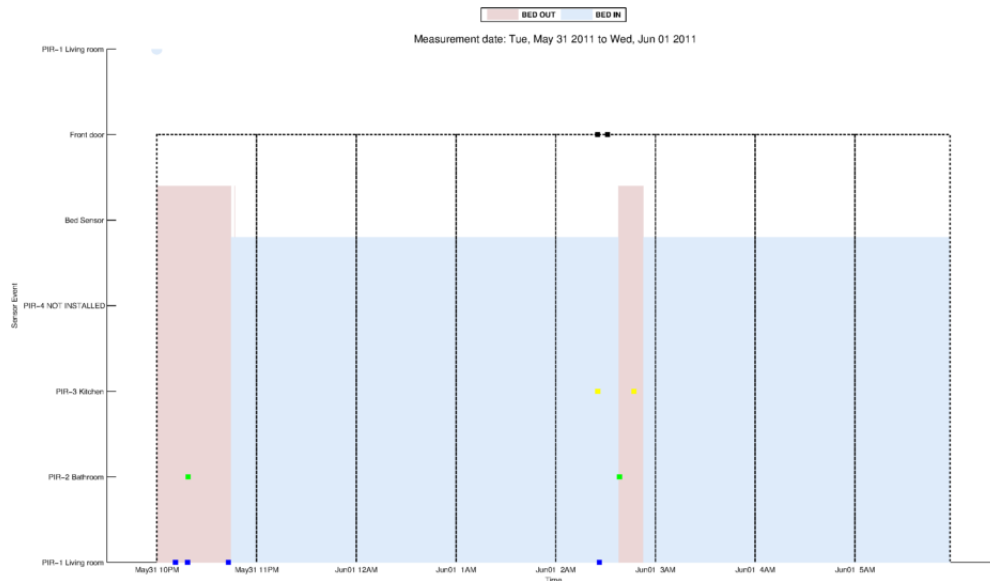


Figure 129: Sensor events and computed bed entrances and exists

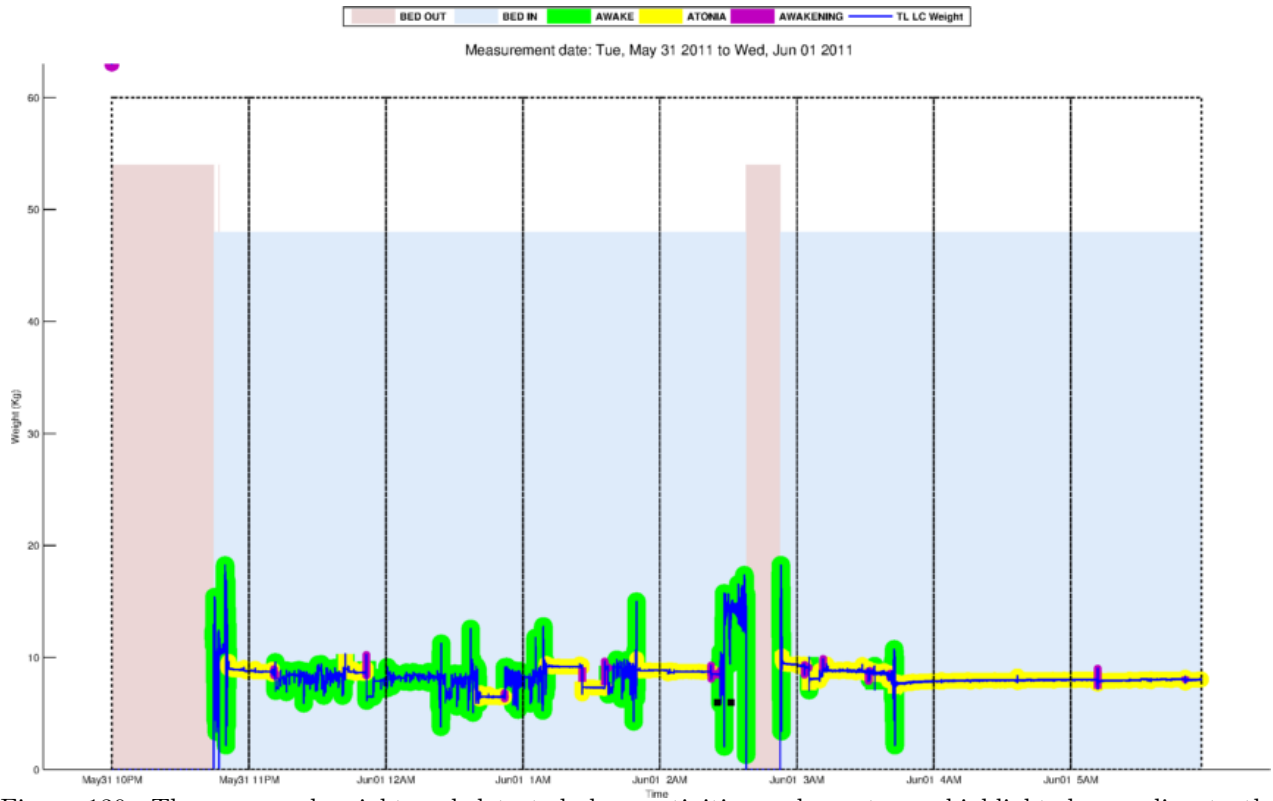


Figure 130: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 130 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 131 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 130).

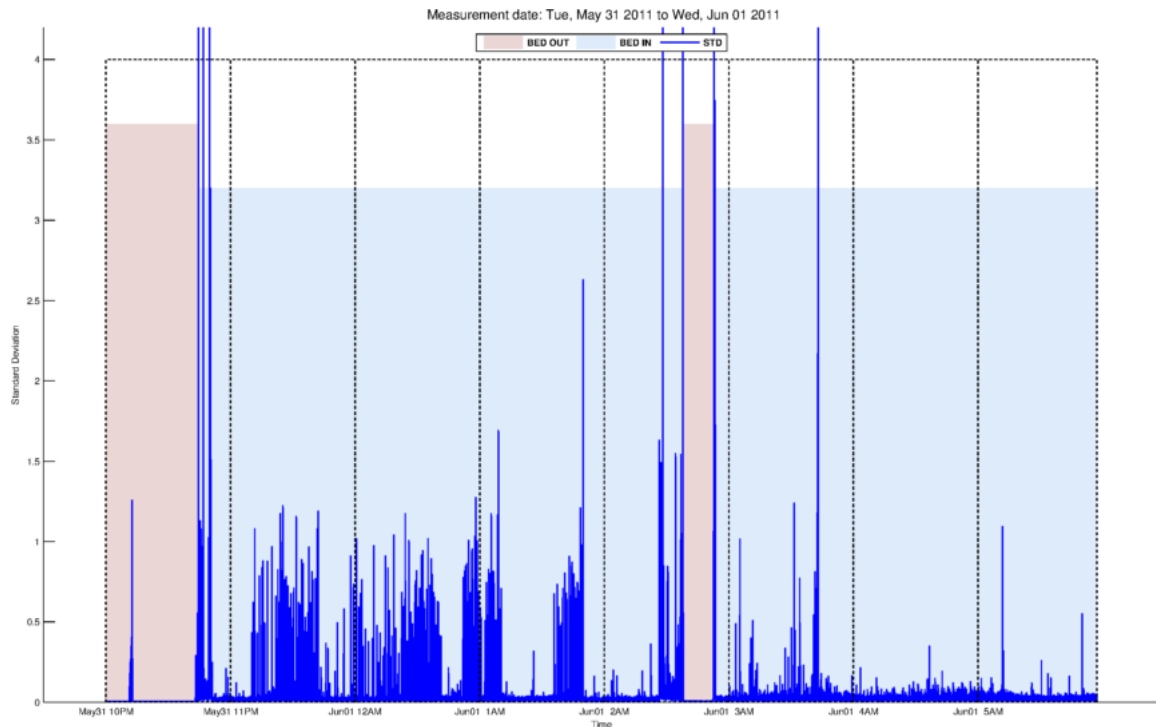


Figure 131: The moving standard deviation for the measured weight.

4.4 3rd Night: from Jun 01 2011 to Jun 02 2011

Table 99 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 100 presents the duration of the estimated sleep related activities.

Table 99: Sleep related activities and sensor events measured between Jun 01 and Jun 02

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	23:26:06	22:02:31	23:45:03	23:26:26	23:29:59	22:02:08	22:35:57	22:36:21			22:47:24
2	03:19:13	02:52:30	02:35:17	23:45:58	23:52:51	22:15:16	23:04:12	02:33:32			22:51:29
3			03:37:28	02:35:23	03:28:56	23:01:30	02:53:21	03:14:27			22:51:37
4			03:50:05	03:19:45	03:44:32	23:25:12					22:51:43
5			05:07:34	03:39:28	03:52:29	02:35:08					02:33:29
6			05:13:13	03:50:18	05:07:35	02:53:09					02:40:55
7			05:22:26	05:13:38	05:16:58	03:18:22					
8				05:22:30	05:32:07						

Table 100: Duration of the sleep related activities presented in Table 99

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	03:27:10	01:23:54	00:00:55	00:03:34	00:15:07
2	02:41:23	00:26:48	00:00:06	00:06:54	02:43:02
3			00:02:01	00:17:11	00:08:33
4			00:00:13	00:09:13	00:05:35
5			00:00:01	00:05:04	01:15:21
6			00:00:25	00:02:11	00:05:39
7			00:00:04	00:03:21	00:05:29
8				00:09:39	00:27:58

Figure 132 presents the measured sensor events and the computed bed entrances and exits.

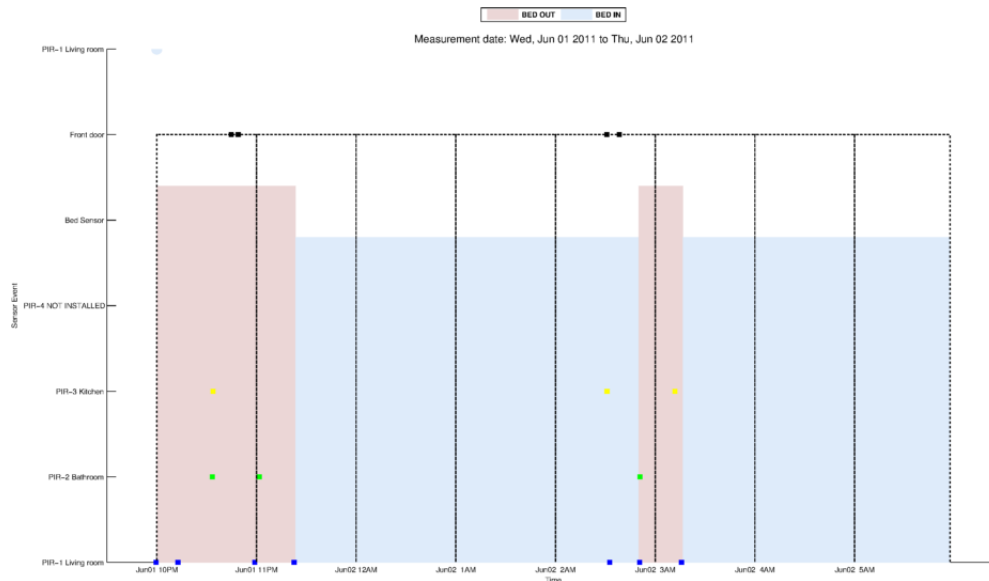


Figure 132: Sensor events and computed bed entrances and exists

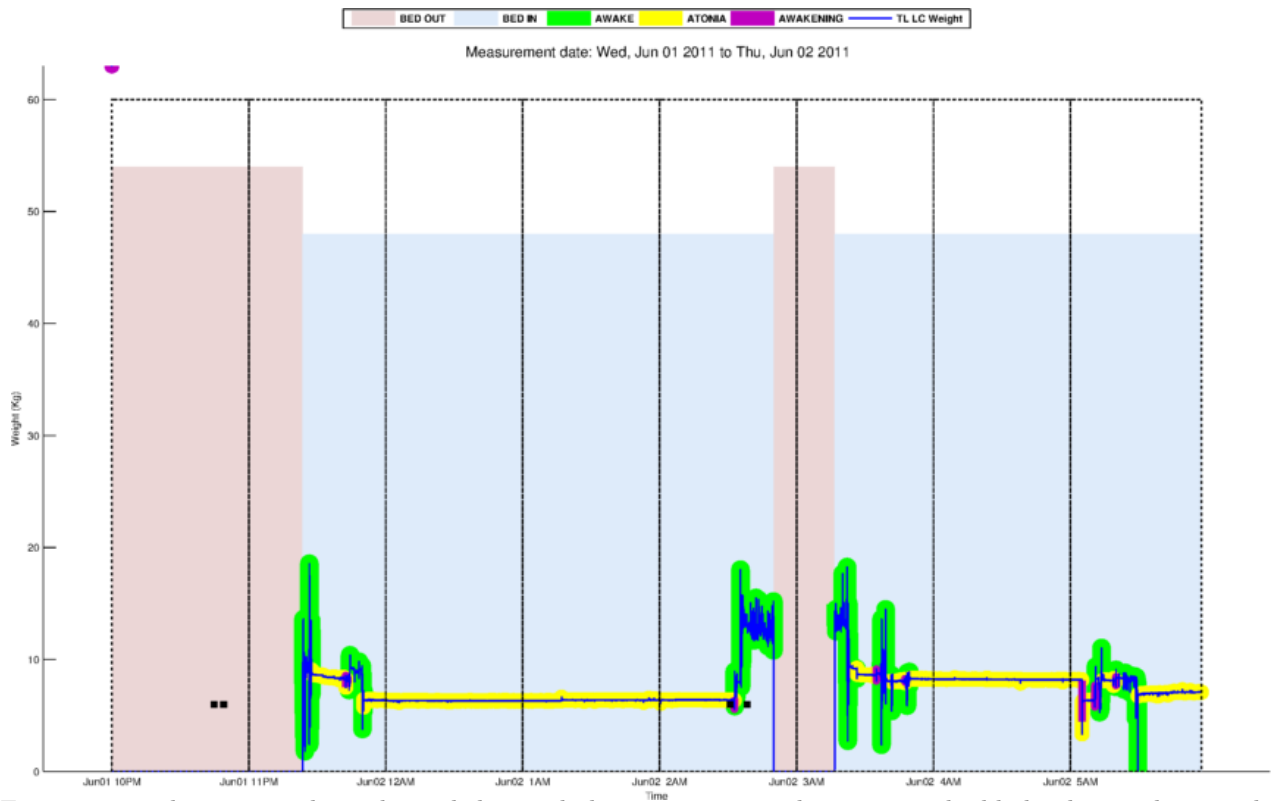


Figure 133: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 133 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 134 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 133).

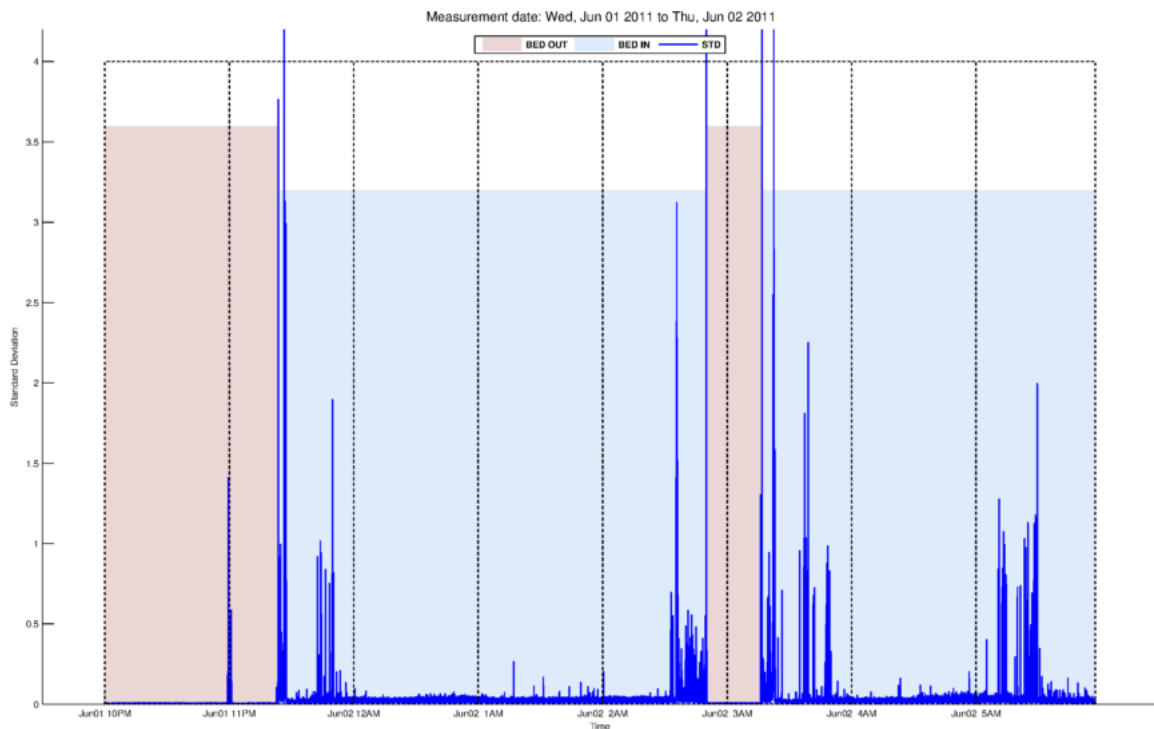


Figure 134: The moving standard deviation for the measured weight.

4.5 4th Night: from Jun 02 2011 to Jun 03 2011

Table 101 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 102 presents the duration of the estimated sleep related activities.

Table 101: Sleep related activities and sensor events measured between Jun 02 and Jun 03

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	23:04:09	22:02:31	23:16:48	23:04:32	23:08:35	22:24:33	22:27:13	23:01:04			02:34:56
2	03:05:18	02:49:46	23:29:51	23:16:53	23:18:58	23:03:41		02:34:58			02:44:42
3			00:48:04	23:31:13	23:31:32	02:36:10		02:44:19			
4			00:55:16	00:48:12	00:48:25	02:44:09		03:03:01			
5			01:31:30	00:55:56	01:20:20	02:50:24					
6			01:44:38	01:32:08	01:32:09	03:00:59					
7			02:36:16	01:44:42	02:19:32						
8			03:17:35	02:36:22	03:08:51						
9			04:57:25	03:08:21	03:40:46						
10				03:18:15	04:58:02						
11				04:58:01							

Table 102: Duration of the sleep related activities presented in Table 101

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	03:46:28	01:01:52	00:00:05	00:04:04	00:08:14
2	02:55:21	00:15:36	00:01:22	00:02:05	00:10:56
3			00:00:08	00:00:19	01:16:49
4			00:00:40	00:00:12	00:06:53
5			00:00:38	00:24:29	00:11:12
6			00:00:04	00:00:01	00:12:32
7			00:00:06	00:34:58	00:16:47
8			00:00:39	00:13:27	00:08:46
9			00:00:36	00:00:30	01:16:56
10				00:22:36	01:02:11
11				00:00:01	

Figure 135 presents the measured sensor events and the computed bed entrances and exits.

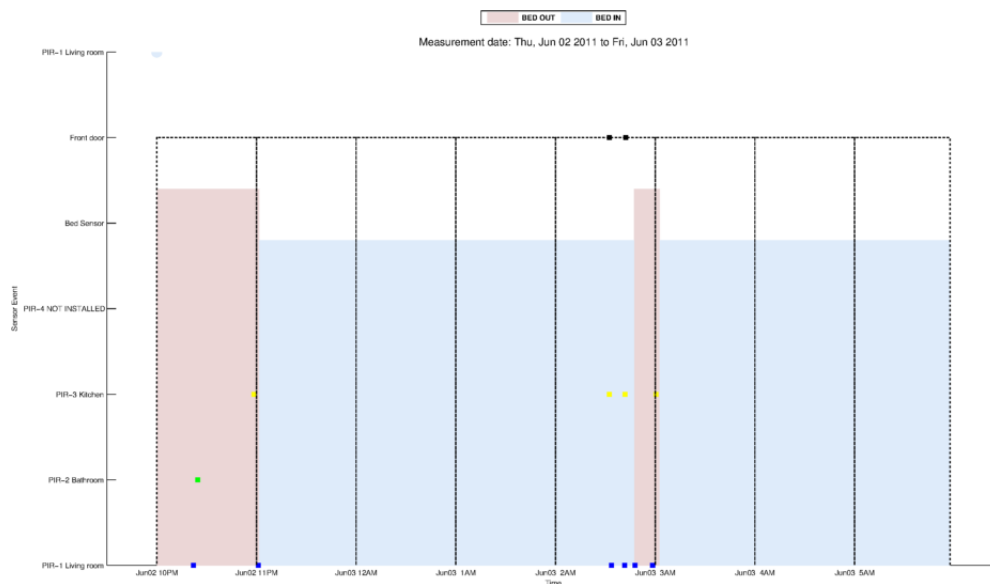


Figure 135: Sensor events and computed bed entrances and exists

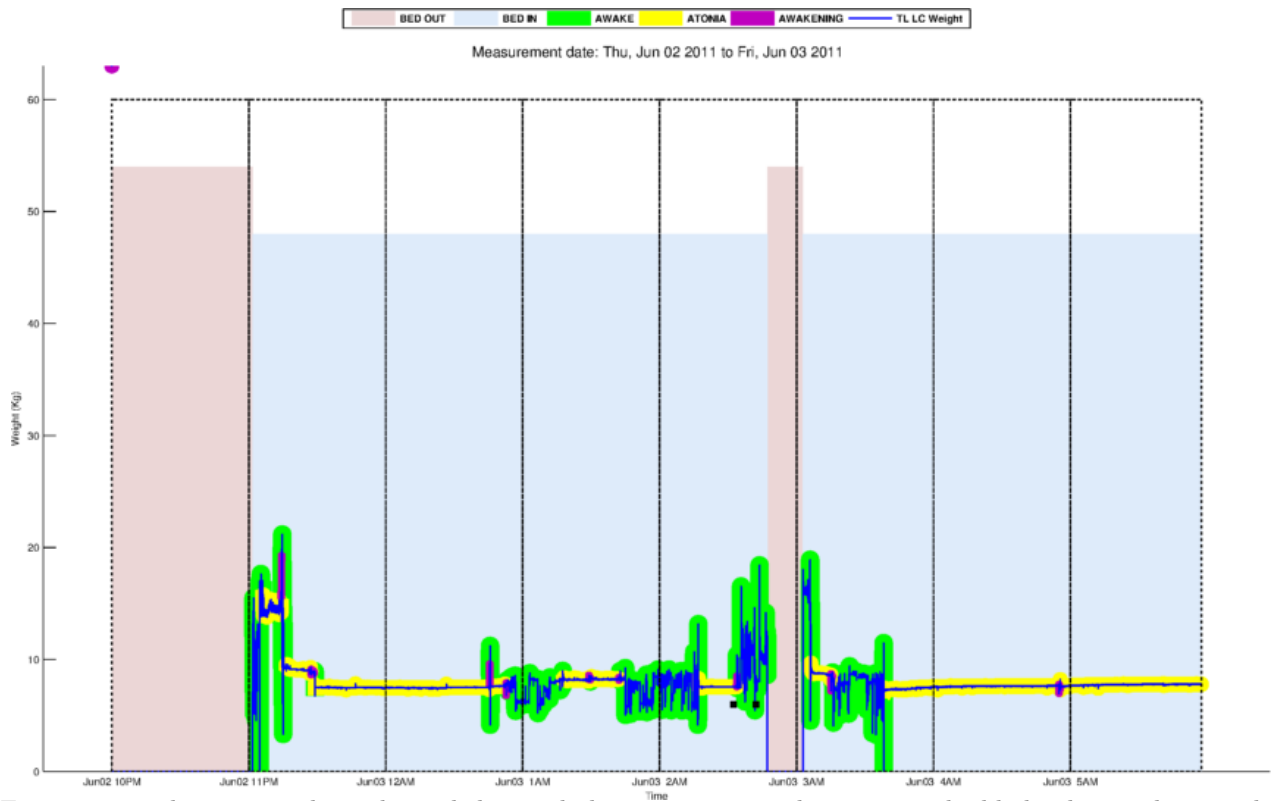


Figure 136: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 136 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 137 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 136).

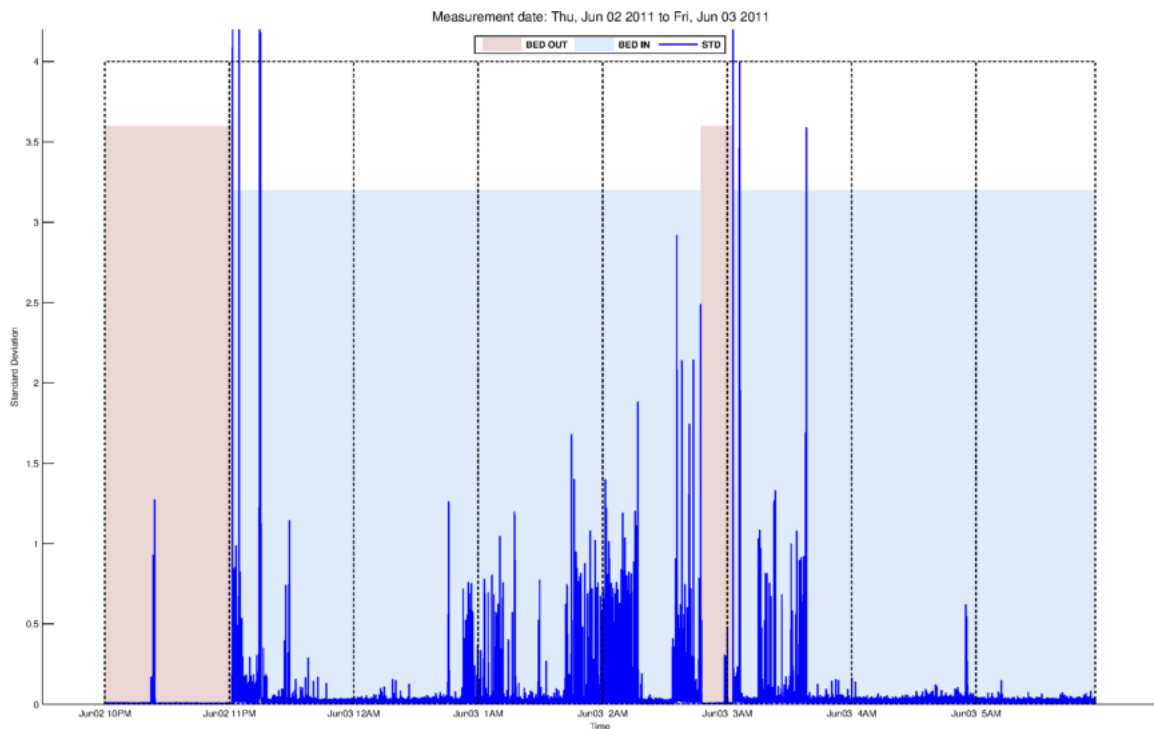


Figure 137: The moving standard deviation for the measured weight.

4.6 5th Night: from Jun 03 2011 to Jun 04 2011

Table 103 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 104 presents the duration of the estimated sleep related activities.

Table 103: Sleep related activities and sensor events measured between Jun 03 and Jun 04

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	23:01:21	22:03:08	00:28:56	23:01:27	23:10:55	22:34:05	02:12:59	02:12:40			02:12:37
2	23:05:53	23:05:00	01:38:14	23:07:28	00:32:55	22:37:08	02:31:09				02:17:43
3	23:09:47	23:09:30	02:22:42	23:09:55	02:16:54	23:01:03					
4	02:40:07	02:30:22	02:29:58	00:30:50	02:23:50	02:13:17					
5			03:07:33	01:42:56	02:59:22	02:31:03					
6			03:16:42	02:23:15	03:11:15	02:39:17					
7			03:34:29	02:30:02	03:16:42						
8			05:22:30	02:40:48	03:34:29						
9			05:41:42	03:08:07	05:23:56						
10				05:23:55	05:46:52						
11				05:44:21							

Table 104: Duration of the sleep related activities presented in Table 103

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:03:39	00:58:26	00:01:53	00:03:34	01:18:18
2	00:03:38	00:00:53	00:04:42	00:02:03	01:05:34
3	03:21:20	00:00:17	00:00:33	00:01:01	00:05:49
4	03:20:37	00:09:47	00:00:03	00:02:05	00:06:10
5			00:00:34	00:34:06	00:08:13
6			00:00:00	00:00:35	00:05:28
7			00:00:00	00:00:20	00:17:50
8			00:01:25	00:18:37	01:48:25
9			00:02:39	00:03:08	00:17:50
10				00:00:01	00:13:10
11				00:02:31	

Figure 138 presents the measured sensor events and the computed bed entrances and exits.

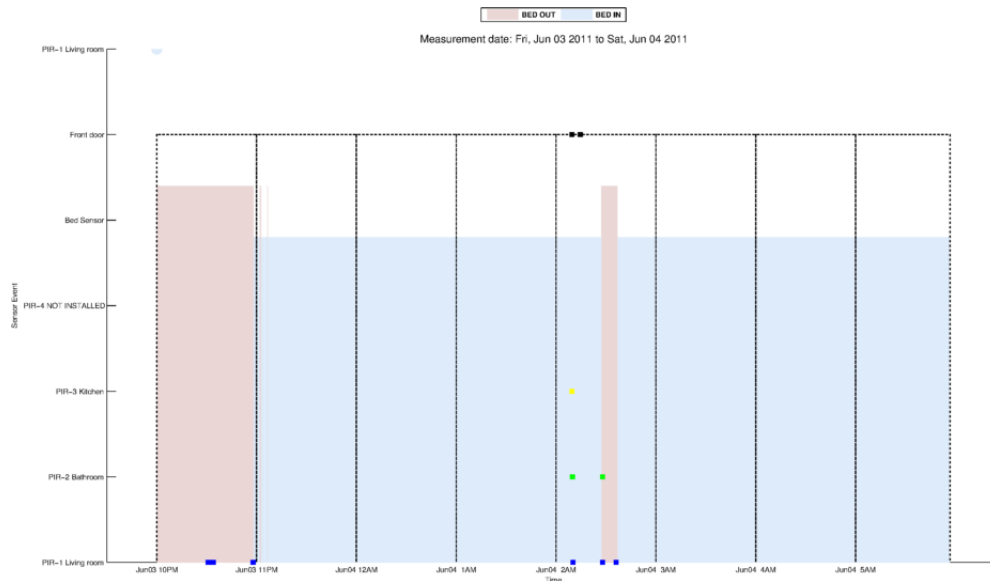


Figure 138: Sensor events and computed bed entrances and exists

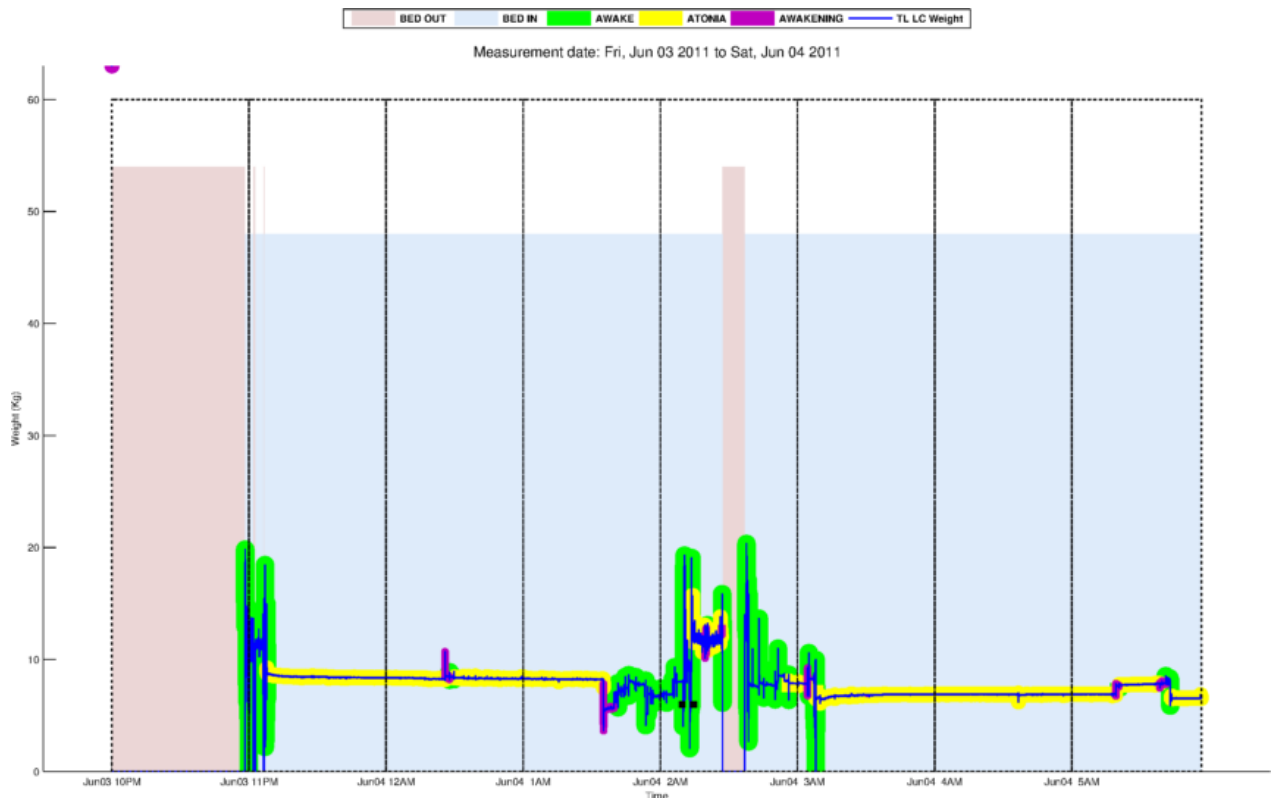


Figure 139: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 139 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 140 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 139).

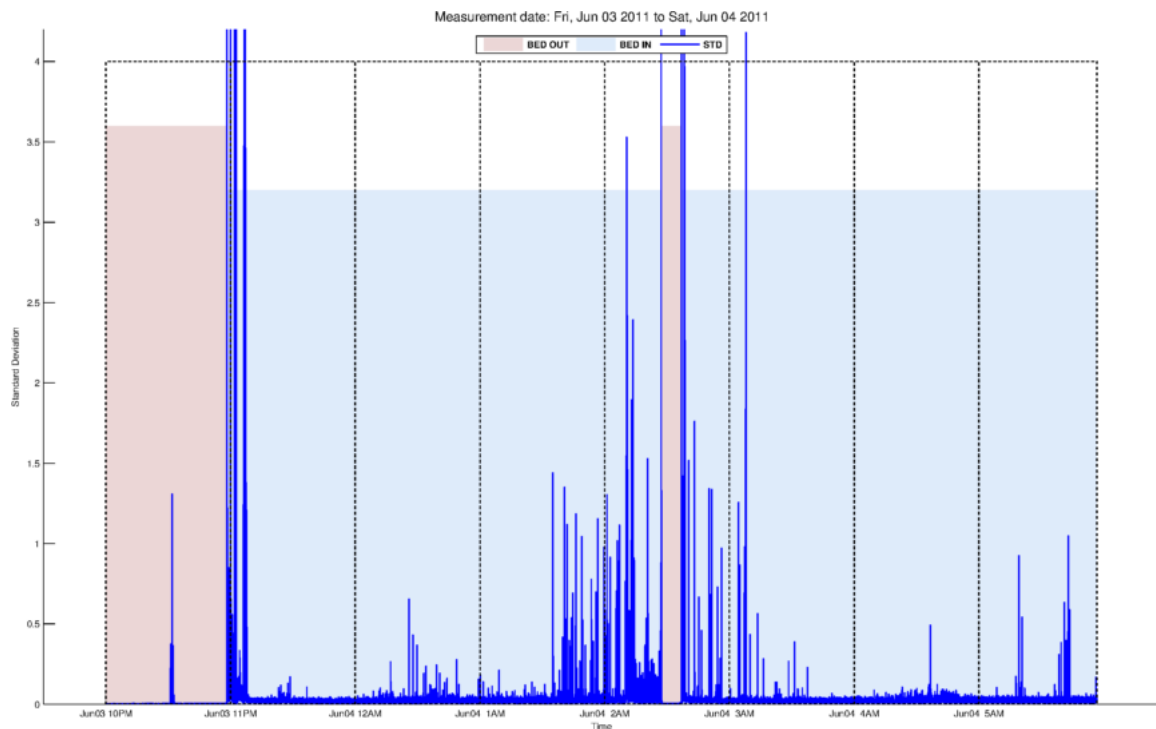


Figure 140: The moving standard deviation for the measured weight.

4.7 6th Night: from Jun 04 2011 to Jun 05 2011

Table 105 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 106 presents the duration of the estimated sleep related activities.

Table 105: Sleep related activities and sensor events measured between Jun 04 and Jun 05

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	22:36:35	22:03:08	22:50:25	22:36:39	22:40:06	22:01:21	22:01:09	01:47:22			
2	02:51:22	02:30:03	23:27:11	23:33:16	22:50:27	22:08:22	22:04:00				
3	05:38:48	05:26:36	23:32:39	00:51:51	23:27:12	22:11:57	02:30:48				
4			00:34:41	01:13:01	00:09:18	22:35:57	05:27:05				
5			00:48:05	01:48:20	00:34:42	01:47:49					
6			00:58:05	02:20:39	00:52:53	02:30:38					
7			01:12:35	02:51:53	00:58:05	02:51:03					
8			01:48:12	03:03:24	01:22:13	05:27:01					
9			02:06:16	04:11:19	01:52:22	05:38:32					
10			02:13:20	04:38:33	02:06:17						
11			02:20:09	04:55:54	02:13:21						
12			03:02:23	05:03:08	02:56:34						
13			04:09:40	05:39:00	03:52:40						
14			04:38:30	05:49:21	04:16:21						
15			04:55:49		04:45:30						
16			05:03:04		04:55:55						
17			05:49:01		05:39:56						

Table 106: Duration of the sleep related activities presented in Table 105

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	03:54:20	00:33:35	00:00:01	00:03:27	00:10:22
2	02:35:49	00:21:23	00:00:01	00:36:09	00:36:52
3	00:21:16	00:12:14	00:00:37	00:01:02	00:05:28
4			00:00:00	00:09:13	00:25:29
5			00:03:47	00:04:02	00:13:26
6			00:00:00	00:09:26	00:05:13
7			00:00:26	00:04:42	00:14:32
8			00:00:08	00:49:26	00:26:05
9			00:00:01	00:05:03	00:13:57
10			00:00:01	00:06:58	00:07:04
11			00:00:31	00:00:01	00:06:49
12			00:01:02	00:23:33	00:05:49
13			00:01:39	00:00:56	00:17:04
14			00:00:03	00:10:40	00:22:14
15			00:00:04		00:10:22
16			00:00:04		00:07:11
17			00:00:19		00:09:07

Figure 141 presents the measured sensor events and the computed bed entrances and exits.

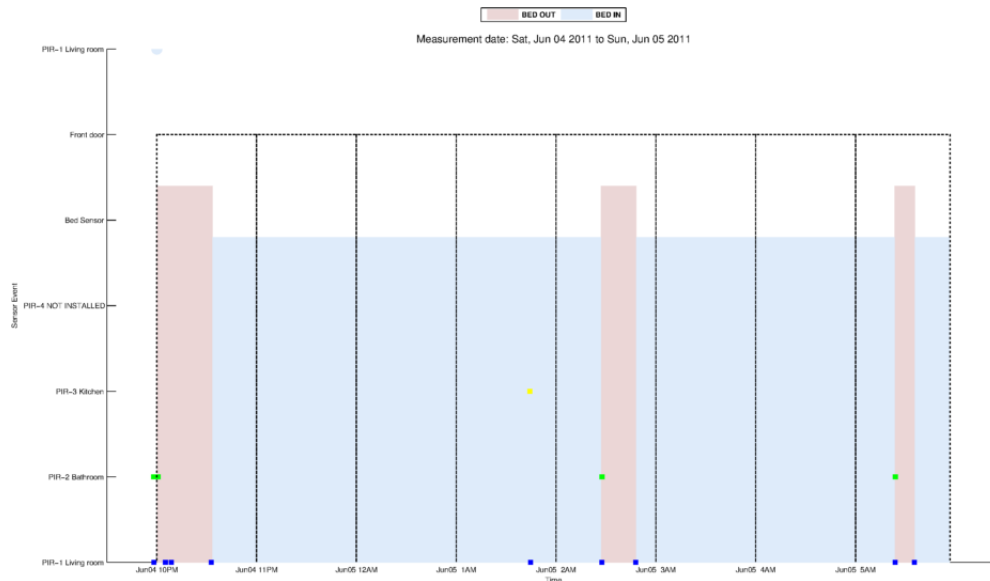


Figure 141: Sensor events and computed bed entrances and exists

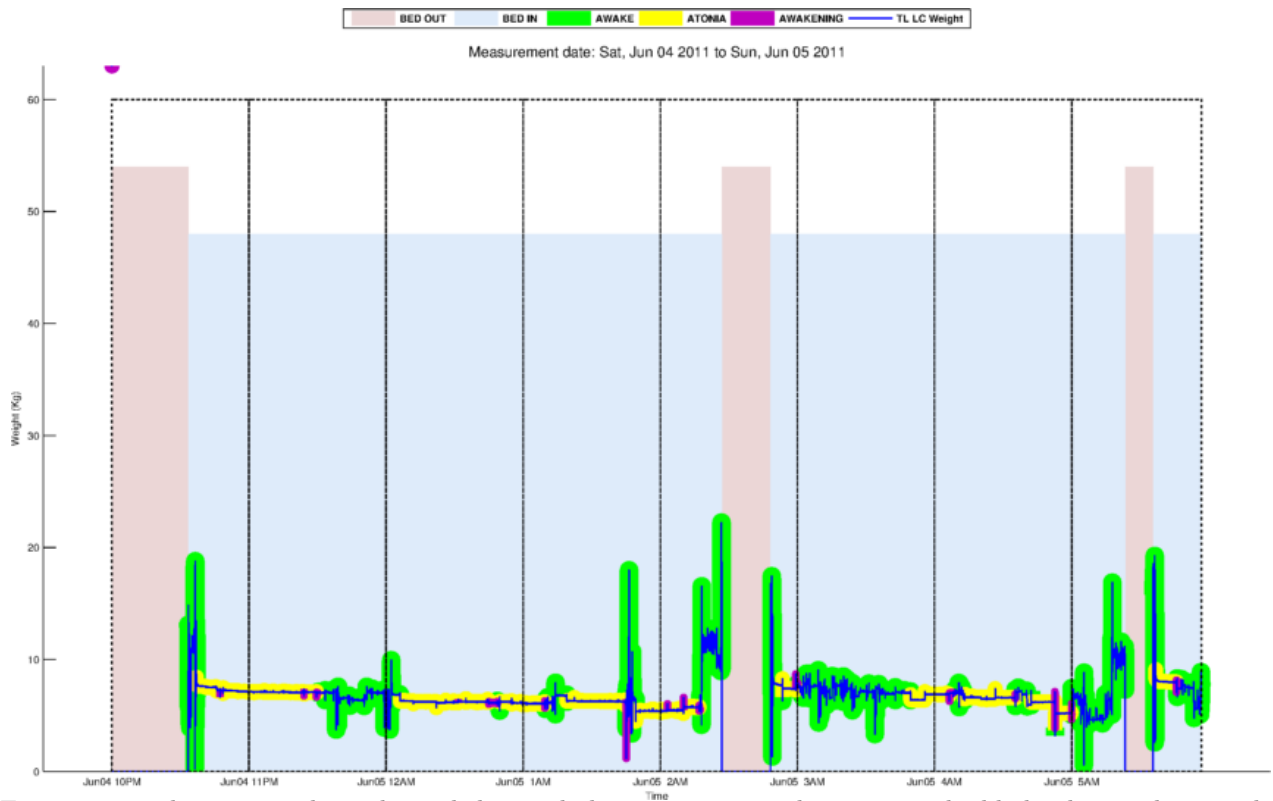


Figure 142: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 142 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 143 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 142).

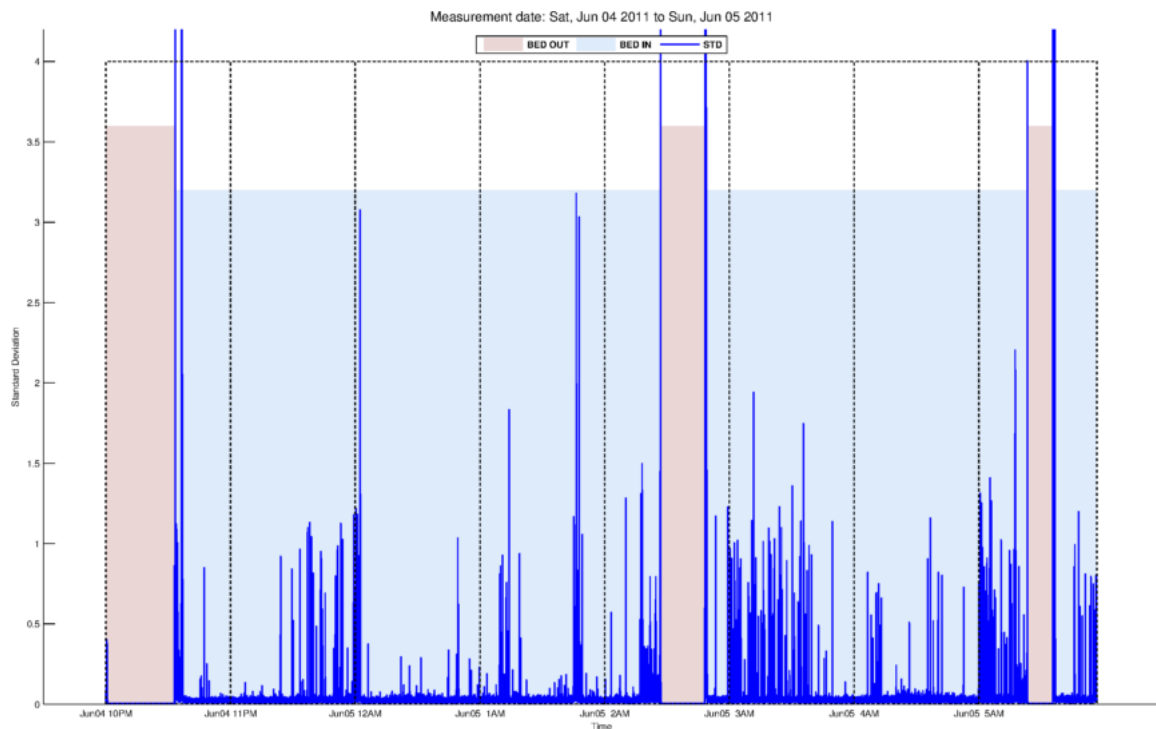


Figure 143: The moving standard deviation for the measured weight.

4.8 7th Night: from Jun 05 2011 to Jun 06 2011

Table 107 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 108 presents the duration of the estimated sleep related activities.

Table 107: Sleep related activities and sensor events measured between Jun 05 and Jun 06

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	23:13:21	22:03:08	23:27:30	23:13:46	23:19:53	22:42:21	22:44:35	22:14:30			
2	00:32:22	00:31:21	23:40:07	23:40:54	23:27:31	23:11:27	03:19:20	02:39:12			
3	00:43:07	00:38:29	00:18:02	00:19:02	23:40:56	02:40:14	05:36:26	03:15:41			
4	00:47:15	00:47:10	00:27:05	00:27:29	00:20:29	03:04:04					
5	00:47:21	00:47:20	02:03:32	00:34:50	00:48:20	05:36:17					
6	02:27:20	02:27:18	02:34:56	00:45:36	02:28:47	05:48:35					
7	03:20:28	03:03:30	03:30:52	00:47:18	03:24:30						
8	05:49:09	05:35:46	04:16:49	00:47:21	03:59:53						
9			04:23:27	02:03:48	04:16:50						
10			04:33:47	02:27:20	04:23:28						
11			04:44:09	02:36:52	04:34:13						
12			05:09:48	03:20:31	04:59:02						
13			05:59:57	03:31:17	05:49:43						
14				04:49:03							
15				05:10:11							
16				05:49:13							

Table 108: Duration of the sleep related activities presented in Table 107

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	01:18:17	01:10:28	00:00:01	00:06:08	00:07:38
2	00:06:07	00:01:02	00:00:47	00:00:02	00:12:39
3	00:04:03	00:04:40	00:01:00	00:01:27	00:37:14
4	00:00:05	00:00:04	00:00:24	00:03:52	00:06:37
5	01:40:19	00:00:01	00:00:16	00:03:39	01:15:28
6	00:36:18	00:00:02	00:01:57	00:01:34	00:06:10
7	02:15:48	00:17:01	00:00:24	00:00:01	00:06:24
8	00:10:52	00:13:25	00:00:00	00:00:59	00:16:59
9			00:00:01	00:23:35	00:06:39
10			00:00:25	00:01:27	00:10:21
11			00:04:55	00:26:43	00:09:59
12			00:00:23	00:03:59	00:10:48
13			00:00:02	00:28:43	00:10:16
14				00:10:00	
15				00:25:40	
16				00:00:30	

Figure 144 presents the measured sensor events and the computed bed entrances and exits.

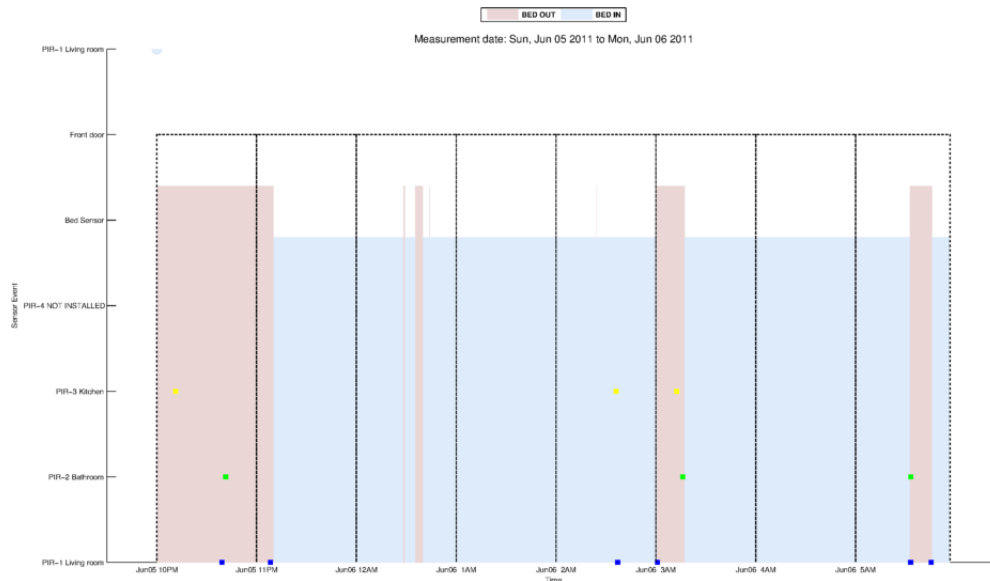


Figure 144: Sensor events and computed bed entrances and exists

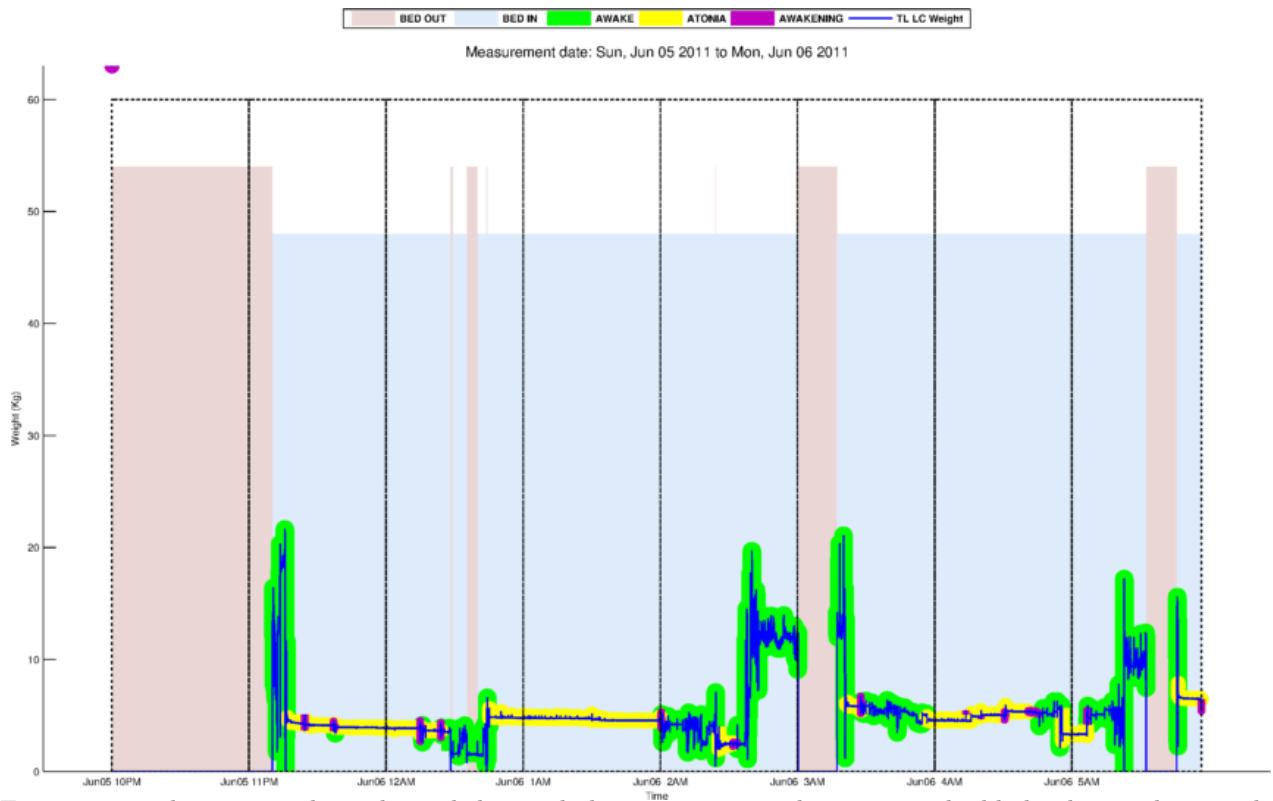


Figure 145: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 145 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 146 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 145).

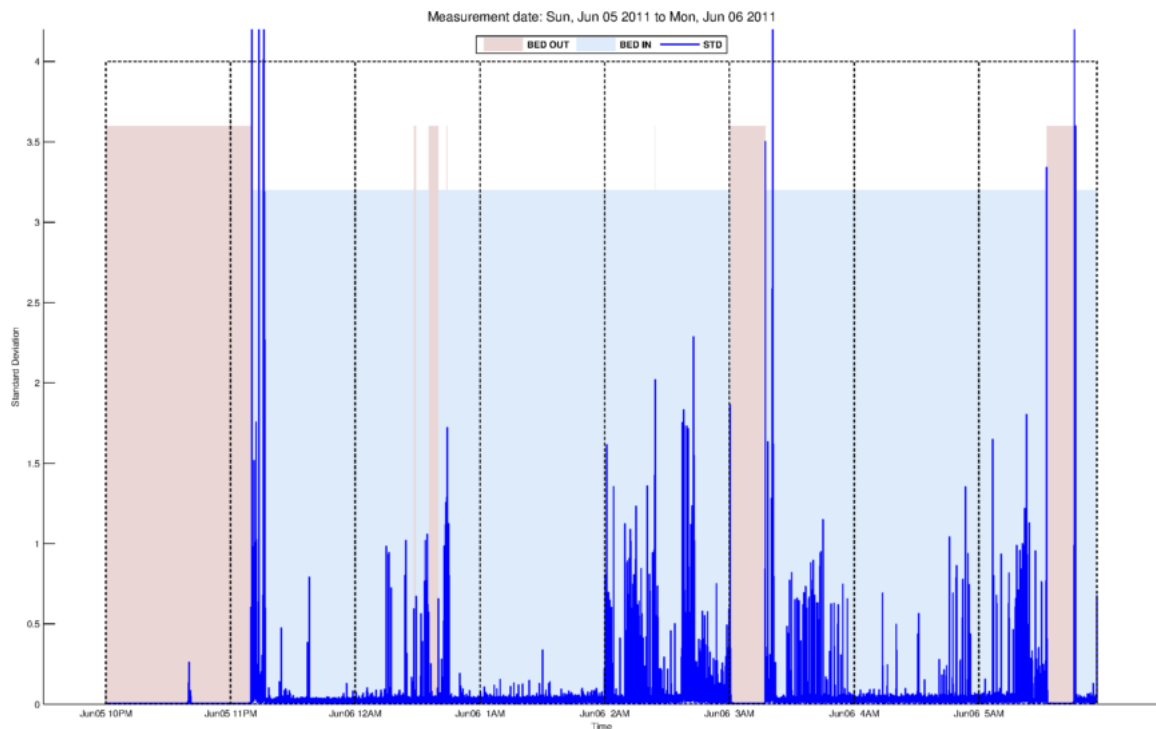


Figure 146: The moving standard deviation for the measured weight.

4.9 8th Night: from Jun 06 2011 to Jun 07 2011

Table 109 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 110 presents the duration of the estimated sleep related activities.

Table 109: Sleep related activities and sensor events measured between Jun 06 and Jun 07

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	23:03:24	22:03:08	00:06:48	23:03:29	23:13:24	22:26:59	22:29:54	22:06:43			
2	02:41:50	02:10:45	00:35:55	00:09:13	00:20:26	23:01:59	02:11:42	01:56:07			
3			01:10:31	01:13:14	00:35:57	02:11:27		02:35:56			
4			01:40:45	01:42:01	01:19:07						
5			04:43:46	02:41:54	02:45:48						
6			05:00:01	05:46:56	04:43:46						
7			05:40:01		05:00:01						
8			05:46:52		05:40:03						
9					05:50:15						

Table 110: Duration of the sleep related activities presented in Table 109

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	03:08:00	01:00:28	00:02:25	00:09:57	00:53:35
2	03:18:50	00:31:12	00:00:02	00:11:15	00:15:32
3			00:02:43	00:05:53	00:34:42
4			00:01:17	00:28:49	00:21:42
5			00:00:00	00:03:55	01:58:22
6			00:00:00	00:03:20	00:16:18
7			00:00:02		00:40:08
8			00:00:03		00:06:50
9					00:09:46

Figure 147 presents the measured sensor events and the computed bed entrances and exits.

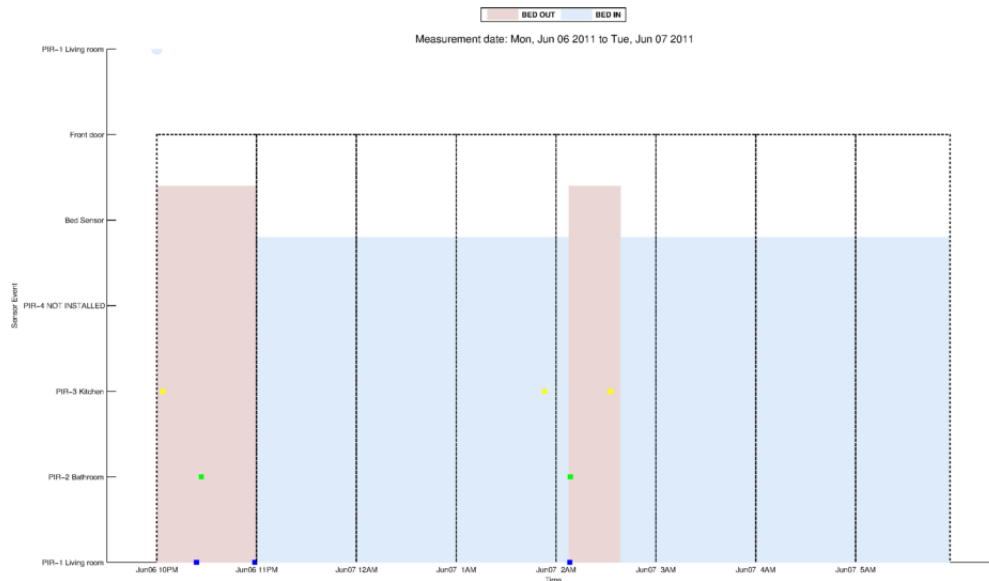


Figure 147: Sensor events and computed bed entrances and exists

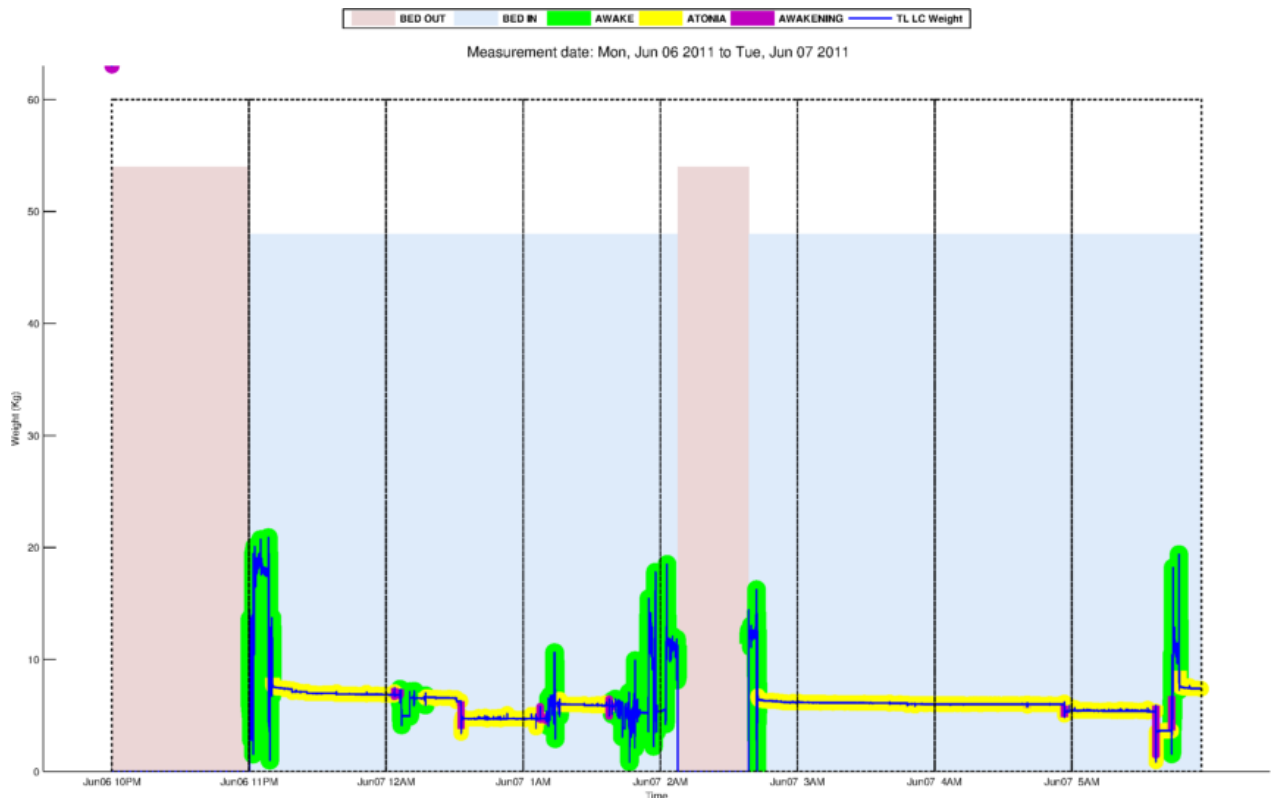


Figure 148: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 148 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 149 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 148).

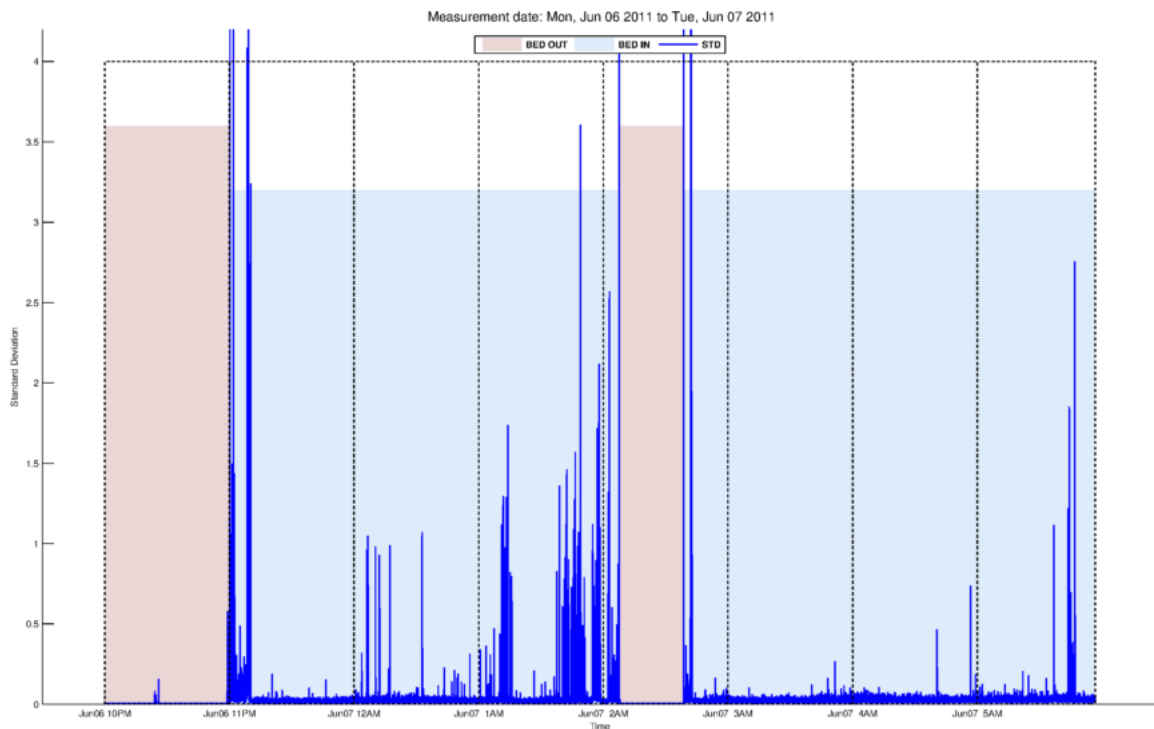


Figure 149: The moving standard deviation for the measured weight.

4.10 9th Night: from Jun 07 2011 to Jun 08 2011

Table 111 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 112 presents the duration of the estimated sleep related activities.

Table 111: Sleep related activities and sensor events measured between Jun 07 and Jun 08

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	23:27:55	22:03:08	23:59:28	23:28:00	23:39:40	22:44:41	02:34:40	23:06:56			02:10:06
2	23:29:04	23:29:03	00:24:11	23:29:04	23:59:29	23:27:34	05:31:05	23:25:49			02:15:50
3	00:48:04	00:47:59	00:30:44	00:47:59	00:24:12	02:10:21		02:10:08			
4	01:18:10	01:18:09	00:47:54	00:48:08	00:30:45	02:34:35					
5	01:18:14	01:18:13	01:06:55	01:08:03	01:01:37	02:44:39					
6	02:45:41	02:33:56	01:32:37	01:18:10	01:19:03	05:30:55					
7	02:50:31	02:50:30	02:10:31	01:18:14	01:32:38	05:40:21					
8	02:50:35	02:50:34	02:33:18	02:10:37	02:26:13						
9	04:29:46	04:25:31	03:06:06	02:33:37	02:54:53						
10	05:44:59	05:30:30	03:12:53	02:45:45	03:06:07						
11		05:58:07	04:17:27	02:50:31	03:15:08						
12			04:25:27	02:50:35	04:17:28						
13			04:39:36	03:14:17	04:33:42						
14			04:47:00	04:31:25	04:41:44						
15			04:52:03	04:39:49	04:47:01						
16			05:06:21	04:53:31	04:53:32						
17			05:52:32	05:09:42	05:47:21						
18				05:45:03	05:52:34						

Table 112: Duration of the sleep related activities presented in Table 111

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:01:07	01:25:05	00:00:00	00:01:02	00:19:52
2	01:19:12	00:00:01	00:00:01	00:10:39	00:24:47
3	00:30:11	00:00:05	00:00:01	00:00:00	00:06:33
4	00:00:03	00:00:00	00:00:05	00:13:32	00:17:12
5	01:15:58	00:00:01	00:01:09	00:10:08	00:05:18
6	00:04:50	00:11:48	00:00:00	00:00:03	00:13:37
7	00:00:03	00:00:00	00:00:05	00:00:49	00:38:01
8	01:35:16	00:00:01	00:00:20	00:15:39	00:07:06
9	01:00:57	00:04:16	00:00:01	00:00:18	00:11:15
10	00:13:11	00:14:32	00:01:23	00:04:46	00:06:48
11		00:01:52	00:00:00	00:00:03	01:02:33
12			00:00:03	00:04:18	00:08:01
13			00:00:13	00:00:51	00:05:55
14			00:00:01	00:02:17	00:05:16
15			00:01:28	00:01:56	00:05:03
16			00:03:21	00:00:01	00:12:52
17			00:00:02	00:20:52	00:05:12
18				00:02:19	00:05:34

Figure 150 presents the measured sensor events and the computed bed entrances and exits.

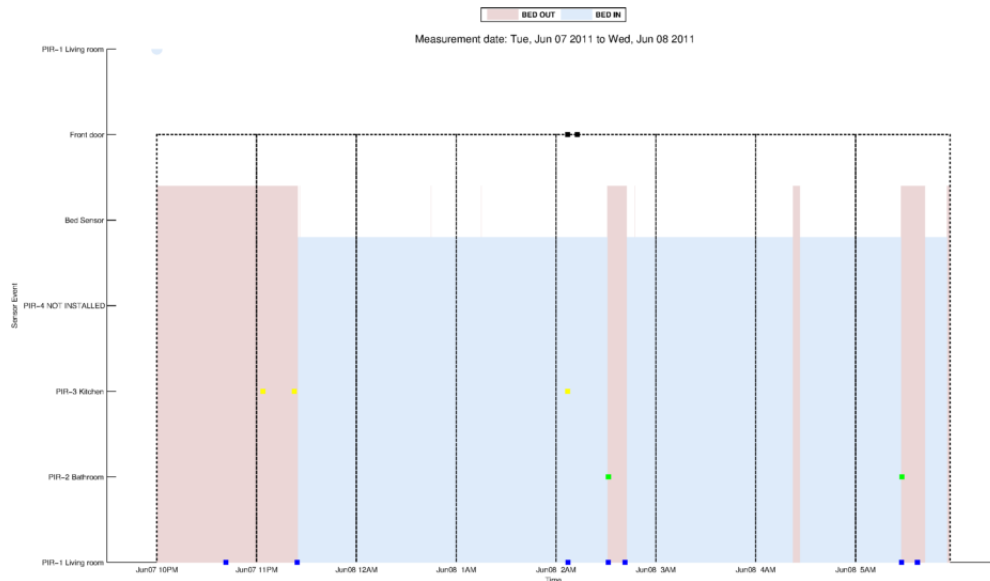


Figure 150: Sensor events and computed bed entrances and exists

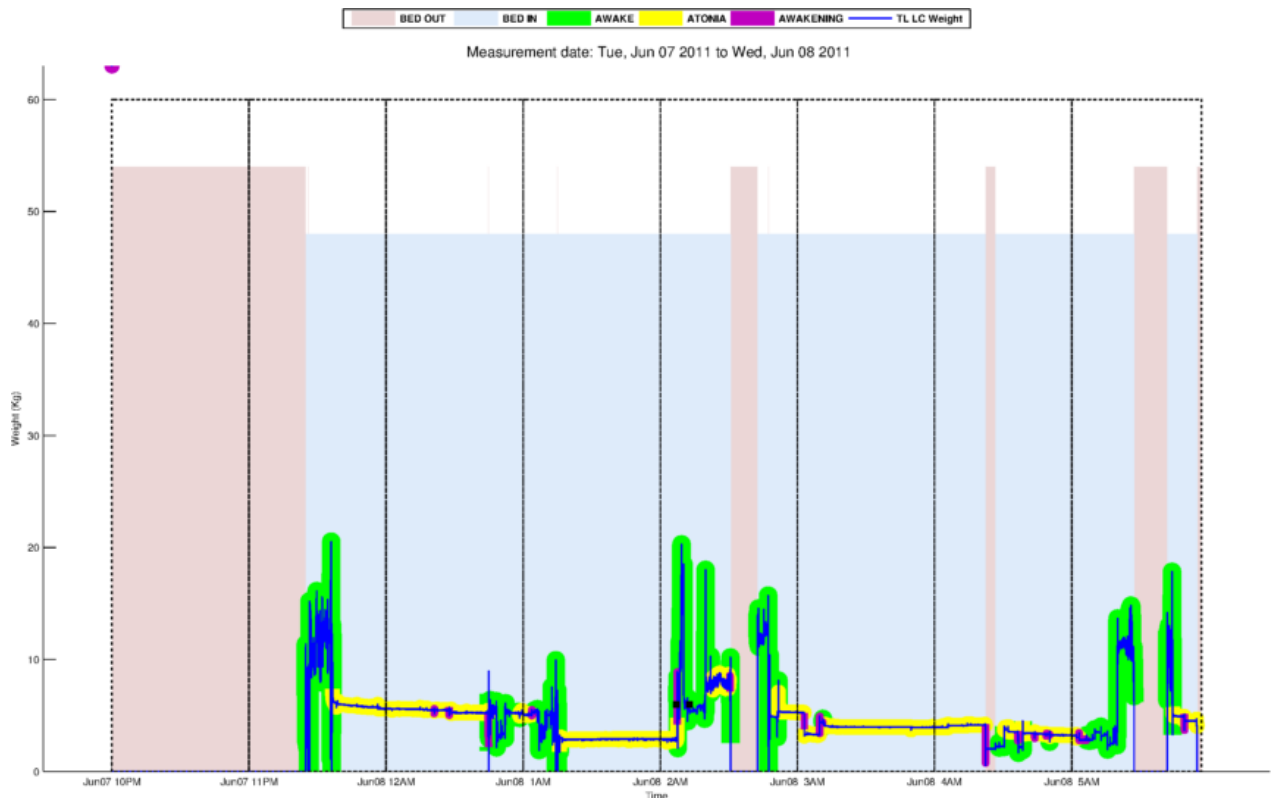


Figure 151: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 151 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 152 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 151).

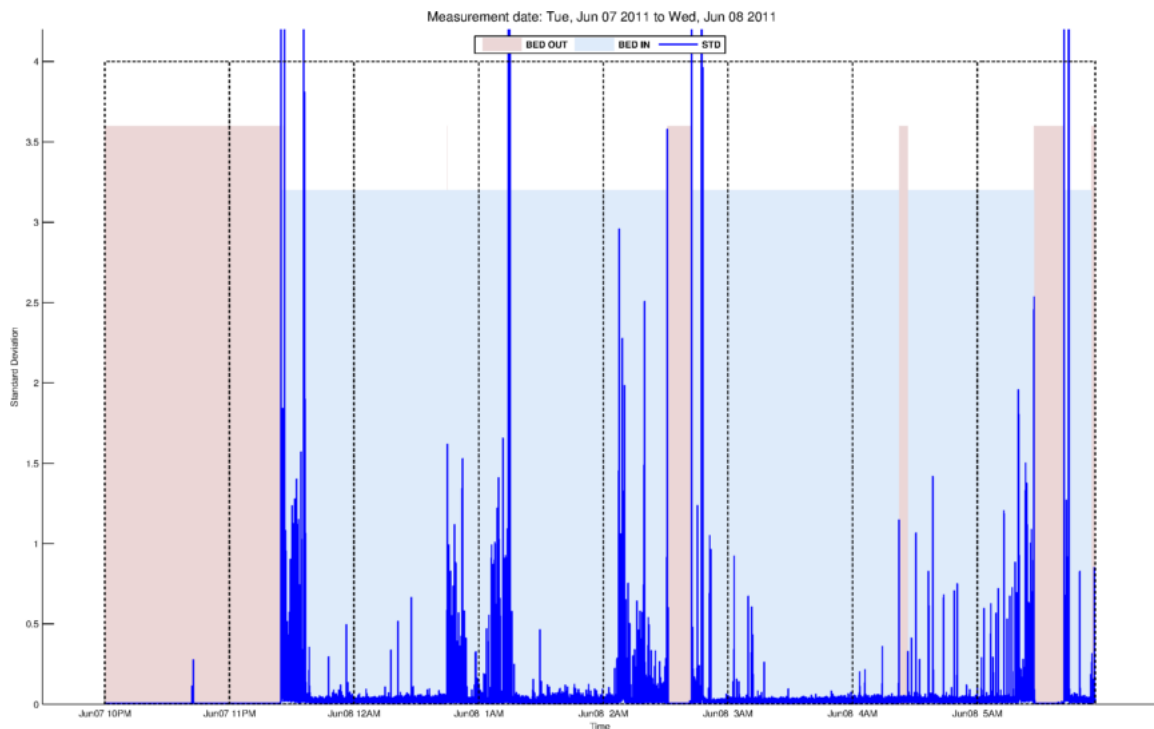


Figure 152: The moving standard deviation for the measured weight.

4.11 10th Night: from Jun 08 2011 to Jun 09 2011

Table 113 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 114 presents the duration of the estimated sleep related activities.

Table 113: Sleep related activities and sensor events measured between Jun 08 and Jun 09

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	23:19:50	22:03:08	23:42:40	23:19:55	23:26:32	22:53:16	22:53:29	22:07:22			02:12:50
2	23:20:42	23:20:41	00:11:01	23:20:42	23:42:42	23:19:30	02:17:04				02:19:37
3	23:24:44	23:23:41	00:19:55	23:24:56	00:12:48	02:33:00	02:33:14				
4	23:25:26	23:25:25	00:30:50	23:25:26	00:25:32	02:45:41					
5	00:49:08	00:49:06	00:48:55	00:11:05	00:43:23						
6	00:49:19	00:49:17	01:19:22	00:24:45	00:59:49						
7	00:58:48	00:58:47	02:08:26	00:33:53	01:19:30						
8	00:59:16	00:59:04	02:25:48	00:49:06	02:20:11						
9	02:13:34	02:13:27	02:31:33	00:49:08	02:25:49						
10	02:13:39	02:13:36	02:57:47	00:49:13	02:48:10						
11	02:14:54	02:13:40	03:07:42	00:49:19	03:00:54						
12	02:17:50	02:17:45	04:32:13	00:49:34	03:12:30						
13	02:18:01	02:17:58	05:56:37	00:58:48	04:41:40						
14	02:46:22	02:32:24		00:59:24							
15	05:56:43	05:56:39		01:19:29							
16				02:13:23							
17				02:16:09							
18				02:17:54							
19				02:18:16							
20				02:31:36							
21				02:46:26							
22				02:58:52							
23				03:12:30							
24				04:32:27							

Table 114: Duration of the sleep related activities presented in Table 113

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:50	01:16:58	00:00:02	00:00:46	00:16:11
2	00:03:00	00:00:01	00:00:04	00:03:00	00:28:24
3	00:00:41	00:01:02	00:04:51	00:00:28	00:07:08
4	01:23:58	00:00:01	00:03:03	00:01:06	00:05:19
5	00:00:08	00:00:02	00:00:11	00:01:43	00:05:33
6	00:09:29	00:00:02	00:00:07	00:00:47	00:19:37
7	00:00:16	00:00:01	00:04:57	00:09:32	00:49:07
8	01:14:27	00:00:12	00:00:01	00:00:00	00:05:38
9	00:00:01	00:00:07	00:00:03	00:00:01	00:05:45
10	00:00:01	00:00:03	00:01:04	00:00:03	00:09:39
11	00:02:51	00:01:14	00:04:48	00:00:00	00:06:50
12	00:00:08	00:00:05	00:00:14	00:09:15	01:19:59
13	00:14:25	00:00:03	00:00:02	00:00:16	01:15:12
14	03:10:57	00:14:01		00:00:25	
15	00:03:16	00:00:04		00:00:00	
16				00:00:04	
17				00:01:36	
18				00:00:04	
19				00:01:55	
20				00:00:47	
21				00:01:44	
22				00:02:02	
23				00:00:00	
24				00:09:15	

Figure 153 presents the measured sensor events and the computed bed entrances and exits.

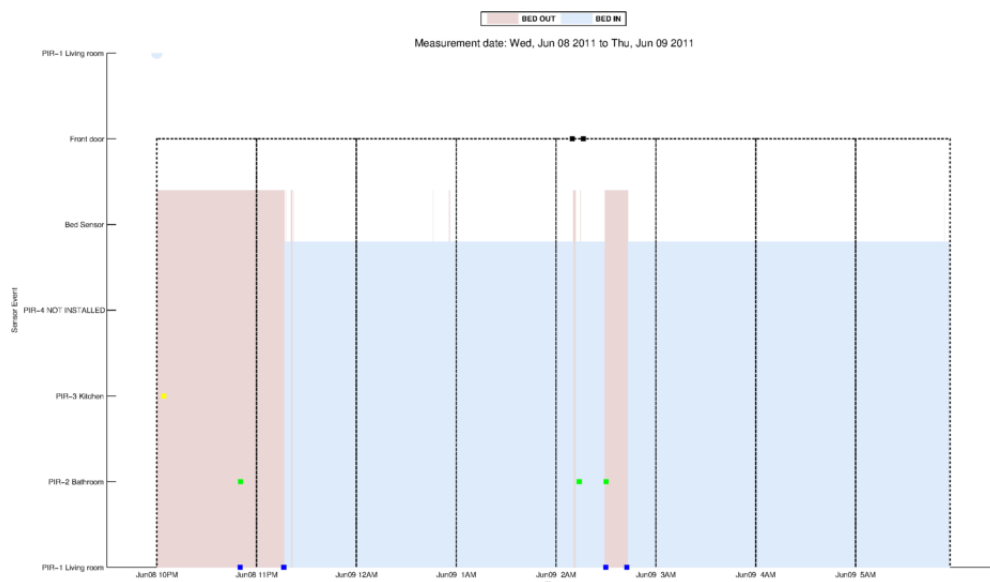


Figure 153: Sensor events and computed bed entrances and exists

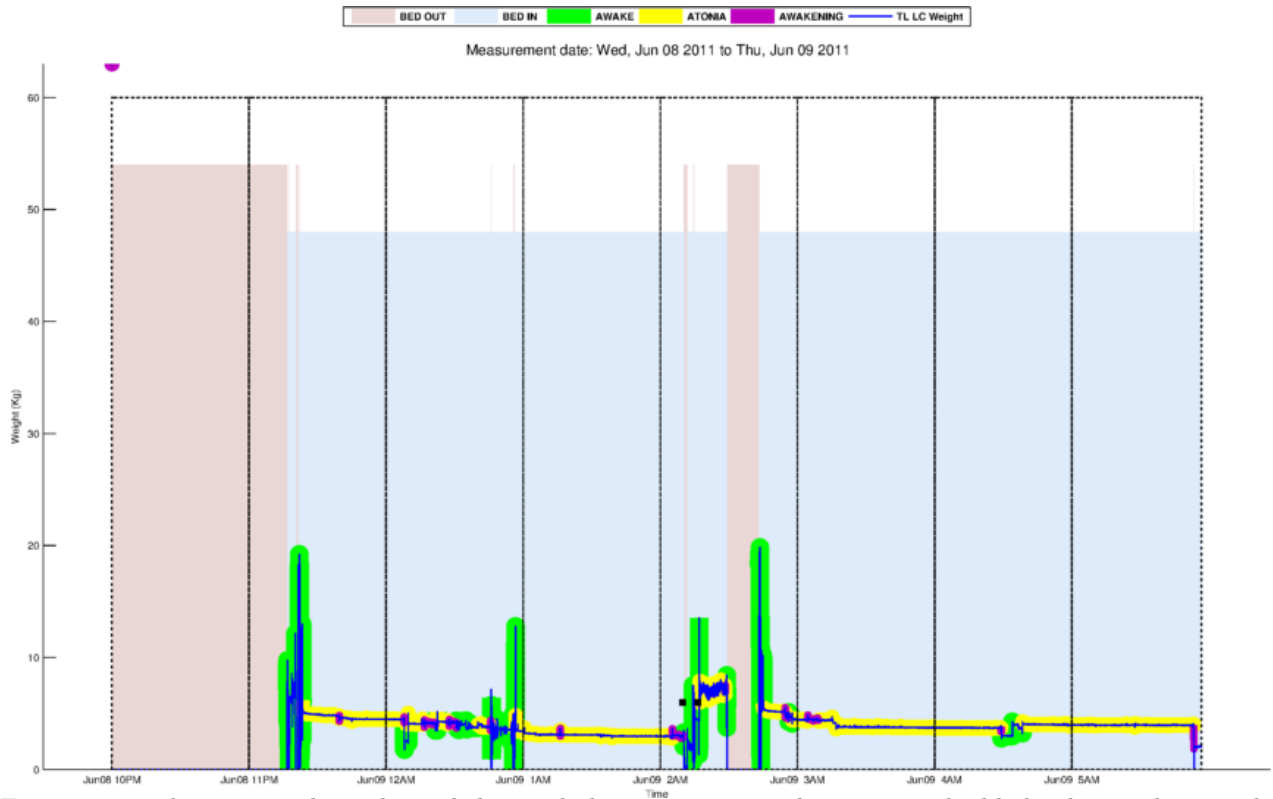


Figure 154: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 154 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 155 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 154).

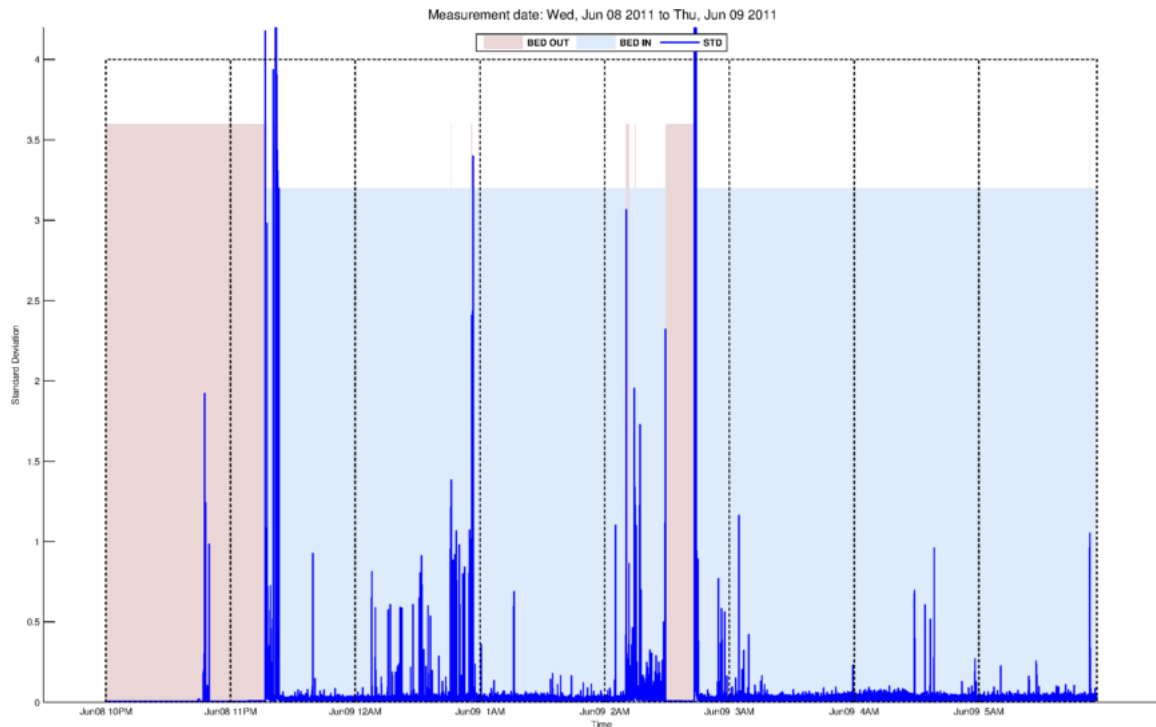


Figure 155: The moving standard deviation for the measured weight.

4.12 11th Night: from Jun 09 2011 to Jun 10 2011

Table 115 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 116 presents the duration of the estimated sleep related activities.

Table 115: Sleep related activities and sensor events measured between Jun 09 and Jun 10

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	23:13:56	22:03:08	00:09:07	23:14:00	23:19:23	22:40:43	22:42:45	22:14:14			02:13:30
2	23:15:05	23:14:52	01:24:19	23:15:12	00:09:07	23:13:38		02:13:32			02:20:26
3	23:18:07	23:16:58	01:44:09	23:18:11	01:26:58	02:15:46					05:37:48
4	23:18:26	23:18:25	01:56:26	23:18:26	01:45:49	02:28:22					
5	01:25:10	01:24:31	02:16:00	01:24:26	02:09:54	02:44:49					
6	01:26:53	01:26:24	03:47:55	01:25:18	02:47:18						
7	01:26:58	01:26:57	03:54:55	01:44:25	03:47:57						
8	02:03:37	02:03:32	04:06:45	01:56:43	03:55:20						
9	02:04:25	02:04:15	04:32:41	02:03:43	04:06:46						
10	02:04:38	02:04:37	04:57:29	02:04:35	04:32:42						
11	02:45:48	02:27:53	05:23:35	02:04:38	04:58:10						
12			05:41:35	02:16:03	05:33:03						
13				02:45:53							
14				03:55:17							
15				04:57:43							
16				05:26:36							
17				05:41:45							

Table 116: Duration of the sleep related activities presented in Table 115

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:56	01:11:03	00:00:00	00:00:53	00:49:54
2	00:01:53	00:00:12	00:00:07	00:01:46	01:15:28
3	00:00:18	00:01:09	00:00:16	00:00:14	00:17:14
4	02:06:32	00:00:01	00:00:17	00:00:57	00:10:39
5	00:01:13	00:00:39	00:00:03	00:00:05	00:06:07
6	00:00:04	00:00:29	00:00:01	00:01:05	01:00:50
7	00:36:42	00:00:01	00:00:22	00:01:25	00:06:59
8	00:00:38	00:00:04	00:00:01	00:06:51	00:11:27
9	00:00:11	00:00:10	00:00:01	00:00:32	00:26:00
10	00:23:20	00:00:01	00:00:13	00:00:01	00:24:53
11	03:14:53	00:17:59	00:03:01	00:05:16	00:25:30
12			00:00:09	00:11:52	00:08:34
13				00:01:25	
14				00:00:02	
15				00:00:27	
16				00:06:28	
17				00:18:18	

Figure 156 presents the measured sensor events and the computed bed entrances and exits.

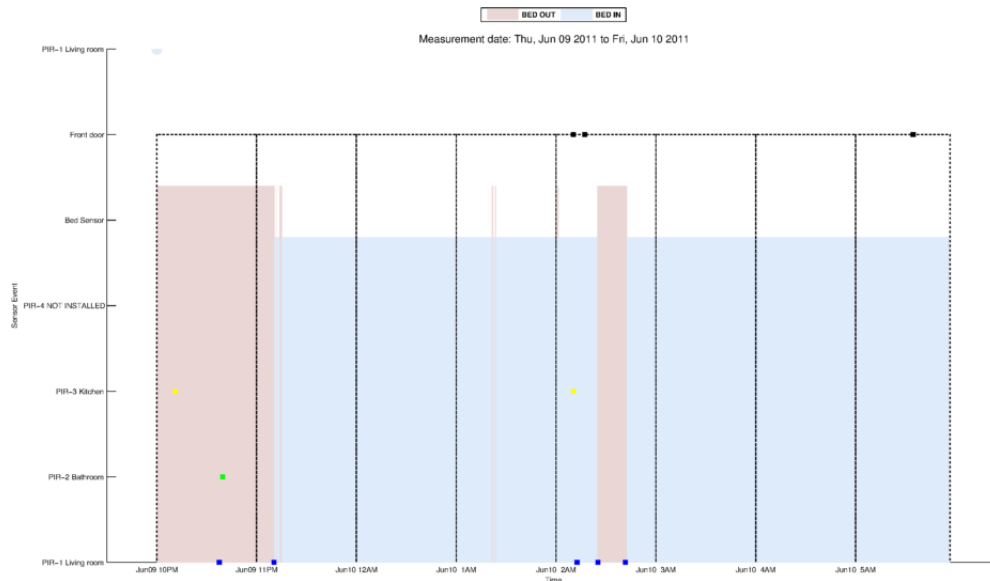


Figure 156: Sensor events and computed bed entrances and exists

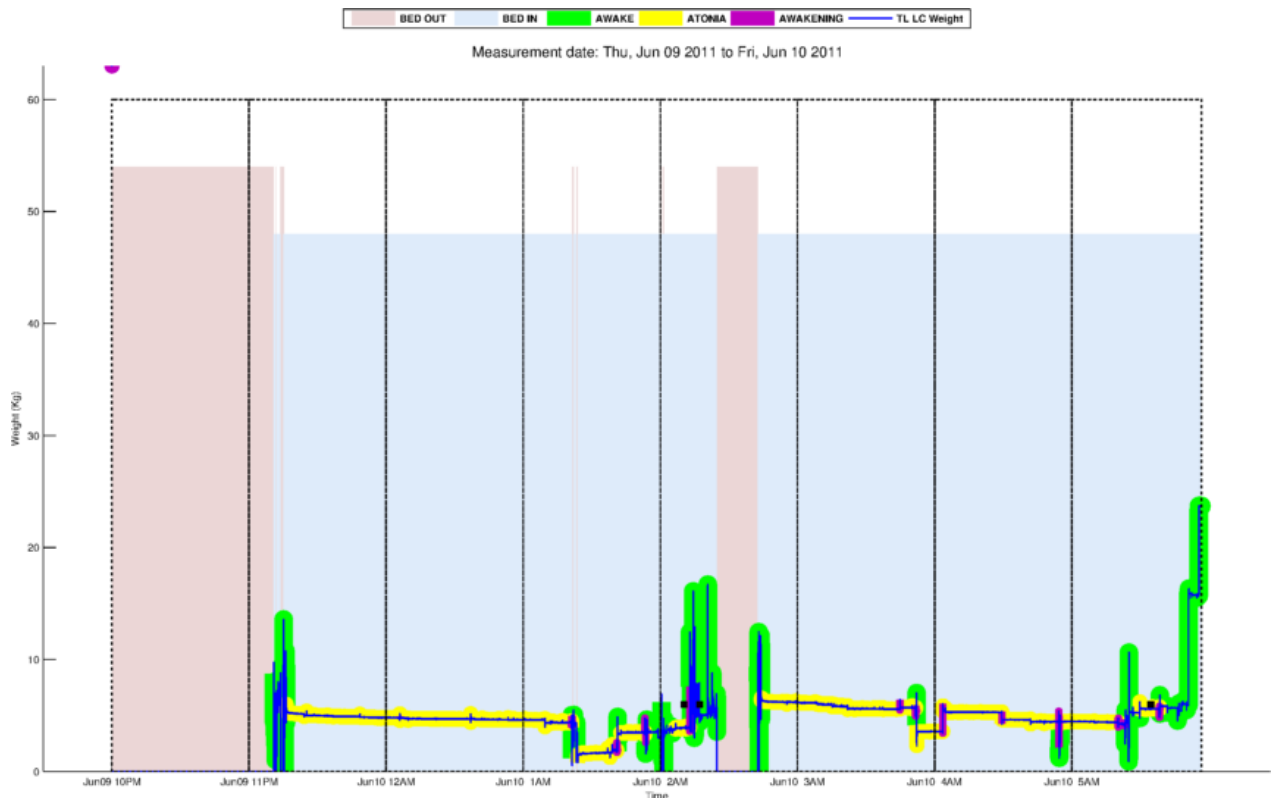


Figure 157: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 157 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 158 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 157).

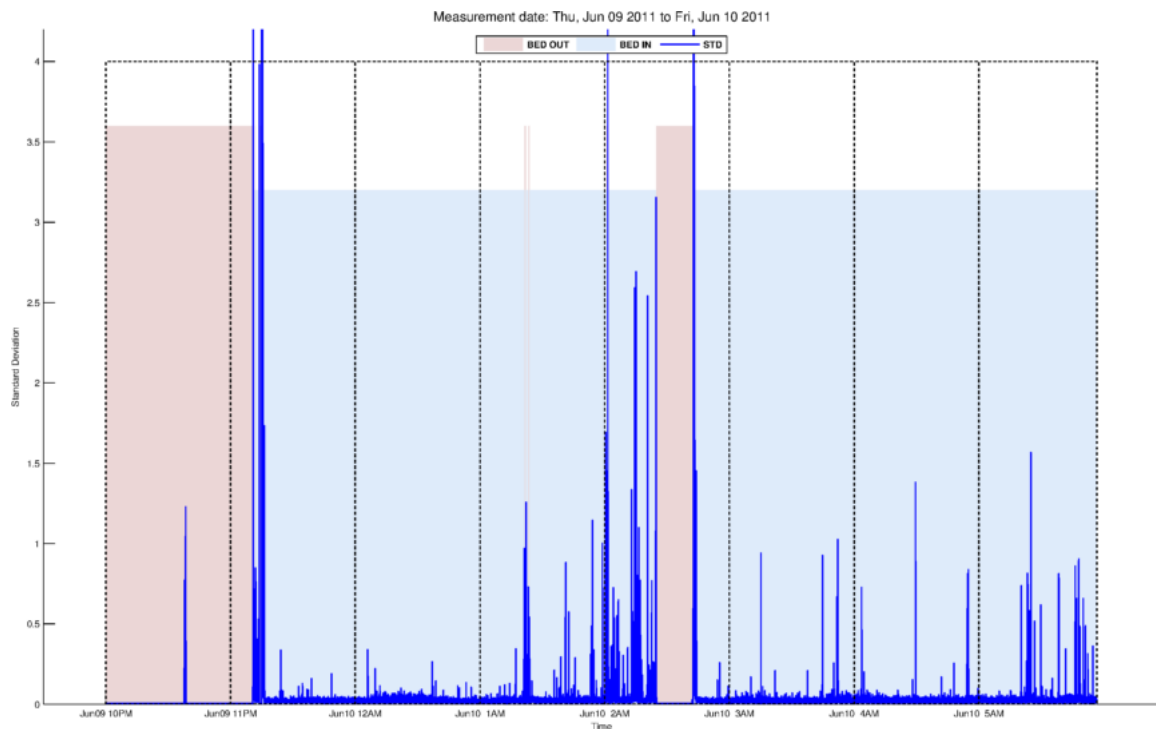


Figure 158: The moving standard deviation for the measured weight.

4.13 12th Night: from Jun 10 2011 to Jun 11 2011

Table 117 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 118 presents the duration of the estimated sleep related activities.

Table 117: Sleep related activities and sensor events measured between Jun 10 and Jun 11

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	23:07:45	22:03:08	23:30:00	23:09:22	23:14:00	23:05:32	22:43:31	22:06:47			02:20:12
2	23:09:18	23:07:48	00:23:17	00:42:03	23:30:04	02:22:35	02:42:32	22:26:50			02:27:24
3	03:01:13	02:41:37	00:41:56	01:29:32	00:23:18	02:42:21	04:57:48	02:20:14			04:37:45
4	05:11:11	04:57:09	01:07:53	01:38:34	00:42:12	03:00:21					
5			01:17:03	03:01:17	01:07:54	04:57:37					
6			01:25:00	03:18:22	01:17:03	05:10:53					
7			01:37:56	04:44:28	01:32:46						
8			03:17:06	05:11:16	03:01:54						
9			03:27:14		03:18:24						
10			04:01:53		03:27:17						
11			04:43:02		04:01:54						
12			05:28:41		05:12:01						
13			05:43:24		05:28:42						
14					05:43:27						

Table 118: Duration of the sleep related activities presented in Table 117

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:02	01:04:51	00:00:03	00:04:39	00:16:04
2	03:33:05	00:01:31	00:00:00	00:00:08	00:53:25
3	01:56:21	00:19:40	00:00:07	00:03:14	00:18:42
4	00:48:58	00:14:04	00:00:01	01:03:17	00:25:47
5			00:00:00	00:00:37	00:09:10
6			00:04:33	00:00:01	00:07:59
7			00:00:38	00:12:44	00:05:10
8			00:01:16	00:00:45	00:15:15
9			00:00:02		00:08:52
10			00:00:01		00:34:43
11			00:01:26		00:41:17
12			00:00:01		00:16:44
13			00:00:02		00:14:45
14					00:16:35

Figure 159 presents the measured sensor events and the computed bed entrances and exits.

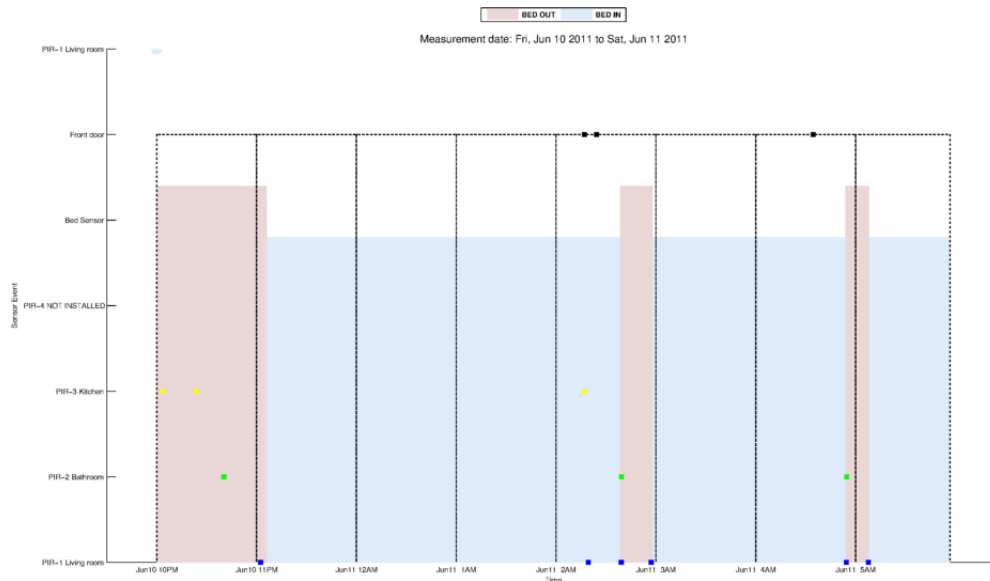


Figure 159: Sensor events and computed bed entrances and exists

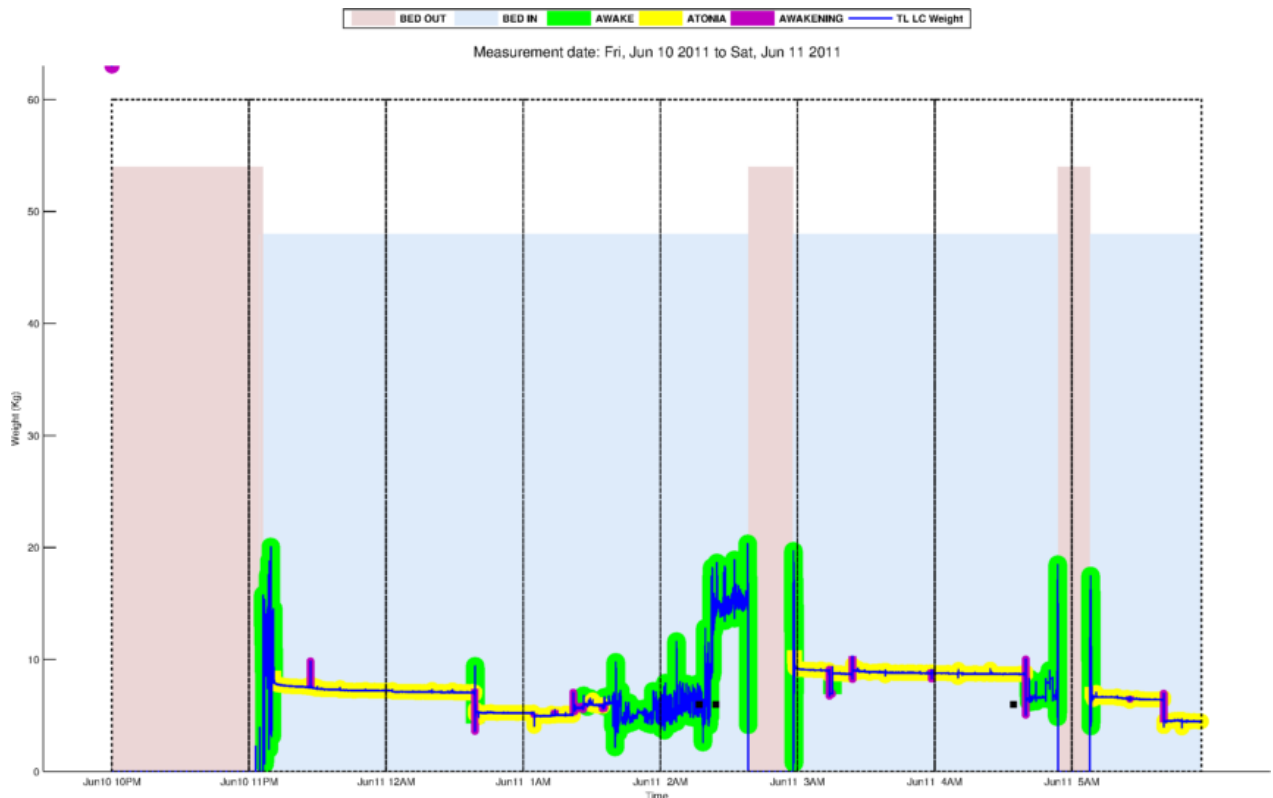


Figure 160: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 160 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 161 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 160).

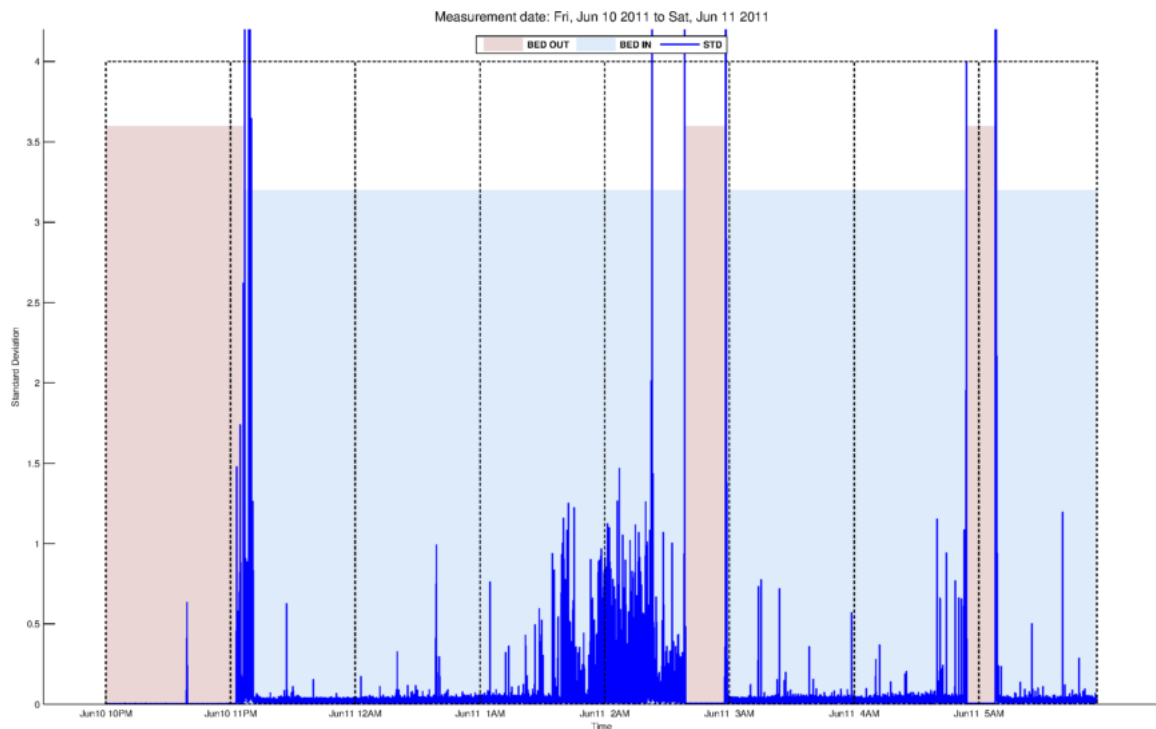


Figure 161: The moving standard deviation for the measured weight.

4.14 13th Night: from Jun 11 2011 to Jun 12 2011

Table 119 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 120 presents the duration of the estimated sleep related activities.

Table 119: Sleep related activities and sensor events measured between Jun 11 and Jun 12

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	23:13:36	22:03:08	23:29:05	23:13:41	23:19:54	22:11:05	02:23:46	22:15:07			02:09:45
2	23:15:47	23:14:41	00:12:32	23:16:16	23:32:04	22:40:03		22:51:06			02:15:34
3	02:38:06	02:23:11	00:25:49	23:32:04	00:12:34	23:12:35		02:09:46			03:37:43
4	02:38:08	02:38:07	00:32:54	00:33:00	00:25:52	02:12:05					
5	02:47:20	02:46:11	00:41:54	00:41:57	00:33:01	02:23:35					
6	02:58:05	02:56:52	00:54:09	01:18:19	00:43:08	02:36:45					
7	03:03:44	03:03:39	01:14:12	01:28:05	00:54:09	05:39:32					
8	05:58:59	05:39:03	01:27:31	01:50:00	01:22:30	05:58:40					
9			01:49:53	02:38:12	01:39:46						
10			02:45:39	02:46:09	02:38:43						
11			03:03:23	02:47:28	02:58:06						
12			03:15:51	03:03:39	03:04:16						
13			04:39:00	03:03:48	03:15:52						
14			05:35:24	05:35:28	04:39:02						
15				05:59:04							

Table 120: Duration of the sleep related activities presented in Table 119

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:01:05	01:10:43	00:02:59	00:00:59	00:09:13
2	03:08:04	00:01:07	00:00:01	00:03:38	00:40:36
3	00:00:01	00:14:58	00:00:03	00:00:00	00:13:18
4	00:08:04	00:00:01	00:00:06	00:00:01	00:07:04
5	00:09:34	00:01:09	00:00:03	00:01:11	00:08:54
6	00:05:36	00:01:13	00:00:00	00:04:11	00:11:03
7	02:35:53	00:00:05	00:04:08	00:11:44	00:20:07
8	00:01:00	00:20:00	00:00:33	00:33:18	00:05:03
9			00:00:07	00:00:30	00:10:08
10			00:00:30	00:00:01	00:06:57
11			00:00:15	00:09:25	00:05:19
12			00:00:01	00:00:00	00:11:37
13			00:00:01	00:00:28	01:23:27
14			00:00:03	00:03:36	00:56:35
15				00:00:55	

Figure 162 presents the measured sensor events and the computed bed entrances and exits.

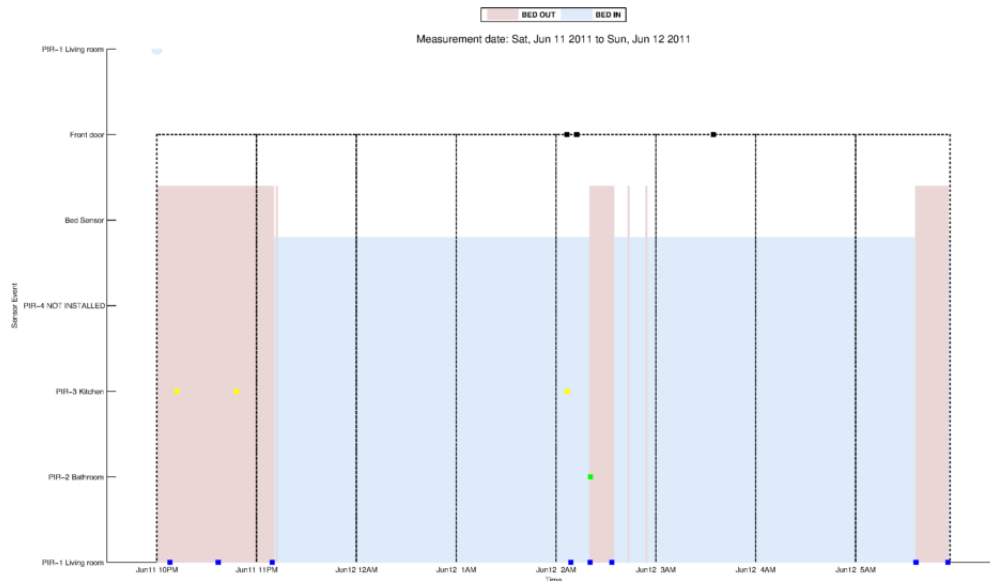


Figure 162: Sensor events and computed bed entrances and exists

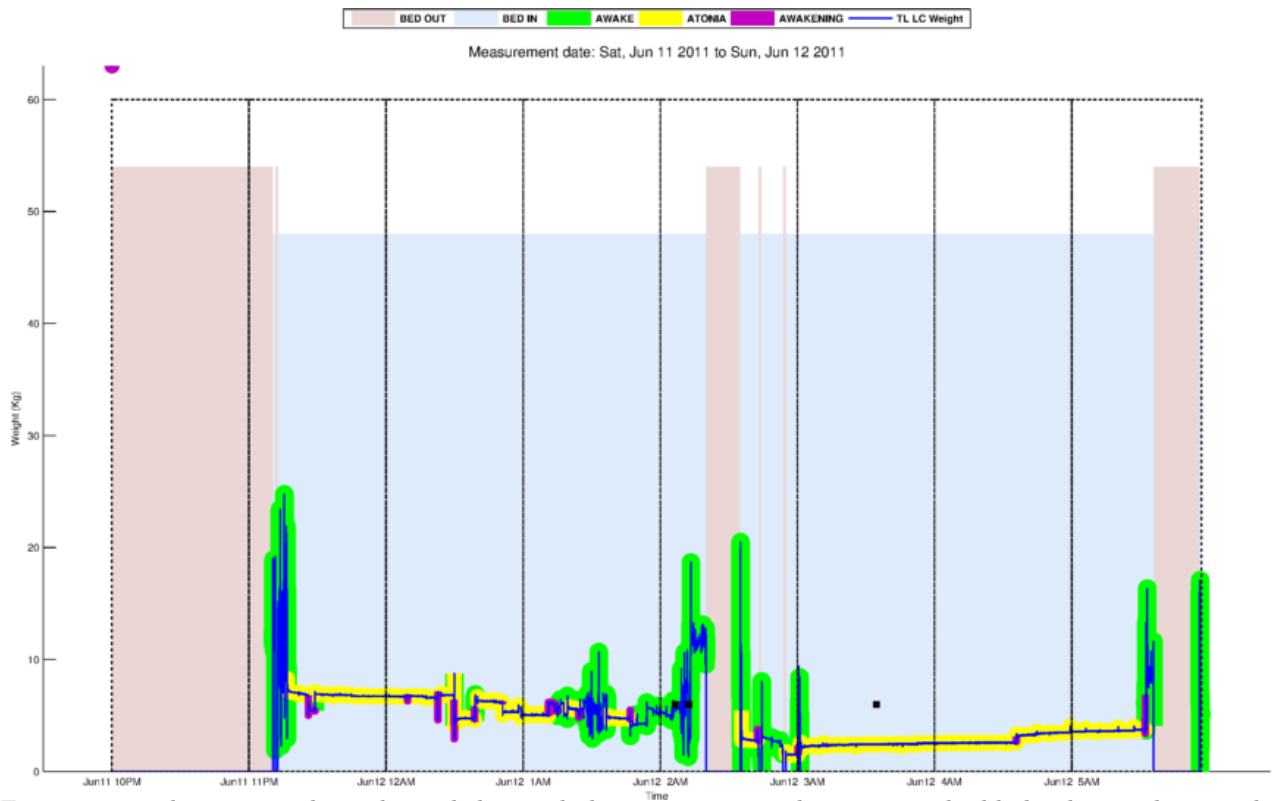


Figure 163: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 163 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 164 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 163).

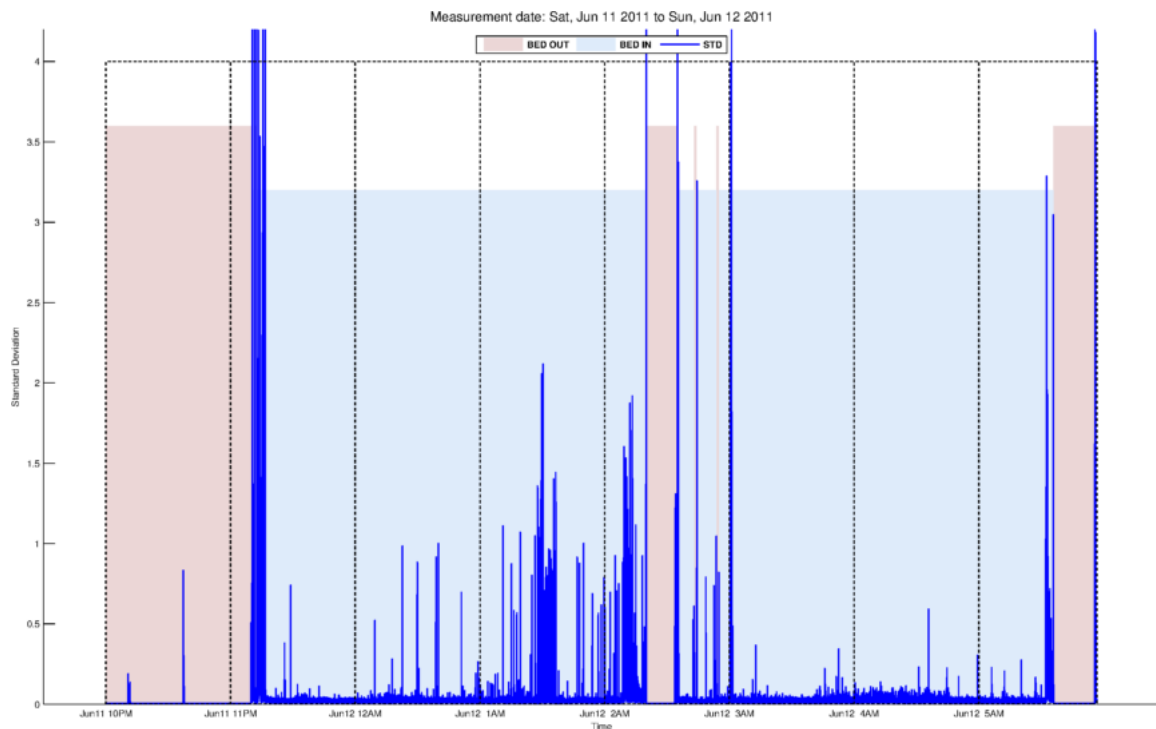


Figure 164: The moving standard deviation for the measured weight.

4.15 14th Night: from Jun 12 2011 to Jun 13 2011

Table 121 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 122 presents the duration of the estimated sleep related activities.

Table 121: Sleep related activities and sensor events measured between Jun 12 and Jun 13

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	22:41:56	22:06:51	23:40:38	23:26:30	23:31:56	22:38:44	22:48:10	22:47:54			02:32:53
2	23:26:09	22:42:00	23:54:28	23:31:25	23:41:31	22:46:41	02:51:09	02:32:55			02:41:25
3	23:26:25	23:26:11	00:49:56	23:41:30	23:54:29	23:18:23	05:16:26	02:40:55			
4	23:31:19	23:30:52	02:35:05	02:35:09	00:49:56	23:24:31		03:06:35			
5	03:08:56	02:50:31	03:55:55	03:09:02	03:09:21	02:34:34					
6	03:08:58	03:08:57	04:36:56	03:09:12	03:55:56	02:40:53					
7	03:09:12	03:09:11	04:45:37	04:58:01	04:36:56	02:50:58					
8	05:26:03	05:15:59	04:56:24	05:05:48	04:45:38	03:08:00					
9			05:05:01	05:26:07	04:59:40	05:16:23					
10					05:26:43	05:25:43					

Table 122: Duration of the sleep related activities presented in Table 121

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:03	00:35:13	00:00:51	00:04:23	00:08:44
2	00:00:01	00:44:19	00:00:01	00:00:31	00:13:00
3	00:04:28	00:00:14	00:00:00	00:00:01	00:55:38
4	03:19:56	00:00:26	00:00:03	00:15:25	01:45:32
5	00:00:01	00:18:29	00:00:01	00:00:09	00:46:44
6	00:00:13	00:00:01	00:00:00	00:00:09	00:41:08
7	02:07:15	00:00:01	00:00:01	00:01:39	00:08:43
8	00:34:03	00:10:06	00:01:37	00:10:13	00:10:48
9			00:00:47	00:00:36	00:05:22
10					00:33:23

Figure 165 presents the measured sensor events and the computed bed entrances and exits.

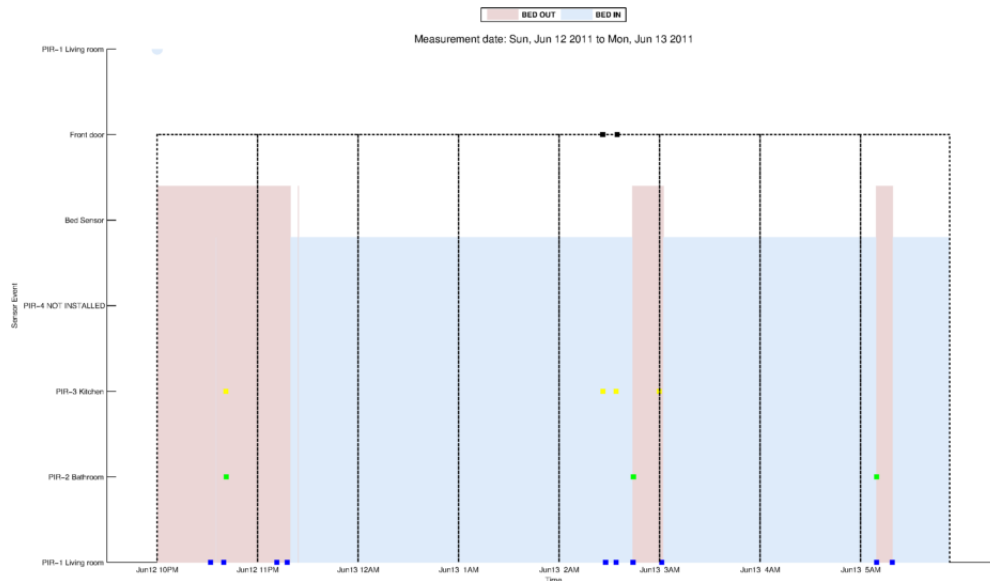


Figure 165: Sensor events and computed bed entrances and exists

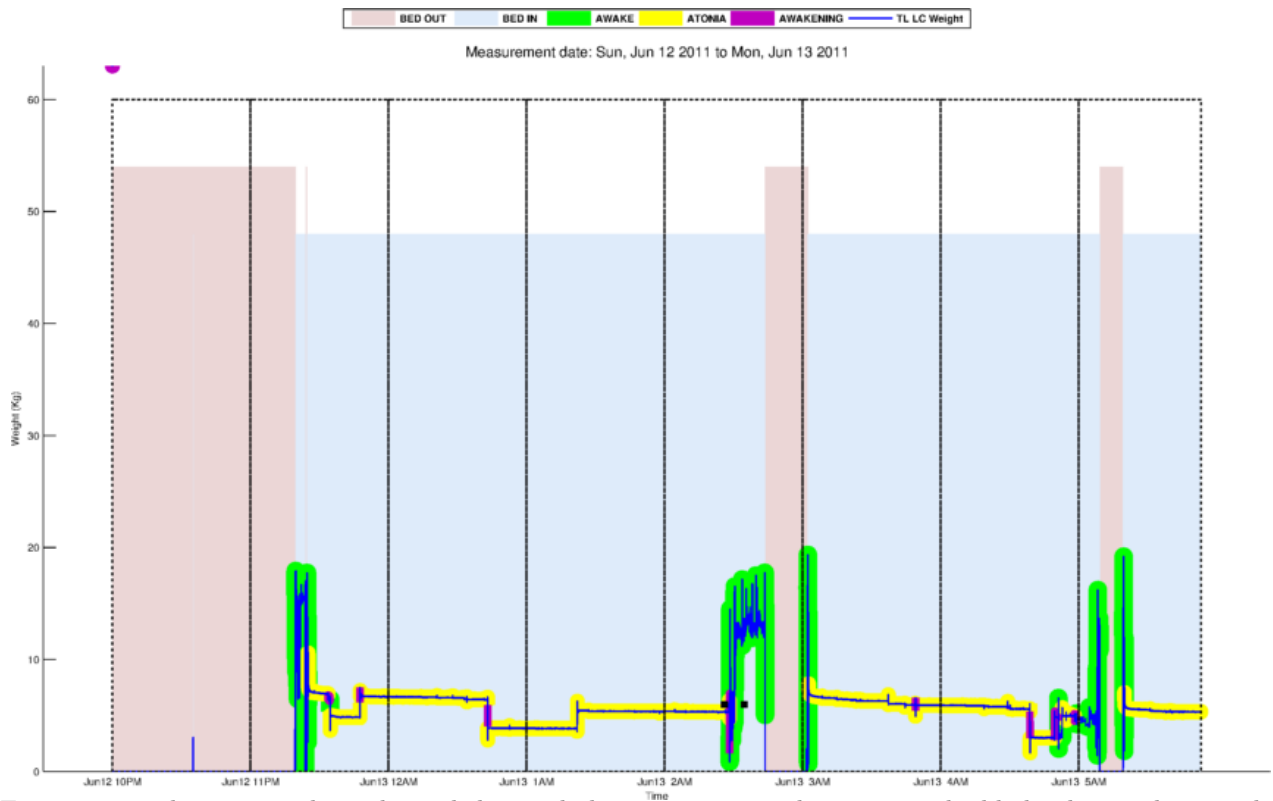


Figure 166: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 166 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 167 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 166).

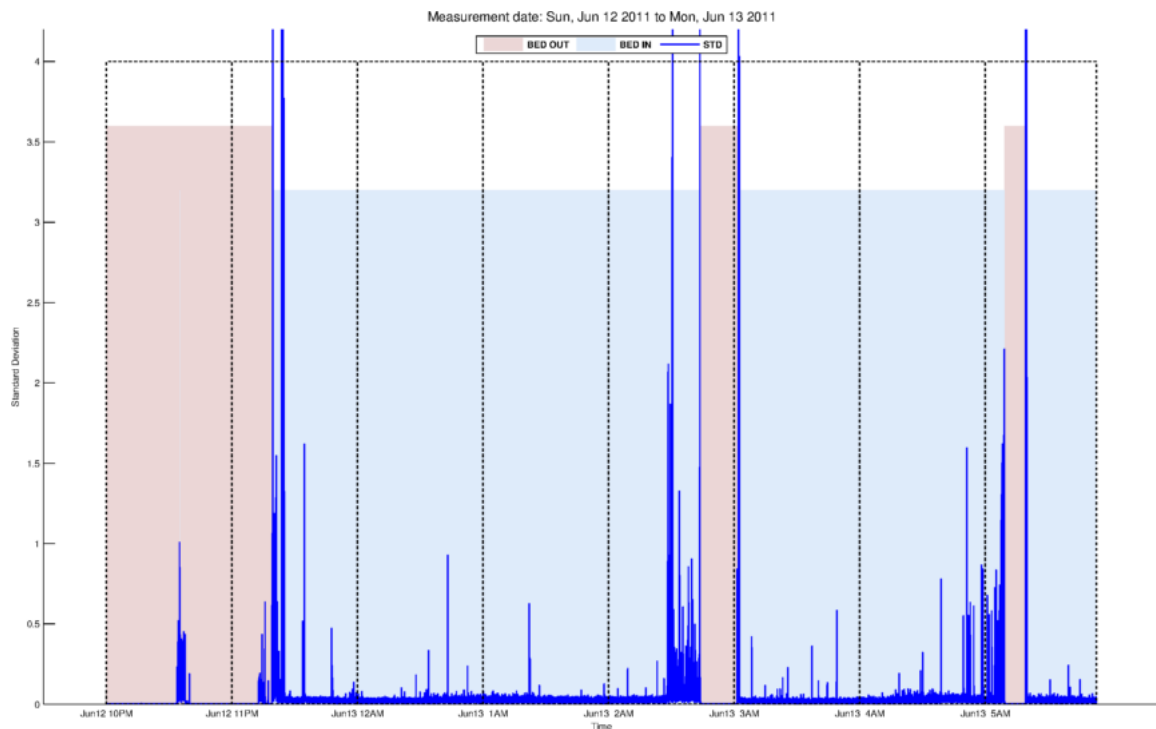


Figure 167: The moving standard deviation for the measured weight.

4.16 15th Night: from Jun 13 2011 to Jun 14 2011

Table 123 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 124 presents the duration of the estimated sleep related activities.

Table 123: Sleep related activities and sensor events measured between Jun 13 and Jun 14

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	23:07:23	22:06:51	23:25:55	23:07:26	23:13:02	22:19:20	05:16:59	22:10:53			01:37:38
2	23:12:09	23:11:41	23:25:58	23:12:15	23:58:16	22:34:06		22:22:31			02:07:15
3	23:25:58	23:25:57	00:33:50	00:33:53	01:01:21	22:37:02		02:07:18			02:15:30
4	23:58:16	23:25:58	01:06:39	00:42:19	01:06:40	02:13:29		02:13:31			
5	00:41:44	00:40:17	01:49:50	00:56:25	01:49:50	05:16:45					
6	00:53:39	00:49:32	02:07:50	00:58:24	02:13:41	05:26:24					
7	00:56:16	00:53:40	02:35:48	01:00:48	02:36:47						
8	00:56:20	00:56:17	02:48:54	01:01:15	02:48:55						
9	00:57:21	00:56:54	03:00:20	02:08:23	03:00:25						
10	00:57:59	00:57:23	03:12:22	02:08:49	03:12:23						
11	00:59:01	00:58:58	03:28:24	02:11:51	03:31:28						
12	01:01:11	01:01:08	03:39:43	02:36:46	03:39:44						
13	02:08:41	02:08:30	04:40:31	03:00:23	04:40:31						
14	02:11:51	02:11:50	05:08:13	03:28:27	05:27:35						
15	05:27:06	05:16:21		05:09:09							
16				05:27:09							

Table 124: Duration of the sleep related activities presented in Table 123

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:04:19	01:00:45	00:00:02	00:04:16	00:12:56
2	00:13:51	00:00:28	00:00:00	00:00:47	00:35:41
3	00:00:00	00:00:00	00:00:03	00:06:25	00:05:20
4	00:42:11	00:32:24	00:00:01	00:07:14	00:43:19
5	00:07:50	00:01:26	00:00:00	00:00:29	00:18:03
6	00:00:01	00:04:08	00:00:33	00:00:33	00:22:12
7	00:00:01	00:02:36	00:00:58	00:00:20	00:12:09
8	00:00:33	00:00:03	00:00:01	00:00:06	00:11:27
9	00:00:01	00:00:27	00:00:03	00:00:07	00:12:00
10	00:00:59	00:00:36	00:00:01	00:03:01	00:16:04
11	00:02:07	00:00:03	00:00:03	00:01:50	00:08:17
12	01:07:34	00:00:03	00:00:01	00:00:01	01:01:00
13	00:03:09	00:00:11	00:00:00	00:00:01	00:27:48
14	03:05:11	00:00:01	00:00:55	00:03:01	00:32:31
15	00:33:00	00:10:47		00:07:14	
16				00:00:26	

Figure 168 presents the measured sensor events and the computed bed entrances and exits.

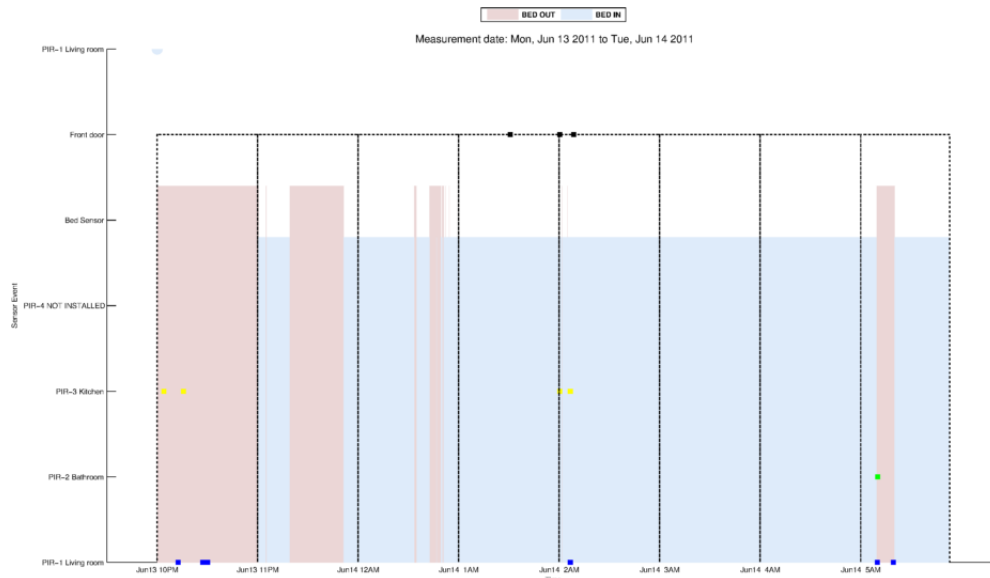


Figure 168: Sensor events and computed bed entrances and exists

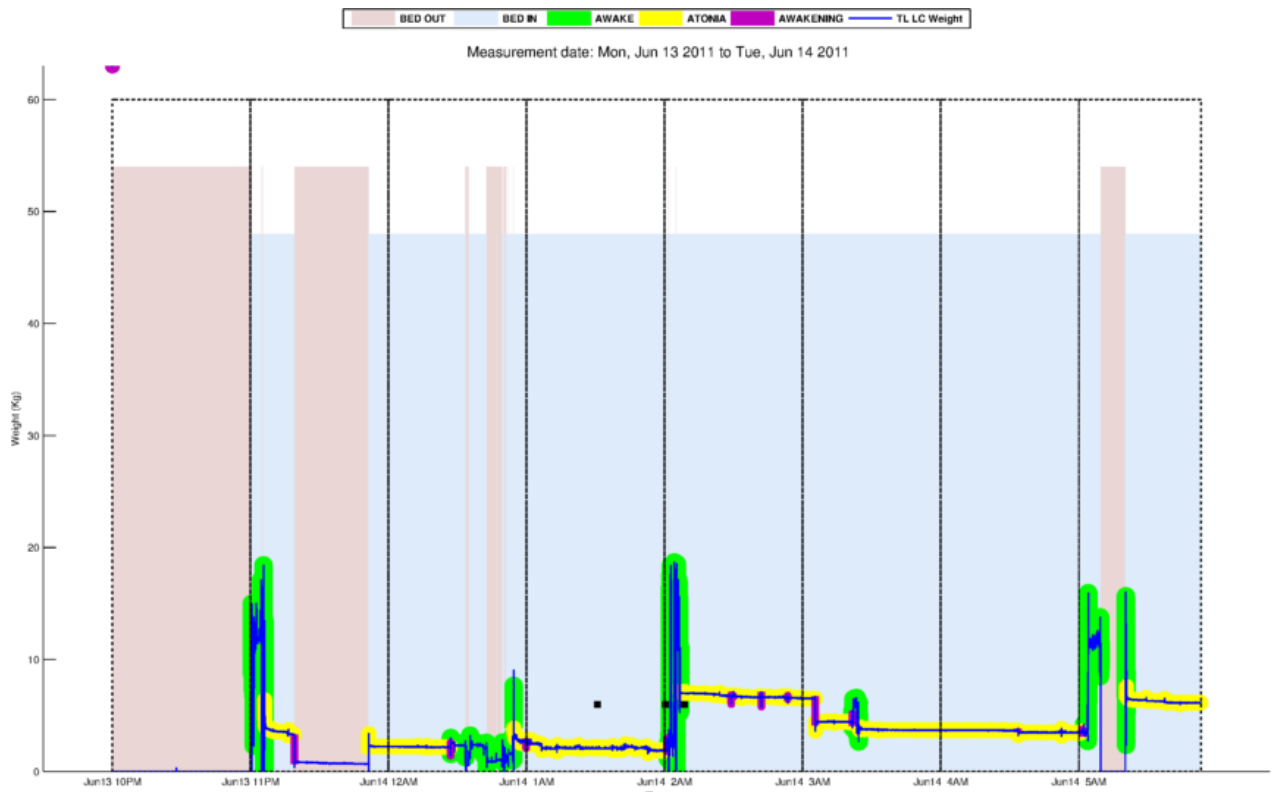


Figure 169: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 169 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 170 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 169).

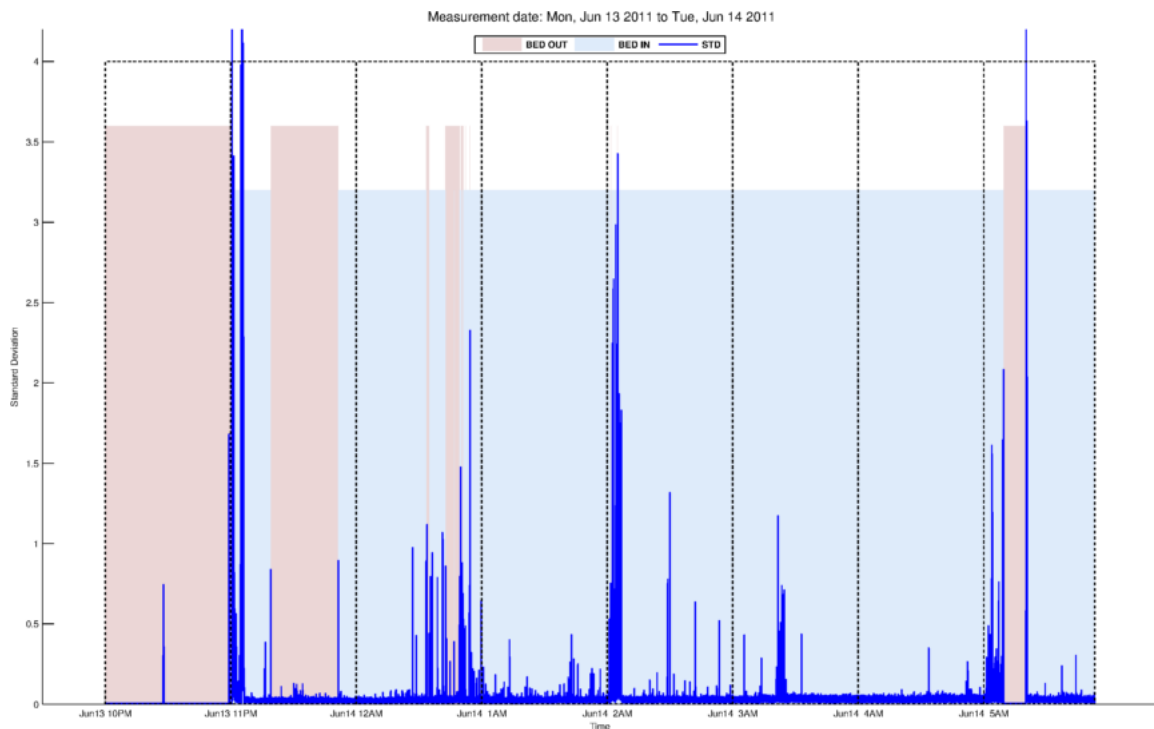


Figure 170: The moving standard deviation for the measured weight.

4.17 16th Night: from Jun 14 2011 to Jun 15 2011

Table 125 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 126 presents the duration of the estimated sleep related activities.

Table 125: Sleep related activities and sensor events measured between Jun 14 and Jun 15

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	22:16:53	22:01:41	01:16:52	22:41:56	22:47:21	22:16:07	22:17:33	22:04:07			00:37:36
2	22:41:31	22:16:55	02:01:46	22:46:37	01:21:18	22:41:11	05:11:24	02:14:24			02:07:01
3	22:41:45	22:41:32	02:07:33	01:19:47	02:01:47	02:07:25		02:41:41			02:15:01
4	22:41:53	22:41:46	02:26:52	02:07:37	02:18:53	02:14:22					
5	22:45:37	22:44:34	04:19:04	02:26:57	02:49:47	02:28:09					
6	02:46:06	02:27:29	04:30:31	02:46:09	04:24:09	02:45:10					
7	02:49:20	02:48:38		02:49:24		05:11:20					
8	05:25:21	05:10:54		04:19:15		05:25:05					
9				04:31:55							
10				05:25:21							

Table 126: Duration of the sleep related activities presented in Table 125

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:01	00:15:16	00:02:55	00:02:38	02:30:05
2	00:00:01	00:24:41	00:00:00	00:00:44	00:40:37
3	00:00:01	00:00:12	00:00:04	00:01:31	00:05:47
4	00:02:41	00:00:07	00:00:04	00:11:18	00:08:01
5	03:42:41	00:01:03	00:00:10	00:00:32	01:29:37
6	00:02:32	00:18:41	00:01:24	00:02:29	00:06:23
7	02:22:06	00:00:42		00:00:23	
8	00:34:45	00:14:30		00:04:55	
9				00:39:08	
10				00:34:45	

Figure 171 presents the measured sensor events and the computed bed entrances and exits.

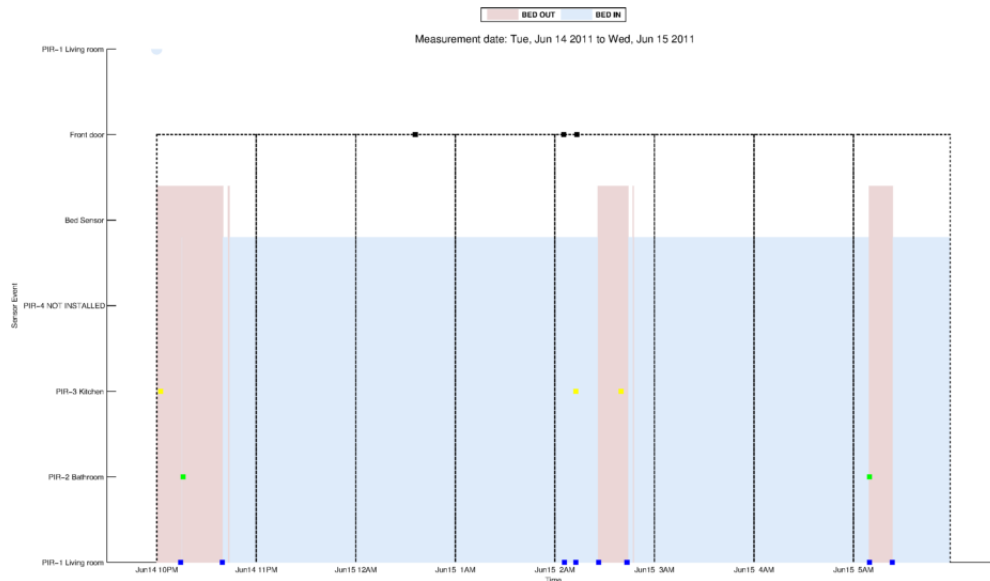


Figure 171: Sensor events and computed bed entrances and exists

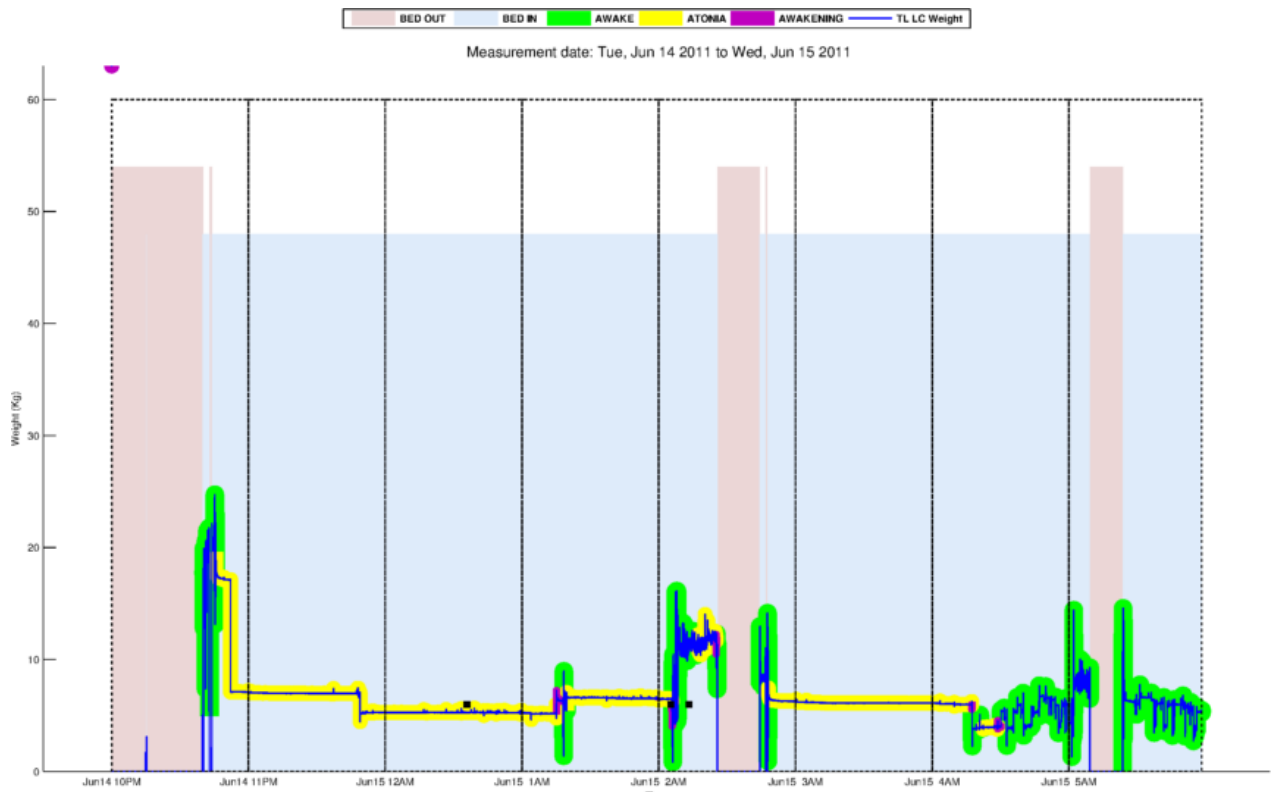


Figure 172: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 172 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 173 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 172).

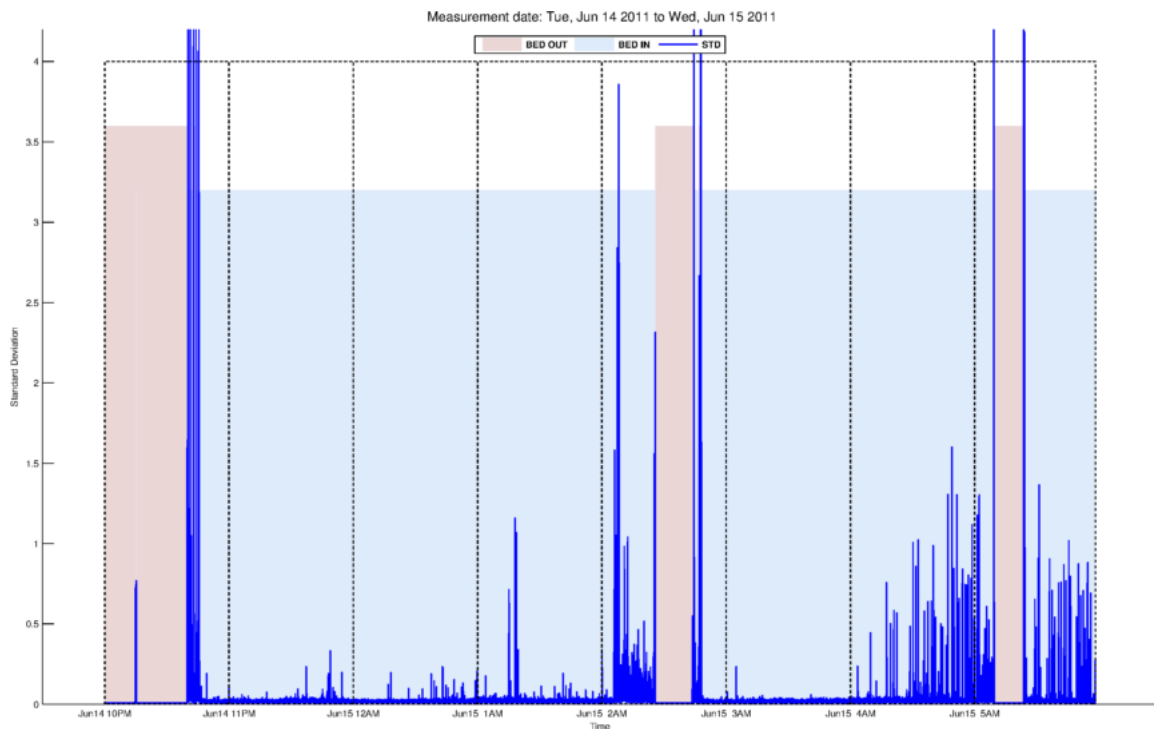


Figure 173: The moving standard deviation for the measured weight.

4.18 17th Night: from Jun 15 2011 to Jun 16 2011

Table 127 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 128 presents the duration of the estimated sleep related activities.

Table 127: Sleep related activities and sensor events measured between Jun 15 and Jun 16

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	22:49:33	22:01:41	23:02:20	22:49:36	22:55:52	22:12:18	22:13:36	02:22:36			23:37:33
2	22:50:40	22:50:35	00:27:45	22:50:44	23:02:22	22:48:32	02:32:08				02:26:56
3	22:55:22	22:53:54	00:48:01	22:55:22	00:27:46	02:23:18					
4	02:11:06	02:11:03	02:00:10	02:11:39	00:48:02	02:31:51					
5	02:25:16	02:25:09	02:11:00	02:23:44	02:00:11						
6	03:03:13	02:30:43	02:23:30	02:25:42	02:11:44						
7	03:03:56	03:03:28		03:03:24	03:08:51						
8				03:03:59							

Table 128: Duration of the sleep related activities presented in Table 127

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:01:02	00:48:02	00:00:02	00:00:58	00:06:29
2	00:03:14	00:00:05	00:00:00	00:03:11	01:25:42
3	03:16:24	00:01:28	00:00:00	00:00:30	00:20:20
4	00:14:06	00:00:03	00:00:01	00:00:05	01:12:24
5	00:05:28	00:00:07	00:00:03	00:01:25	00:10:51
6	00:00:15	00:32:37	00:00:14	00:05:01	00:11:49
7	02:56:42	00:00:28		00:00:04	02:51:46
8				00:04:53	

Figure 174 presents the measured sensor events and the computed bed entrances and exits.

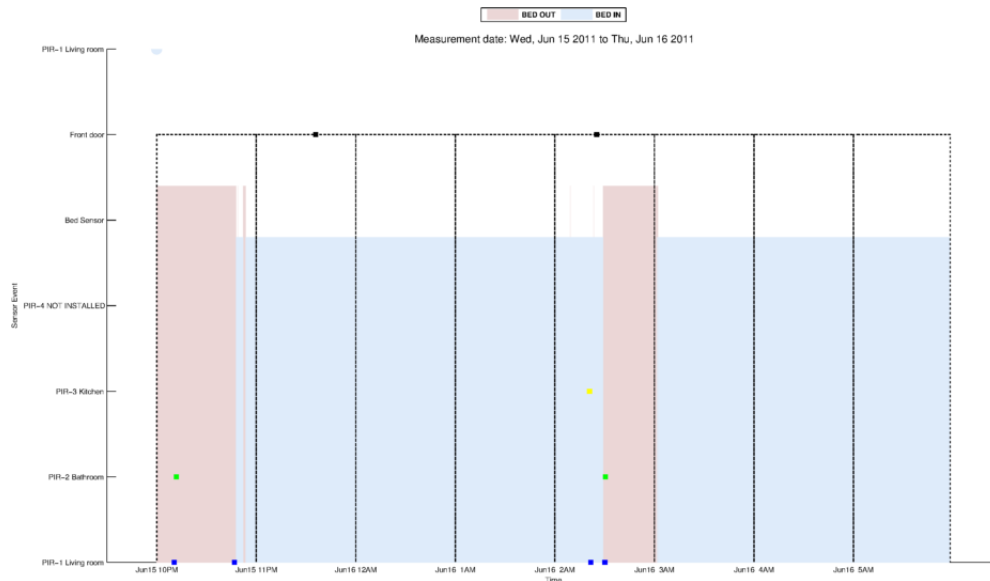


Figure 174: Sensor events and computed bed entrances and exists

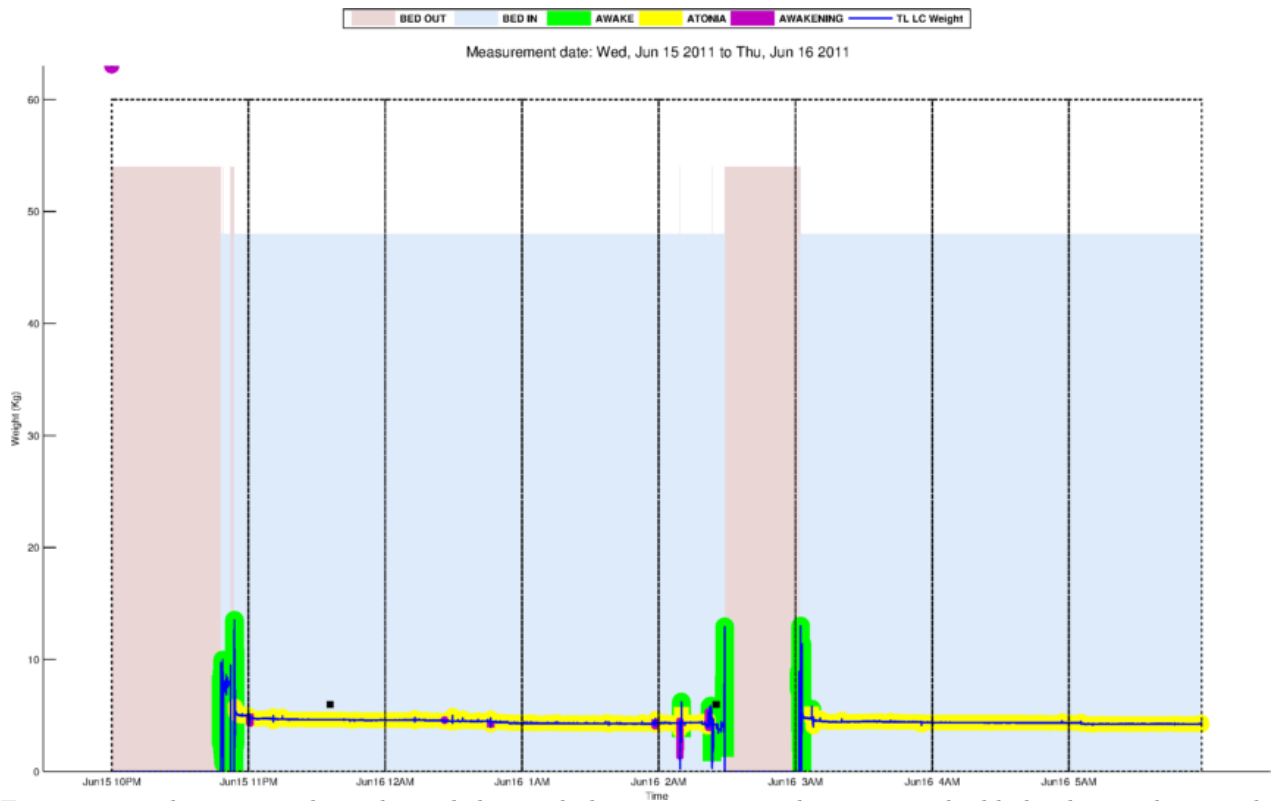


Figure 175: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 175 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 176 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 175).

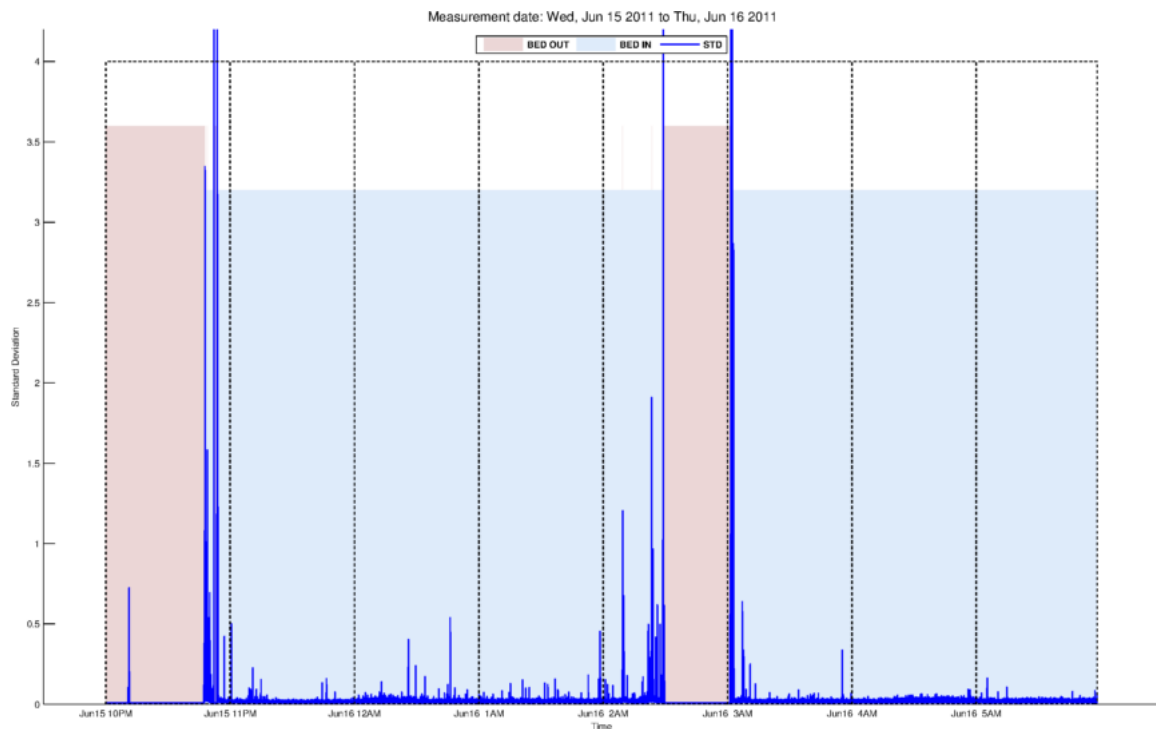


Figure 176: The moving standard deviation for the measured weight.

4.19 18th Night: from Jun 16 2011 to Jun 17 2011

Table 129 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 130 presents the duration of the estimated sleep related activities.

Table 129: Sleep related activities and sensor events measured between Jun 16 and Jun 17

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Kitchen	PIR-4 NOT INSTALLED	Bed Sensor	Front door
1	23:15:54	22:01:41	00:38:16	23:15:59	23:19:44	22:41:10	22:44:40	22:02:27			22:37:31
2	23:16:43	23:16:42	00:44:14	23:16:43	00:38:18	22:44:24	02:41:12	22:26:02			02:25:27
3	23:19:02	23:18:44	01:32:01	23:19:10	00:44:15	23:15:31		02:25:29			02:31:05
4	02:12:56	02:12:47	01:40:33	01:32:37	01:34:12	02:41:01		03:11:21			
5	03:16:57	02:40:36	01:47:29	01:48:28	01:40:34	03:07:16					
6	03:21:23	03:20:58	01:58:21	02:08:43	01:48:28	03:13:17					
7	05:04:53	05:04:50	02:06:32	02:13:02	01:58:22						
8			02:27:42	02:27:45	02:16:39						
9			03:58:40	03:20:54	03:22:05						
10			04:06:30	03:21:27	03:58:41						
11			04:19:00	05:04:43	04:06:32						
12			04:42:44	05:25:42	04:19:01						
13			05:04:04	05:40:52	04:42:45						
14			05:25:02	05:56:04	05:04:53						
15			05:40:48		05:25:44						
16			05:54:08		05:41:16						

Table 130: Duration of the sleep related activities presented in Table 129

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:48	01:14:29	00:00:01	00:00:42	01:18:50
2	00:02:02	00:00:01	00:00:01	00:02:02	00:05:57
3	02:54:24	00:00:18	00:00:35	00:00:34	00:47:57
4	00:27:46	00:00:09	00:00:01	00:01:35	00:06:23
5	00:04:02	00:36:29	00:00:59	00:00:00	00:06:56
6	01:43:49	00:00:25	00:00:01	00:04:05	00:09:54
7	00:55:18	00:00:03	00:02:11	00:03:37	00:08:12
8			00:00:03	00:12:53	00:11:05
9			00:00:01	00:00:04	00:36:43
10			00:00:02	00:00:38	00:07:51
11			00:00:01	00:00:06	00:12:31
12			00:00:01	00:00:02	00:23:48
13			00:00:39	00:00:24	00:21:23
14			00:00:39	00:03:55	00:20:14
15			00:00:03		00:15:08
16			00:01:56		00:12:54

Figure 177 presents the measured sensor events and the computed bed entrances and exits.

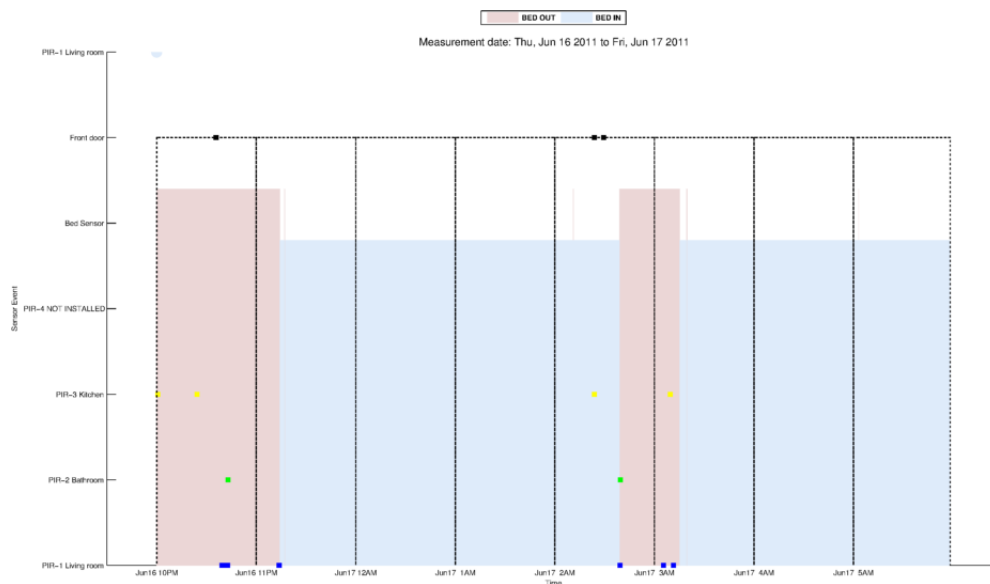


Figure 177: Sensor events and computed bed entrances and exists

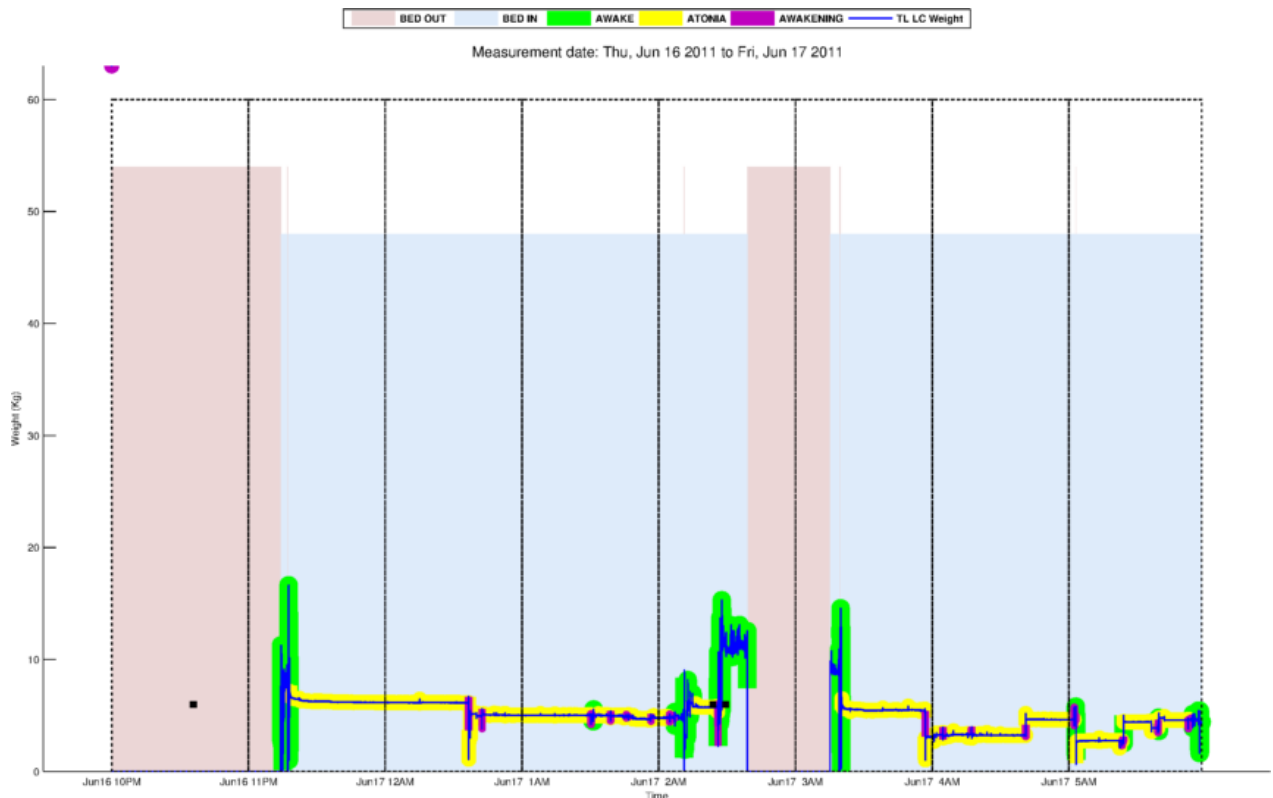


Figure 178: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 178 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 179 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 178).

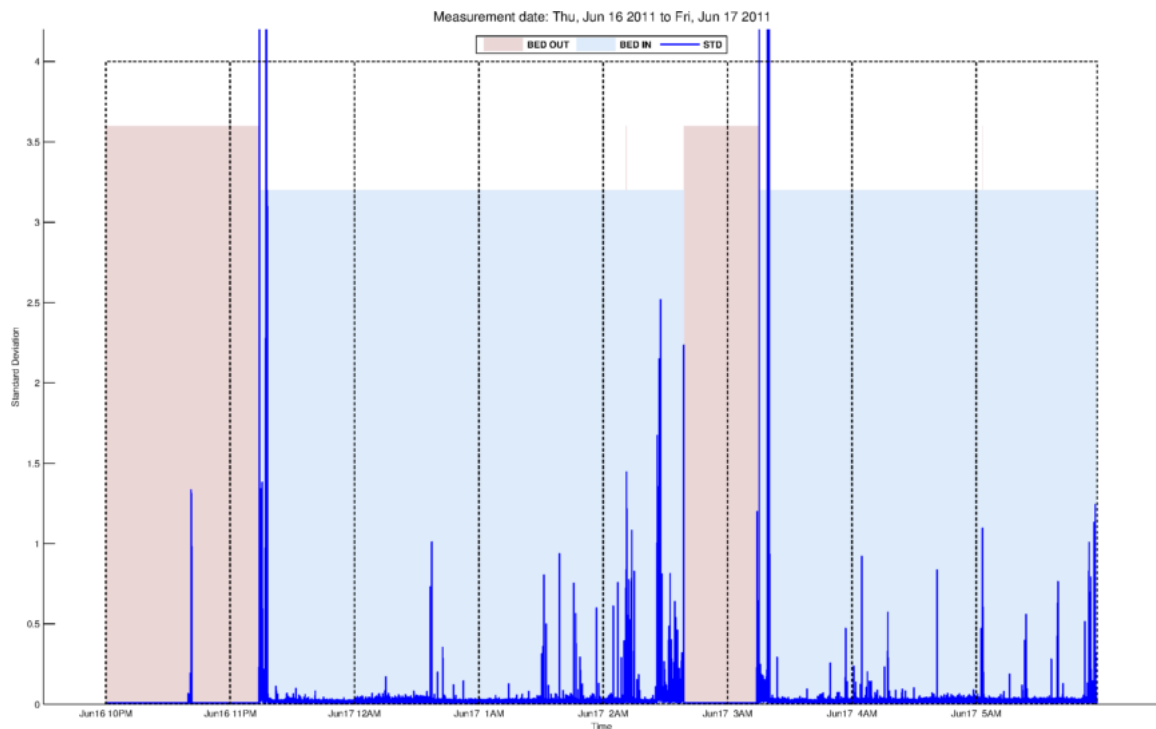


Figure 179: The moving standard deviation for the measured weight.

5 Participant 4: *PersonTheta*

5.1 Summary

Start of data collection: Oct 05 2011.

End of data collection: Nov 08 2011.

Total Number of nights: 33.

A summary of estimated sleep activities and measured sensor events for each night are presented in Table 131.

Table 131: A summary of detected activities and sensor events. **Sleep efficiency** is the ratio of the estimated time asleep (**Time in Atonia**) to the estimated **Time in Bed**

Date	Bed Exits	Bed Entrances	Awake	Atonia	Awanening	Bed Sensor	Visits	Time in Bed	Time in Atonia	Sleep Efficiency
Oct 05-Oct 06	0	1	11	12	12	0	4	07:57:13	02:20:36	29%
Oct 06-Oct 07	0	1	17	17	17	0	10	07:57:13	02:15:03	28%
Oct 07-Oct 08	0	1	7	9	9	0	3	07:57:12	01:10:58	15%
Oct 08-Oct 09	0	1	11	12	11	0	4	07:57:10	01:23:00	17%
Oct 09-Oct 10	0	1	15	15	15	0	4	07:57:10	03:08:34	40%
Oct 10-Oct 11	0	1	12	16	16	0	4	07:57:12	03:26:19	43%
Oct 11-Oct 12	0	1	5	5	5	1	6	07:57:12	00:25:36	5%
Oct 12-Oct 13	0	1	15	15	15	0	4	07:59:30	03:12:50	40%
Oct 13-Oct 14	0	1	19	22	21	0	5	07:59:27	04:06:32	51%
Oct 14-Oct 15	0	1	11	12	12	1	6	07:59:29	02:16:29	28%
Oct 15-Oct 16	0	1	17	19	19	1	4	07:59:25	03:09:42	40%
Oct 16-Oct 17	0	1	16	19	18	1	5	07:59:22	02:34:41	32%
Oct 17-Oct 18	0	1	8	7	8	1	5	07:59:21	00:54:06	11%
Oct 18-Oct 19	0	1	23	24	23	0	4	07:59:21	03:27:05	43%
Oct 19-Oct 20	0	1	5	5	5	0	4	07:59:19	00:30:27	6%
Oct 20-Oct 21	0	1	19	20	20	0	5	07:59:21	03:17:26	41%
Oct 21-Oct 22	0	1	14	15	15	1	4	07:59:23	02:19:44	29%
Oct 22-Oct 23	0	1	10	10	9	0	4	07:59:21	02:08:59	27%
Oct 23-Oct 24	0	1	19	19	19	0	3	07:59:23	01:58:19	25%
Oct 24-Oct 25	0	1	11	11	10	1	3	07:59:20	01:19:03	16%
Oct 25-Oct 26	0	1	8	9	9	0	2	07:59:20	00:54:47	11%
Oct 26-Oct 27	0	1	11	12	12	0	5	07:59:20	01:26:12	18%
Oct 27-Oct 28	0	1	17	19	18	0	6	07:59:20	03:58:42	50%
Oct 28-Oct 29	0	1	8	10	10	0	5	07:59:22	02:03:51	26%
Oct 29-Oct 30	0	1	12	16	16	2	5	08:59:32	01:54:32	21%
Oct 30-Oct 31	0	1	5	5	5	0	4	07:59:21	00:23:02	5%
Oct 31-Nov 01	0	1	13	15	15	0	7	07:59:19	05:04:44	64%
Nov 01-Nov 02	0	1	3	3	3	0	4	07:59:22	00:13:17	3%
Nov 02-Nov 03	0	1	12	15	14	0	5	07:59:24	02:52:18	36%
Nov 03-Nov 04	0	1	20	27	25	1	4	07:59:22	04:14:52	53%
Nov 04-Nov 05	0	1	20	23	23	0	5	07:59:22	03:38:01	45%
Nov 05-Nov 06	0	1	22	23	23	0	4	07:59:21	03:35:32	45%
Nov 06-Nov 07	0	1	28	32	32	1	5	07:59:24	05:20:03	67%
Nov 07-Nov 08	0	1	13	20	19	0	5	07:59:18	03:05:43	39%

5.2 1st Night: from Oct 05 2011 to Oct 06 2011

Table 132 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 133 presents the duration of the estimated sleep related activities.

Table 132: Sleep related activities and sensor events measured between Oct 05 and Oct 06

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:04:06		22:05:02	22:08:49	22:04:06	00:11:18	03:18:11	23:04:06			00:11:11
2			01:40:47	01:40:50	01:31:25	03:17:28		23:32:18			00:12:41
3			01:47:56	01:49:53	01:42:16			00:25:27			03:17:23
4			02:03:30	02:03:34	01:58:15			00:38:27			03:22:06
5			02:38:56	03:19:02	02:07:05			01:21:02			
6			03:18:55	03:33:34	02:38:57			01:24:36			
7			03:33:31	03:46:07	03:27:45			01:31:01			
8			03:44:49	05:07:08	03:34:12			01:37:11			
9			05:05:18	05:18:59	04:59:02			01:46:25			
10			05:18:25	05:40:21	05:12:37			01:56:47			
11			05:39:50	05:57:41	05:29:00			02:02:36			
12			05:54:02		05:46:08			02:33:48			
13								02:43:53			
14								03:18:30			
15								03:33:31			
16								03:44:51			
17								03:54:40			
18								04:08:21			
19								04:25:25			
20								04:40:25			
21								04:44:14			
22								04:56:05			
23								05:07:39			
24								05:18:26			
25								05:22:00			
26								05:24:53			
27								05:42:04			
28								05:46:08			
29								05:54:04			
30								05:57:43			

Table 133: Duration of the sleep related activities presented in Table 132

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:57:13		00:03:47	03:23:11	00:00:56
2			00:00:03	00:01:26	00:09:23
3			00:01:57	00:08:23	00:05:41
4			00:00:03	00:03:31	00:05:16
5			00:00:01	00:08:44	00:31:56
6			00:00:07	00:00:38	00:40:04
7			00:00:03	01:13:07	00:05:47
8			00:01:18	00:05:29	00:10:38
9			00:01:50	00:10:02	00:06:16
10			00:00:35	00:05:48	00:05:49
11			00:00:31	00:02:17	00:10:52
12			00:03:40		00:07:55

Figure 180 presents the measured sensor events and the computed bed entrances and exits.

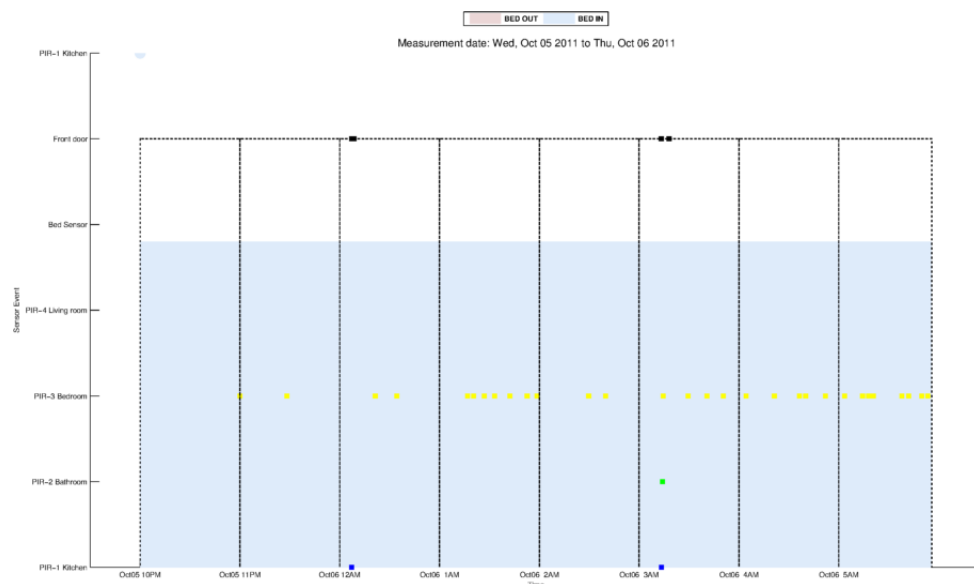


Figure 180: Sensor events and computed bed entrances and exists

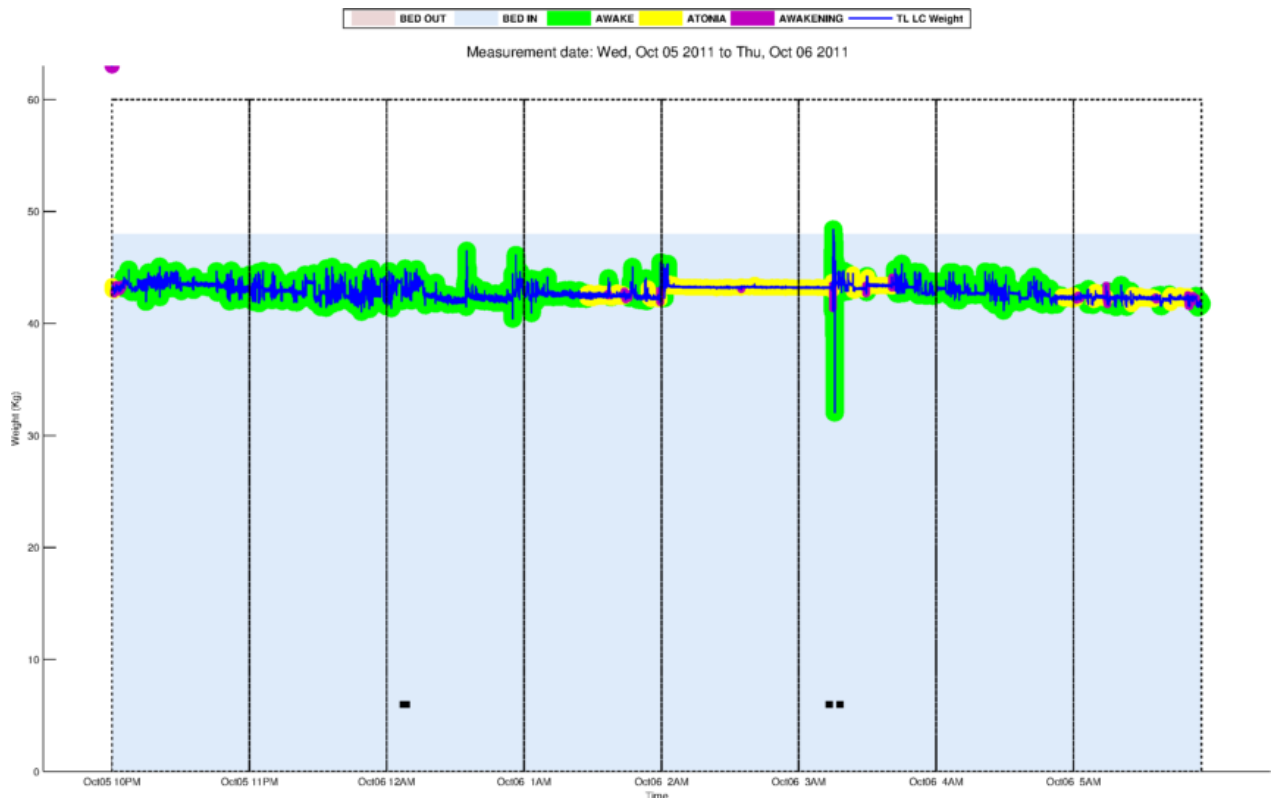


Figure 181: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 181 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 182 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 181).

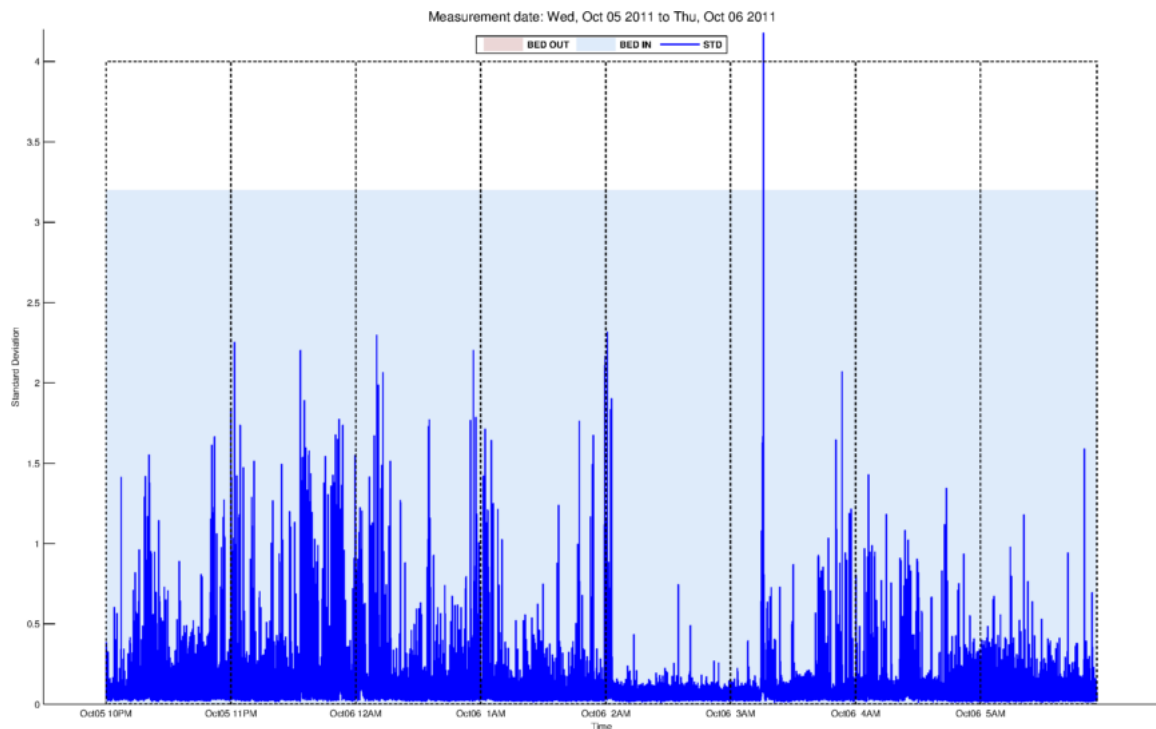


Figure 182: The moving standard deviation for the measured weight.

5.3 2nd Night: from Oct 06 2011 to Oct 07 2011

Table 134 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 135 presents the duration of the estimated sleep related activities.

Table 134: Sleep related activities and sensor events measured between Oct 06 and Oct 07

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:04:07		23:37:54	22:04:07	23:32:45	23:11:29		22:17:35			22:42:26
2			23:52:13	23:38:03	23:46:46	01:16:14		22:38:08			22:44:25
3			00:06:16	23:52:17	23:57:03	02:49:40		23:37:24			23:11:26
4			00:18:41	00:07:38	00:12:28	03:04:22		23:52:13			23:17:14
5			00:36:22	00:19:35	00:30:54	03:15:41		00:27:25			02:49:35
6			01:00:11	00:36:25	00:54:31	03:55:28		00:34:18			03:05:31
7			01:13:20	01:00:16	01:06:59	05:02:44		00:59:31			03:15:38
8			01:27:16	01:18:15	01:21:41	05:10:16		01:10:14			03:18:04
9			01:58:05	01:27:24	01:51:26	05:30:16		01:16:29			05:04:37
10			02:21:48	01:58:22	02:02:26	05:35:28		01:56:52			05:39:29
11			02:46:38	02:25:17	02:29:28			02:02:24			
12			03:29:05	02:46:41	03:23:10			02:21:48			
13			03:37:31	03:29:10	03:32:01			02:25:17			
14			04:36:17	03:37:34	04:29:20			02:46:38			
15			04:50:15	04:36:23	04:44:49			03:29:05			
16			05:03:08	04:52:20	04:54:36			03:34:31			
17			05:55:48	05:03:59	05:45:44			03:37:31			
18								04:24:51			
19								04:35:27			
20								04:41:25			
21								04:48:57			
22								04:52:19			
23								04:59:48			
24								05:45:04			

Table 135: Duration of the sleep related activities presented in Table 134

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:57:13		00:00:08	01:28:52	00:05:10
2			00:00:03	00:08:44	00:05:28
3			00:01:22	00:04:46	00:09:15
4			00:00:54	00:04:50	00:06:14
5			00:00:03	00:11:20	00:05:29
6			00:00:05	00:18:09	00:05:40
7			00:04:55	00:06:44	00:06:22
8			00:00:08	00:03:26	00:05:36
9			00:00:17	00:24:06	00:06:40
10			00:03:29	00:04:04	00:19:25
11			00:00:03	00:04:12	00:17:12
12			00:00:05	00:36:35	00:05:56
13			00:00:03	00:02:52	00:05:30
14			00:00:06	00:51:55	00:06:58
15			00:02:05	00:08:27	00:05:26
16			00:00:51	00:02:17	00:08:32
17			00:04:10	00:41:53	00:10:06

Figure 183 presents the measured sensor events and the computed bed entrances and exits.

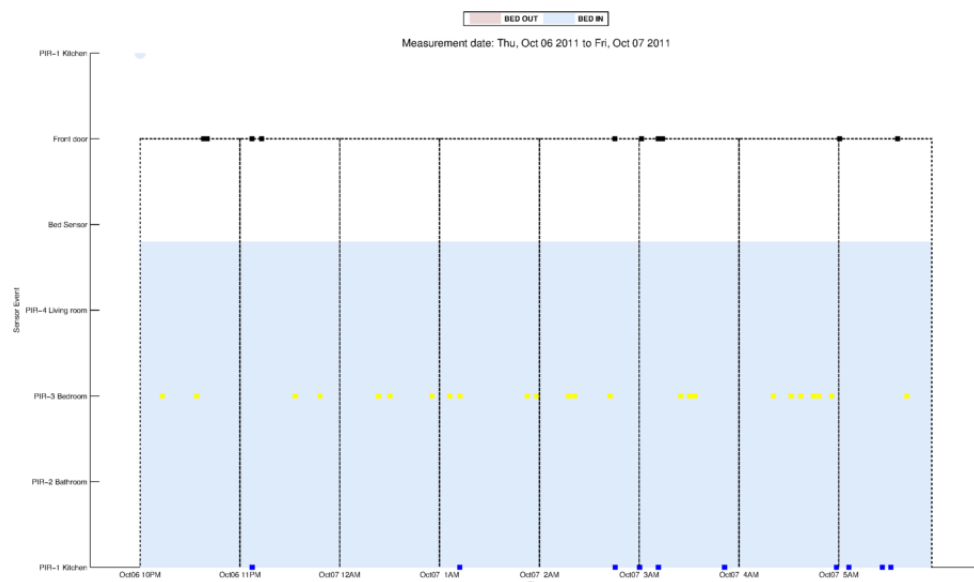


Figure 183: Sensor events and computed bed entrances and exists

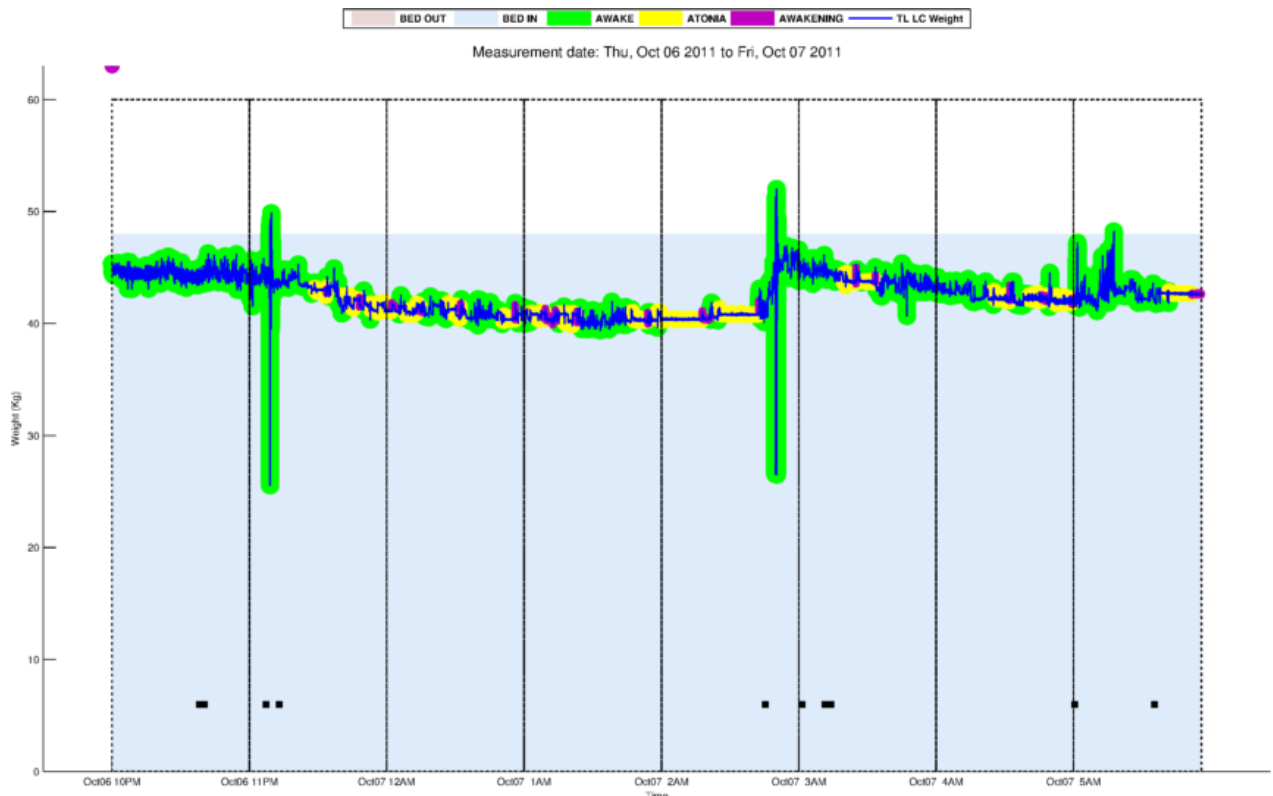


Figure 184: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 184 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 185 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 184).

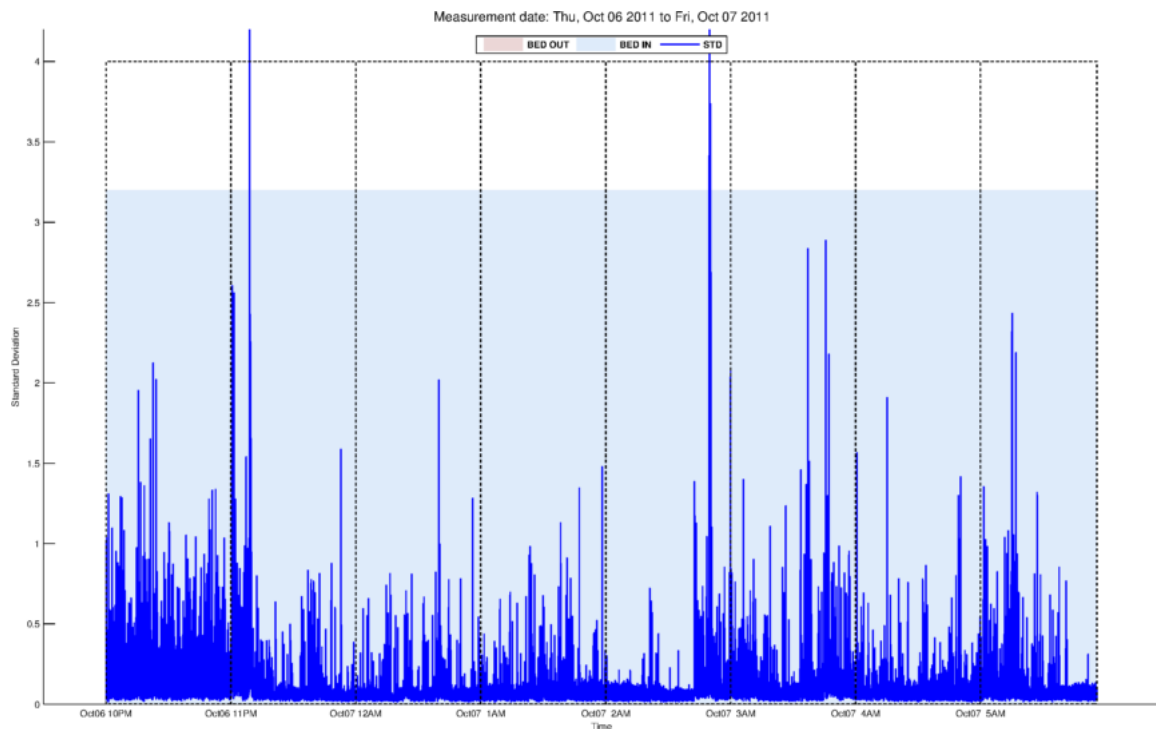


Figure 185: The moving standard deviation for the measured weight.

5.4 3rd Night: from Oct 07 2011 to Oct 08 2011

Table 136 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 137 presents the duration of the estimated sleep related activities.

Table 136: Sleep related activities and sensor events measured between Oct 07 and Oct 08

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:04:06		22:04:32	22:05:54	22:04:06	23:26:01		23:05:47			23:25:59
2			22:56:04	22:57:14	22:50:42	23:28:43		00:06:59			23:35:18
3			01:43:45	01:44:38	01:38:39	02:56:02		01:38:33			02:56:30
4			03:06:25	03:08:46	02:59:36			01:42:19			
5			04:03:41	04:07:52	03:53:41			02:07:25			
6			04:18:26	04:35:06	04:07:53			03:09:31			
7			04:29:55	04:54:51	04:18:26			03:24:04			
8			04:35:01		04:29:55			03:27:25			
9			04:53:29		04:37:33			04:05:59			
10								04:27:27			
11								04:35:16			
12								04:54:55			
13								04:59:15			

Table 137: Duration of the sleep related activities presented in Table 136

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:57:12		00:01:21	00:44:55	00:00:26
2			00:01:10	02:41:52	00:05:23
3			00:00:53	01:15:10	00:05:07
4			00:02:21	00:45:02	00:06:50
5			00:04:12	00:00:01	00:10:02
6			00:00:00	00:02:28	00:10:34
7			00:00:00	01:05:18	00:11:30
8			00:00:05		00:05:06
9			00:01:22		00:15:58

Figure 186 presents the measured sensor events and the computed bed entrances and exits.

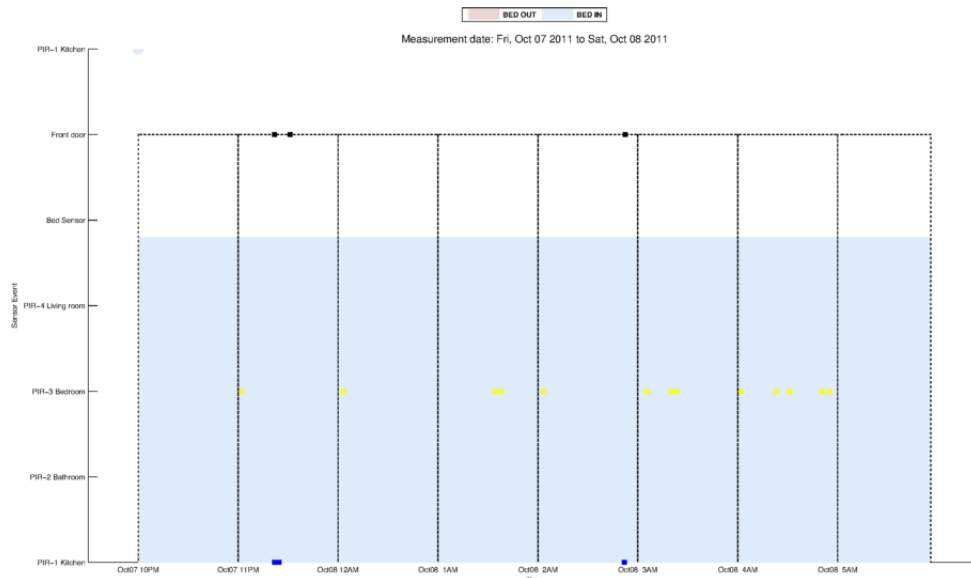


Figure 186: Sensor events and computed bed entrances and exists

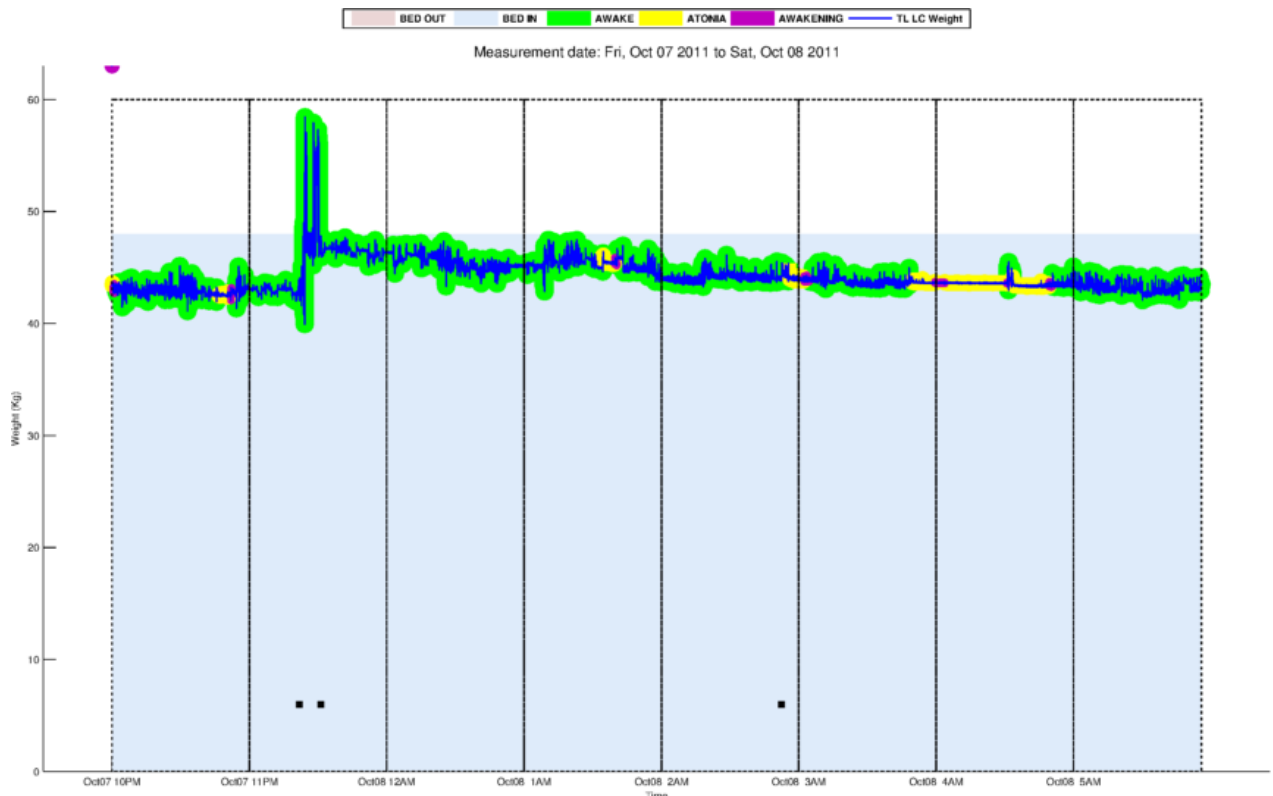


Figure 187: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 187 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 188 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 187).

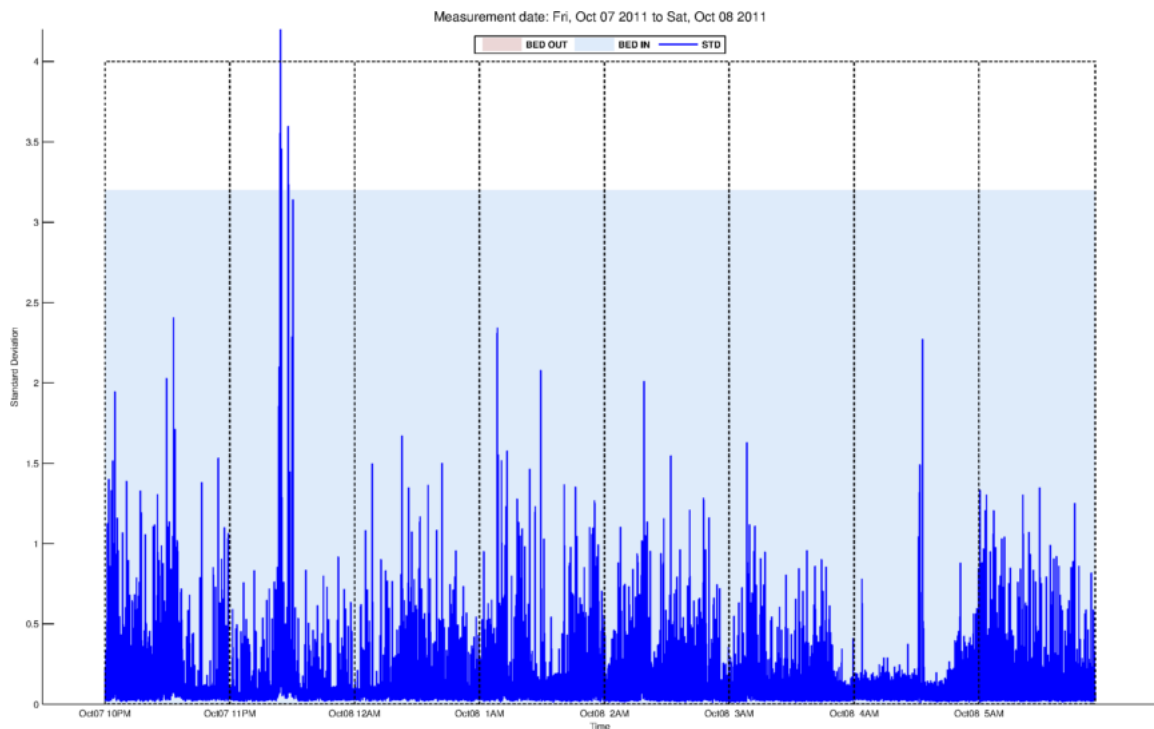


Figure 188: The moving standard deviation for the measured weight.

5.5 4th Night: from Oct 08 2011 to Oct 09 2011

Table 138 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 139 presents the duration of the estimated sleep related activities.

Table 138: Sleep related activities and sensor events measured between Oct 08 and Oct 09

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:04:06		22:04:15	22:05:32	22:04:06	23:09:11	23:10:50	23:32:38			23:09:08
2			23:34:40	23:34:47	23:29:23	02:41:36	02:42:10	23:50:28			23:17:23
3			00:27:26	00:27:33	00:19:11			00:26:24			02:41:34
4			00:39:48	00:39:51	00:29:35			00:36:29			02:42:19
5			00:46:28	00:51:27	00:39:52			00:39:48			
6			01:04:31	01:05:17	00:56:19			00:51:29			
7			01:47:07	01:47:17	01:38:55			01:15:43			
8			05:07:34	05:09:06	05:02:32			01:44:18			
9			05:23:09	05:23:13	05:15:44			01:47:08			
10			05:31:41	05:31:46	05:25:42			03:34:44			
11			05:42:01	05:52:48	05:35:22			04:57:03			
12					05:42:03			05:02:33			
13								05:07:37			
14								05:14:47			
15								05:23:11			
16								05:35:19			
17								05:41:49			
18								05:52:51			
19								05:58:51			

Table 139: Duration of the sleep related activities presented in Table 138

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:57:10		00:01:16	01:24:05	00:00:09
2			00:00:06	00:44:31	00:05:18
3			00:00:06	00:02:02	00:08:16
4			00:00:03	00:00:00	00:10:14
5			00:04:59	00:04:53	00:06:38
6			00:00:46	00:33:43	00:08:13
7			00:00:10	03:15:46	00:08:13
8			00:01:32	00:06:39	00:05:03
9			00:00:04	00:02:29	00:07:26
10			00:00:05	00:03:36	00:06:00
11			00:00:02	00:07:11	00:06:40
12					00:10:47

Figure 189 presents the measured sensor events and the computed bed entrances and exits.

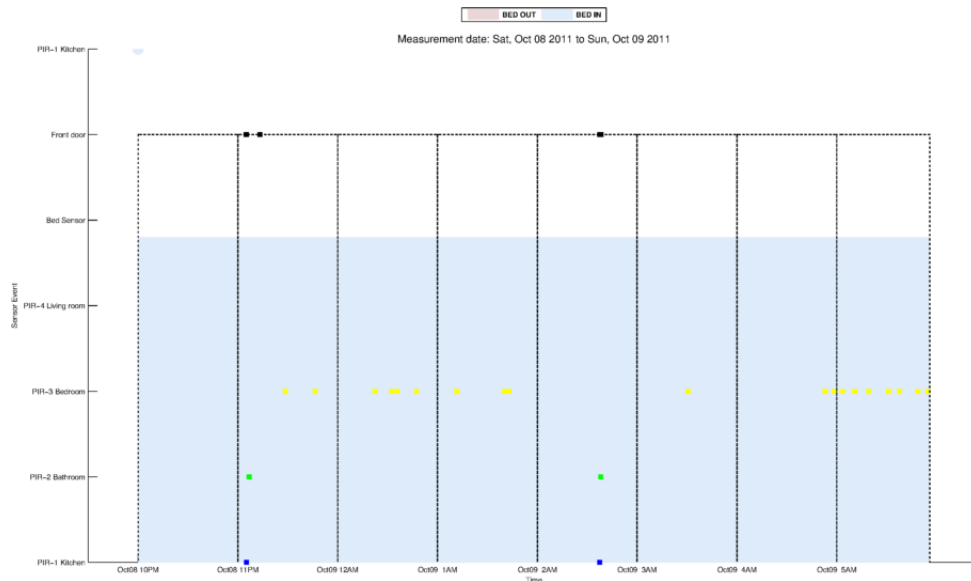


Figure 189: Sensor events and computed bed entrances and exists

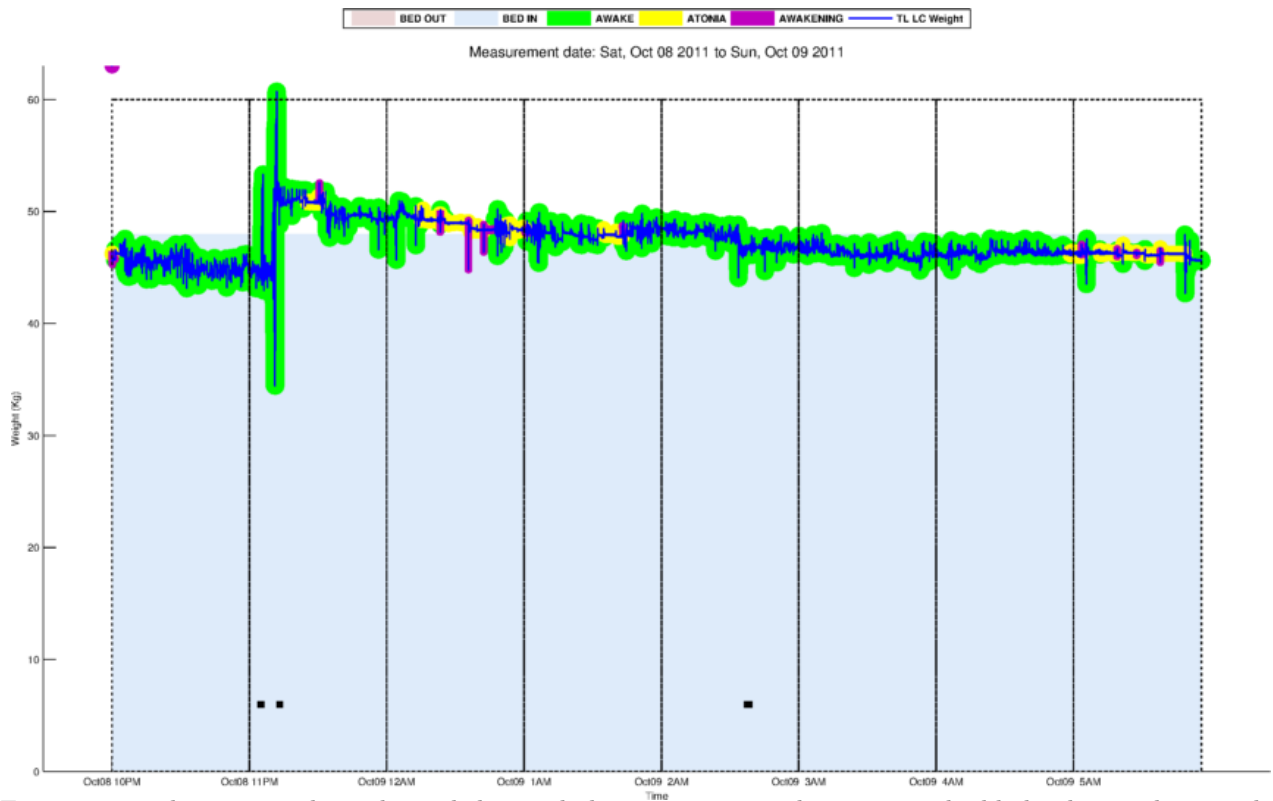


Figure 190: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 190 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 191 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 190).

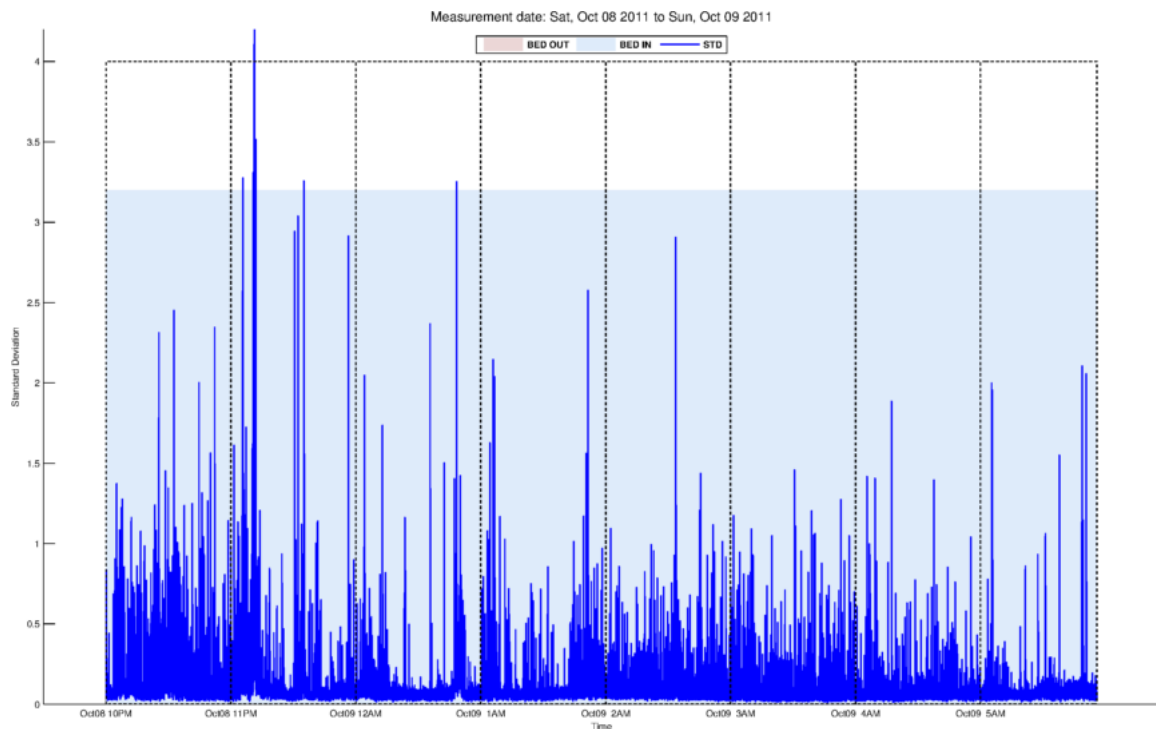


Figure 191: The moving standard deviation for the measured weight.

5.6 5th Night: from Oct 09 2011 to Oct 10 2011

Table 140 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 141 presents the duration of the estimated sleep related activities.

Table 140: Sleep related activities and sensor events measured between Oct 09 and Oct 10

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:04:07		22:05:32	22:05:35	22:04:07	23:33:26	02:39:44	00:16:34			23:33:24
2			00:26:09	00:26:14	00:19:32	02:39:29		00:23:41			23:34:51
3			01:20:16	01:20:20	01:13:46			01:10:18			02:39:28
4			01:38:00	01:38:04	01:22:49			01:20:18			02:49:01
5			01:59:07	02:00:49	01:52:25			01:30:36			
6			02:07:59	02:12:24	02:01:56			01:35:03			
7			02:18:06	02:18:10	02:13:05			01:38:02			
8			02:37:08	02:37:12	02:25:11			02:07:14			
9			03:07:36	03:08:53	03:00:02			03:07:37			
10			03:14:27	03:14:54	03:09:08			03:14:28			
11			03:49:28	03:49:32	03:14:55			03:49:30			
12			04:05:33	04:05:36	03:50:36			03:53:54			
13			04:49:20	04:50:34	04:26:53			04:03:25			
14			05:30:12	05:30:20	04:57:21			04:41:55			
15			05:45:46	05:45:50	05:34:50			04:48:22			
16								04:55:13			
17								05:07:58			
18								05:30:12			
19								05:45:48			

Table 141: Duration of the sleep related activities presented in Table 140

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:57:10		00:00:03	02:14:18	00:01:25
2			00:00:05	00:47:39	00:06:38
3			00:00:04	00:02:29	00:06:31
4			00:00:03	00:14:24	00:15:14
5			00:01:42	00:01:07	00:06:42
6			00:04:26	00:00:40	00:06:03
7			00:00:03	00:07:02	00:05:02
8			00:00:03	00:22:53	00:11:59
9			00:01:17	00:00:15	00:07:35
10			00:00:27	00:00:01	00:05:19
11			00:00:04	00:01:04	00:34:38
12			00:00:03	00:21:20	00:14:59
13			00:01:14	00:06:48	00:22:30
14			00:00:08	00:04:30	00:32:55
15			00:00:03	00:14:11	00:10:58

Figure 192 presents the measured sensor events and the computed bed entrances and exits.

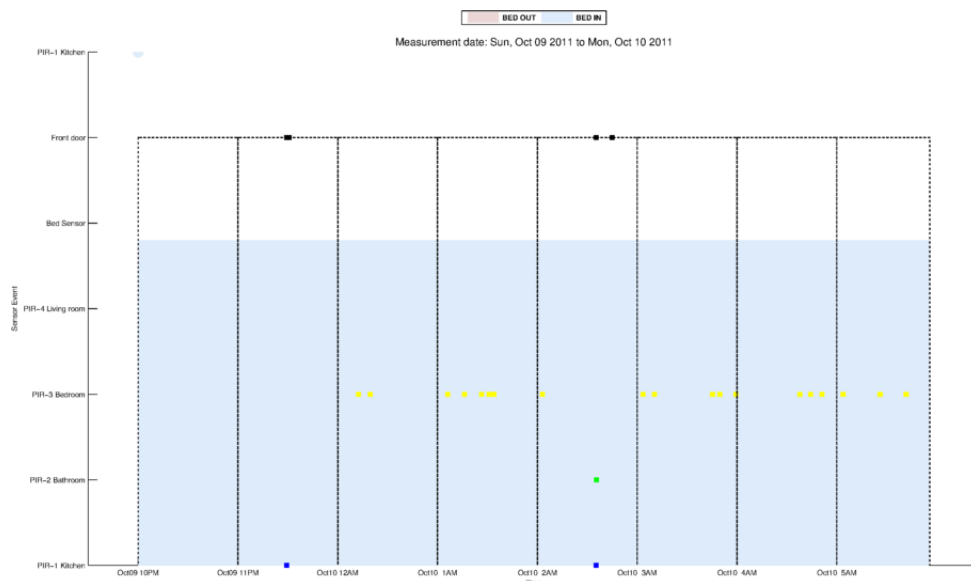


Figure 192: Sensor events and computed bed entrances and exists

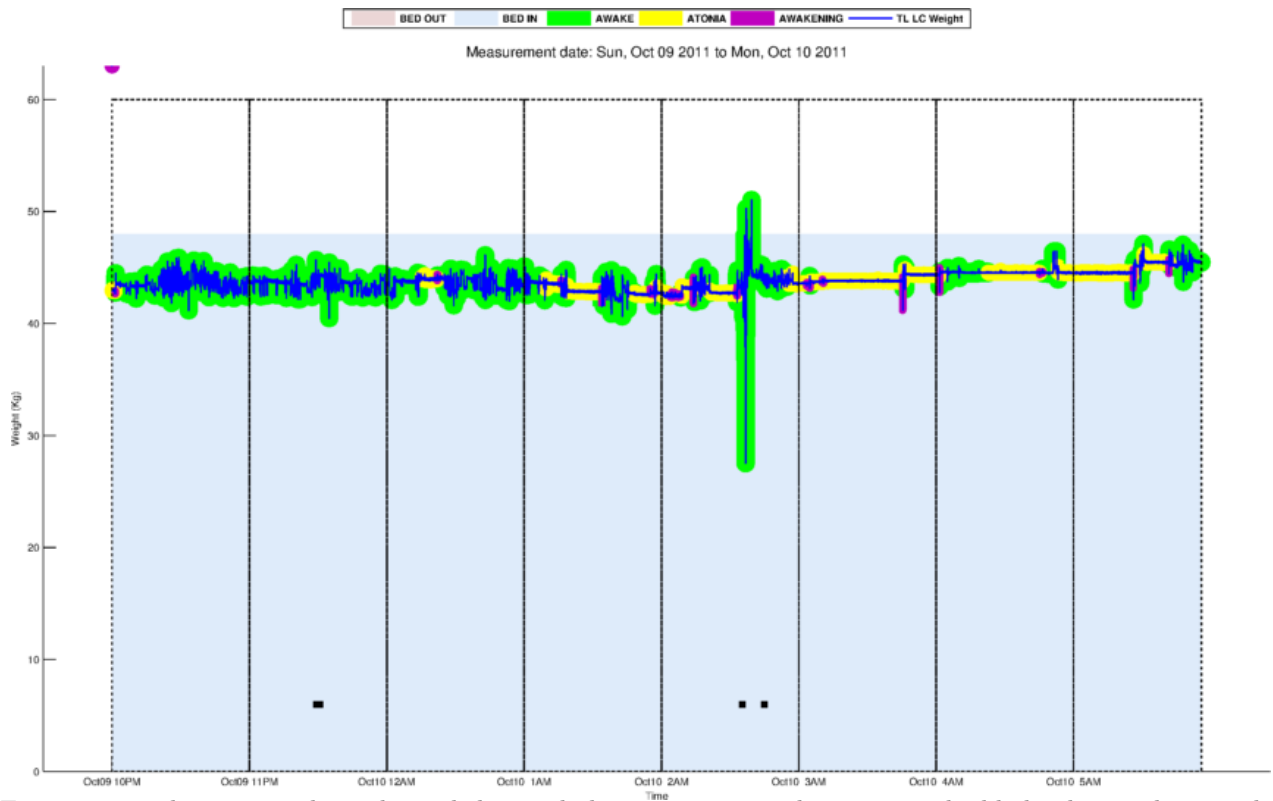


Figure 193: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 193 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 194 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 193).

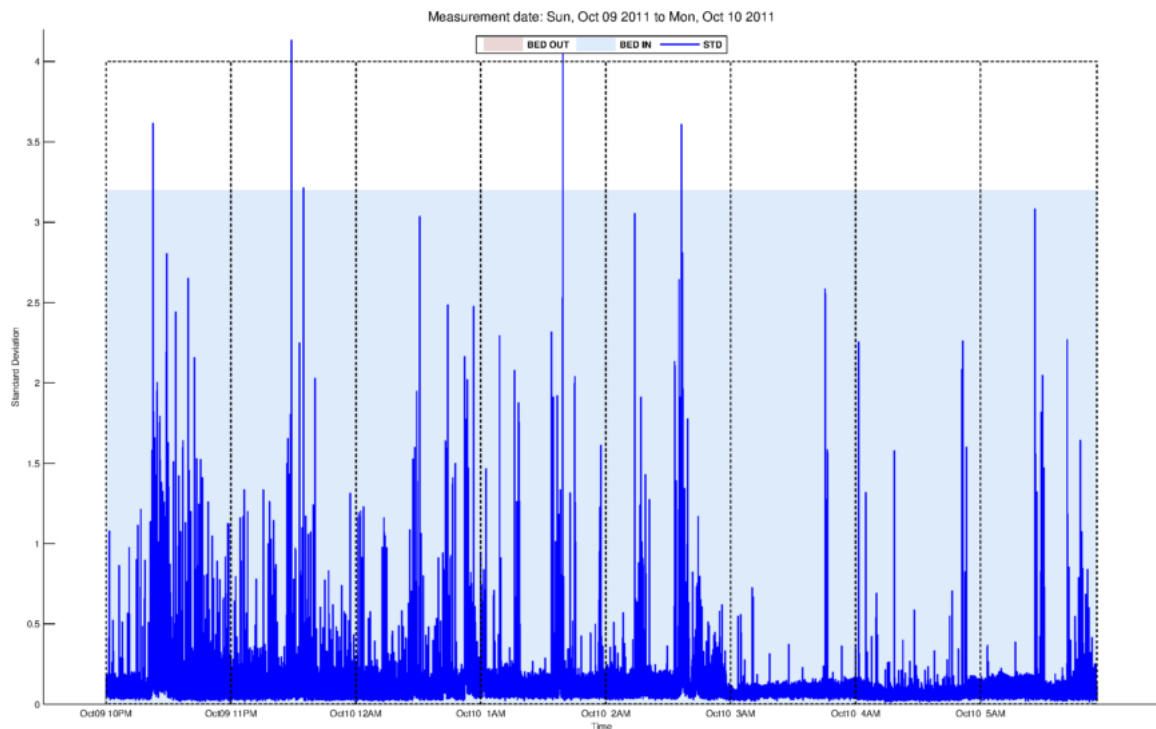


Figure 194: The moving standard deviation for the measured weight.

5.7 6th Night: from Oct 10 2011 to Oct 11 2011

Table 142 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 143 presents the duration of the estimated sleep related activities.

Table 142: Sleep related activities and sensor events measured between Oct 10 and Oct 11

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:04:07		22:04:16	22:04:55	22:04:07	23:35:13	23:35:45	23:55:30			23:35:12
2			00:15:23	00:15:36	00:06:42	02:14:00	23:40:20	00:01:41			23:40:28
3			00:45:55	00:46:39	00:39:51		02:14:26	00:05:35			02:13:59
4			01:20:52	01:21:01	01:15:26			00:12:43			02:15:46
5			01:33:30	01:33:35	01:21:19			00:45:47			
6			01:40:45	01:40:49	01:34:00			00:51:50			
7			02:13:42	02:13:48	01:46:41			01:20:46			
8			03:12:48	03:12:59	02:53:29			01:30:16			
9			03:44:23	03:51:34	03:19:21			01:36:29			
10			03:51:30	04:30:37	03:44:23			01:40:49			
11			04:18:21	05:04:04	04:11:44			01:46:17			
12			04:29:54	05:49:41	04:18:22			01:59:13			
13			04:50:42		04:36:41			02:13:43			
14			05:03:54		04:50:43			02:32:20			
15			05:29:52		05:04:08			02:40:53			
16			05:46:47		05:29:52			02:45:09			
17								02:50:03			
18								03:00:30			
19								03:04:56			
20								03:10:57			
21								03:26:47			
22								03:44:25			
23								03:51:29			
24								04:18:23			
25								04:29:56			
26								04:34:59			
27								04:47:06			
28								05:03:56			
29								05:42:03			
30								05:49:41			

Table 143: Duration of the sleep related activities presented in Table 142

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:57:12		00:00:39	02:02:08	00:00:08
2			00:00:13	00:24:19	00:08:42
3			00:00:43	00:28:52	00:06:05
4			00:00:09	00:00:18	00:05:27
5			00:00:05	00:00:26	00:12:13
6			00:00:03	00:05:53	00:06:46
7			00:00:06	00:39:48	00:27:05
8			00:00:11	00:06:23	00:19:22
9			00:00:00	00:20:14	00:25:06
10			00:00:03	00:06:05	00:07:08
11			00:00:01	00:00:03	00:06:38
12			00:00:43	00:10:19	00:11:34
13			00:00:00		00:14:03
14			00:00:10		00:13:13
15			00:00:00		00:25:48
16			00:02:54		00:16:58

Figure 195 presents the measured sensor events and the computed bed entrances and exits.



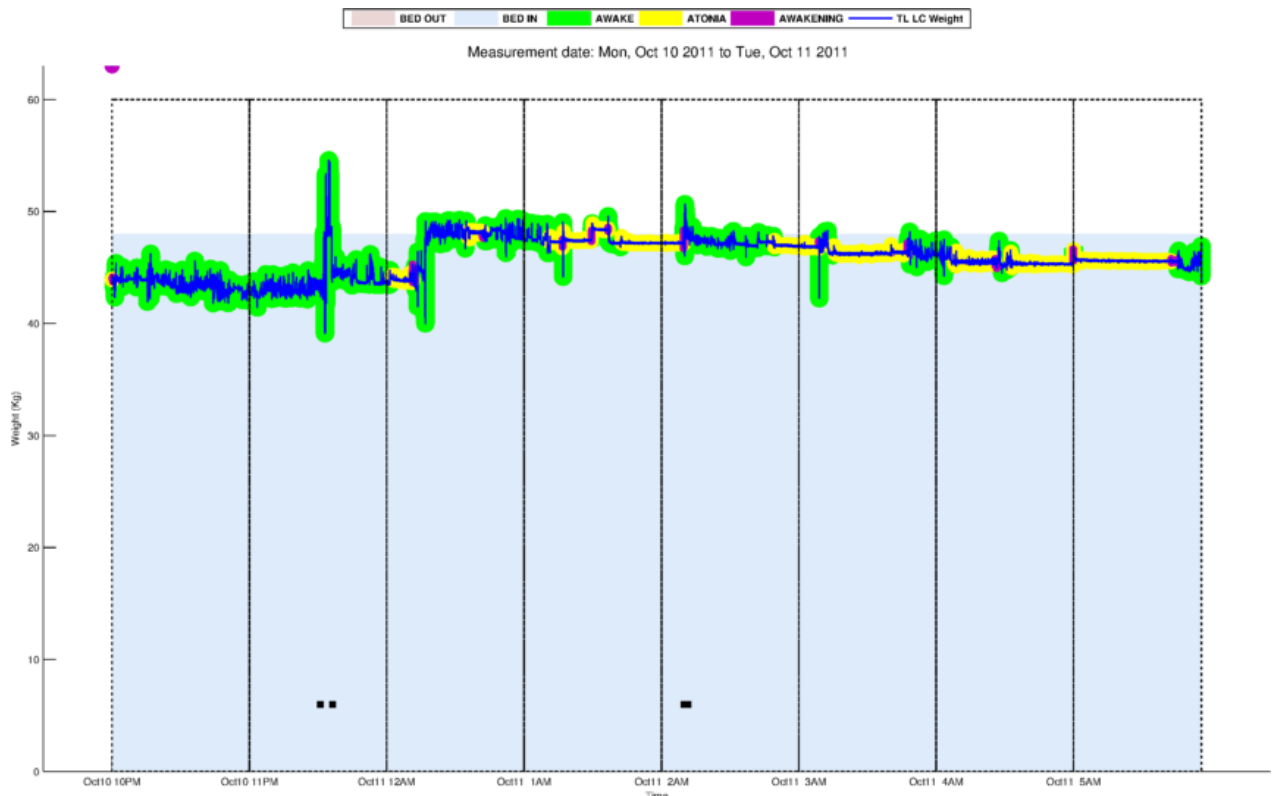


Figure 196: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 196 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 197 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 196).

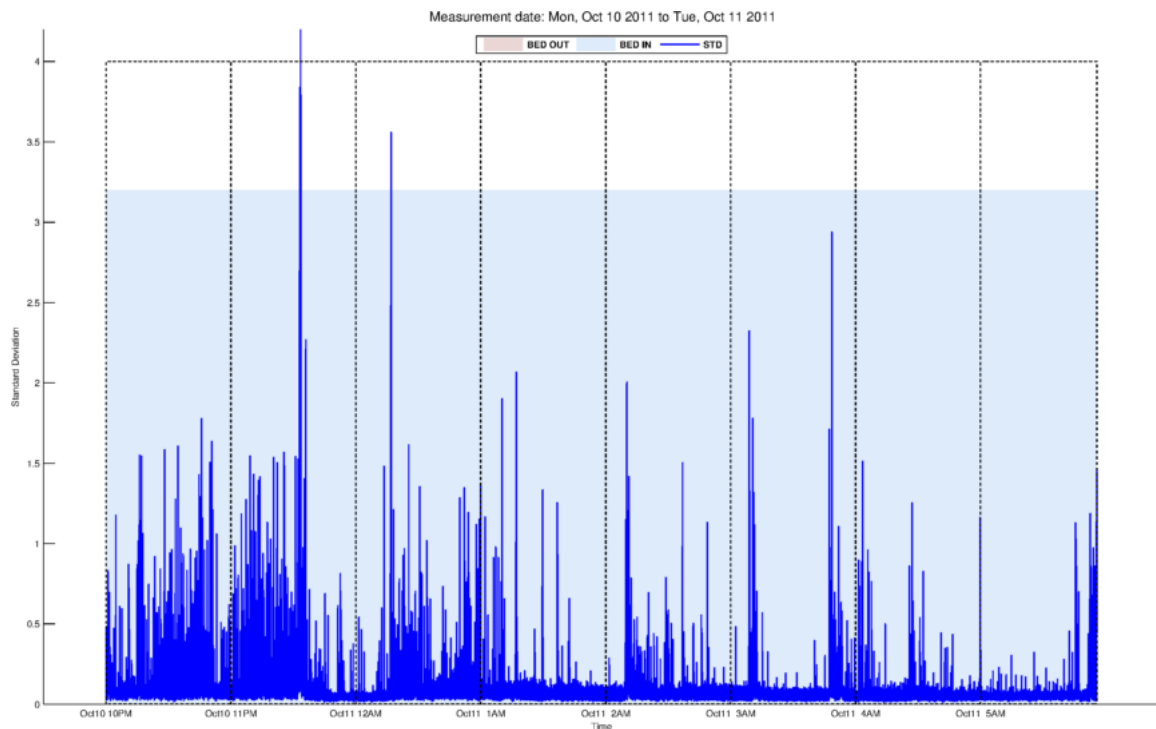


Figure 197: The moving standard deviation for the measured weight.

5.8 7th Night: from Oct 11 2011 to Oct 12 2011

Table 144 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 145 presents the duration of the estimated sleep related activities.

Table 144: Sleep related activities and sensor events measured between Oct 11 and Oct 12

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:04:07		22:04:29	22:04:36	22:04:07	05:56:34	23:34:09			23:31:58	23:26:55
2			01:28:21	01:28:25	01:21:44		03:19:02				23:34:29
3			02:36:40	02:36:43	02:29:34						03:12:50
4			05:36:31	05:39:22	05:30:36						03:19:50
5			05:52:47	05:53:26	05:47:15						05:47:33
6											05:56:32

Table 145: Duration of the sleep related activities presented in Table 144

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:57:12		00:00:07	03:17:41	00:00:22
2			00:00:04	01:01:19	00:06:38
3			00:00:03	02:54:22	00:07:06
4			00:02:51	00:07:53	00:05:56
5			00:00:39	00:06:34	00:05:33

Figure 198 presents the measured sensor events and the computed bed entrances and exits.

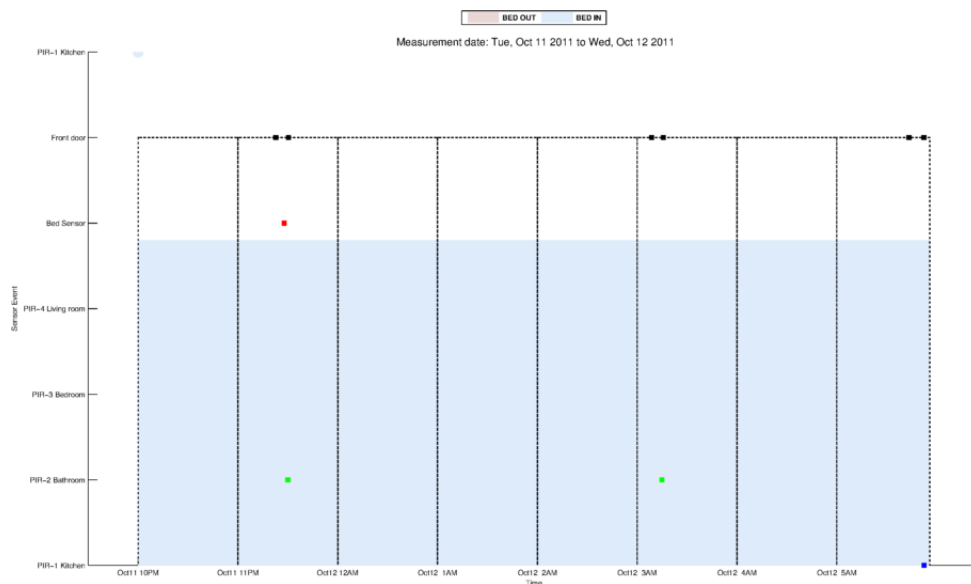


Figure 198: Sensor events and computed bed entrances and exists

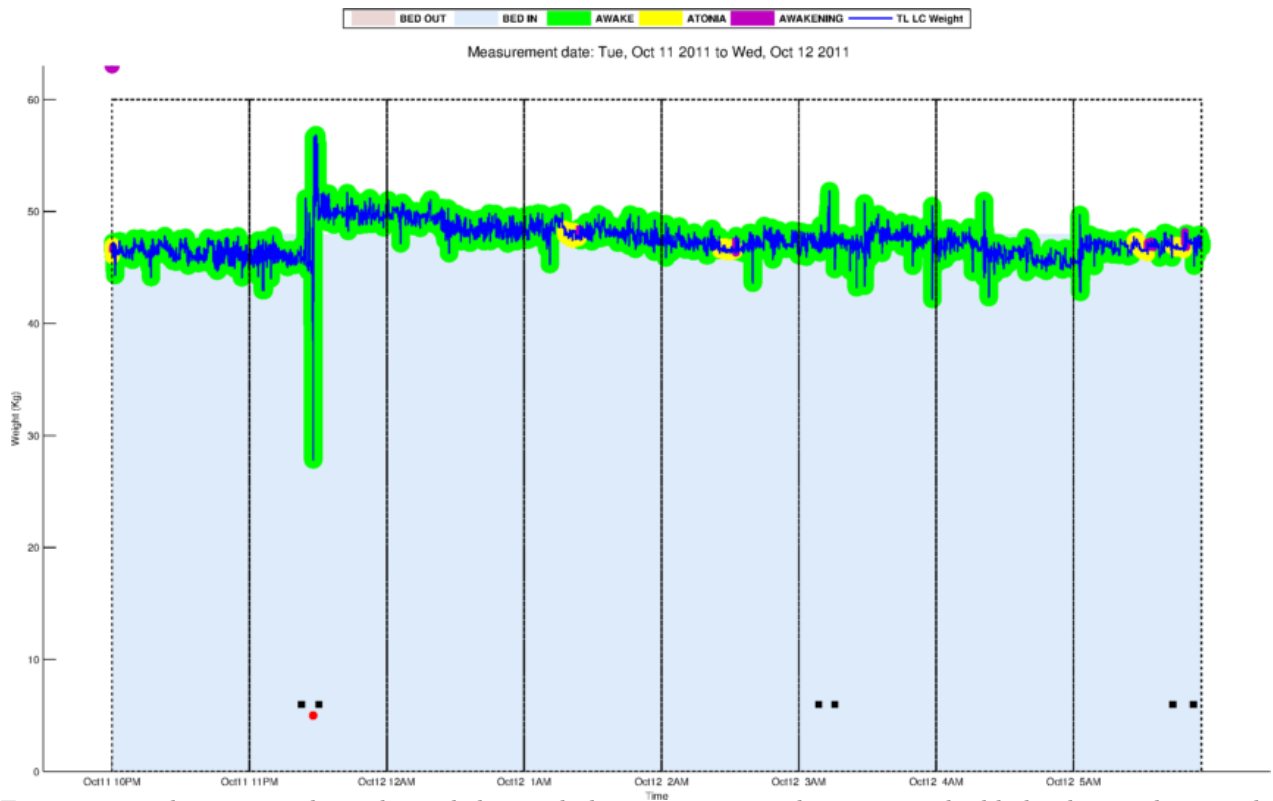


Figure 199: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 199 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 200 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 199).

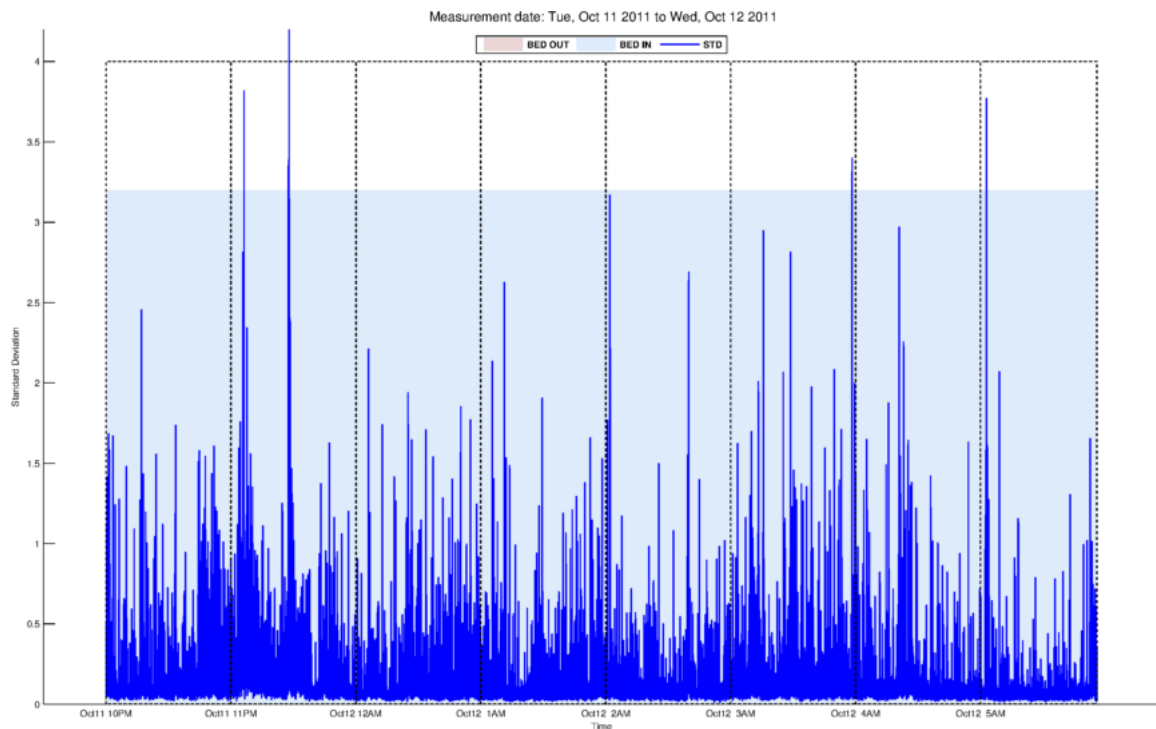


Figure 200: The moving standard deviation for the measured weight.

5.9 8th Night: from Oct 12 2011 to Oct 13 2011

Table 146 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 147 presents the duration of the estimated sleep related activities.

Table 146: Sleep related activities and sensor events measured between Oct 12 and Oct 13

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:53		22:02:11	22:04:50	22:01:53	23:39:36	23:39:58	00:54:12			23:39:34
2			00:56:12	00:56:18	00:47:22	02:55:17	23:44:23	01:04:16			23:45:20
3			01:04:15	01:07:37	00:58:05			01:07:36			02:55:14
4			01:14:51	01:15:43	01:09:25			01:55:15			04:47:32
5			01:55:14	01:59:13	01:47:16			01:59:15			
6			03:00:56	03:00:59	02:47:57			02:03:41			
7			03:12:33	03:12:37	03:04:41			02:12:14			
8			03:32:31	03:34:10	03:13:57			02:18:20			
9			03:54:34	03:54:39	03:45:53			02:26:05			
10			04:04:37	04:04:41	03:54:53			02:44:20			
11			04:13:44	04:13:48	04:05:20			03:00:56			
12			04:27:23	04:27:27	04:13:55			03:12:34			
13			04:44:03	04:44:06	04:27:52			03:32:32			
14			05:42:34	05:42:37	04:44:28			03:39:06			
15			05:52:14	05:52:17	05:42:38			03:54:35			
16								04:04:39			
17								04:13:45			
18								04:27:26			
19								04:32:26			
20								04:44:03			
21								05:42:34			
22								05:52:17			

Table 147: Duration of the sleep related activities presented in Table 146

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:30		00:02:39	02:43:00	00:00:18
2			00:00:06	00:01:47	00:08:52
3			00:03:23	00:01:48	00:06:10
4			00:00:53	00:31:38	00:05:26
5			00:04:00	00:48:52	00:07:59
6			00:00:03	00:03:42	00:13:01
7			00:00:03	00:01:21	00:07:54
8			00:01:39	00:11:45	00:18:36
9			00:00:05	00:00:13	00:08:43
10			00:00:03	00:00:39	00:09:46
11			00:00:04	00:00:07	00:08:25
12			00:00:03	00:00:25	00:13:30
13			00:00:03	00:00:21	00:16:13
14			00:00:03	00:00:00	00:58:16
15			00:00:03	00:07:43	00:09:38

Figure 201 presents the measured sensor events and the computed bed entrances and exits.

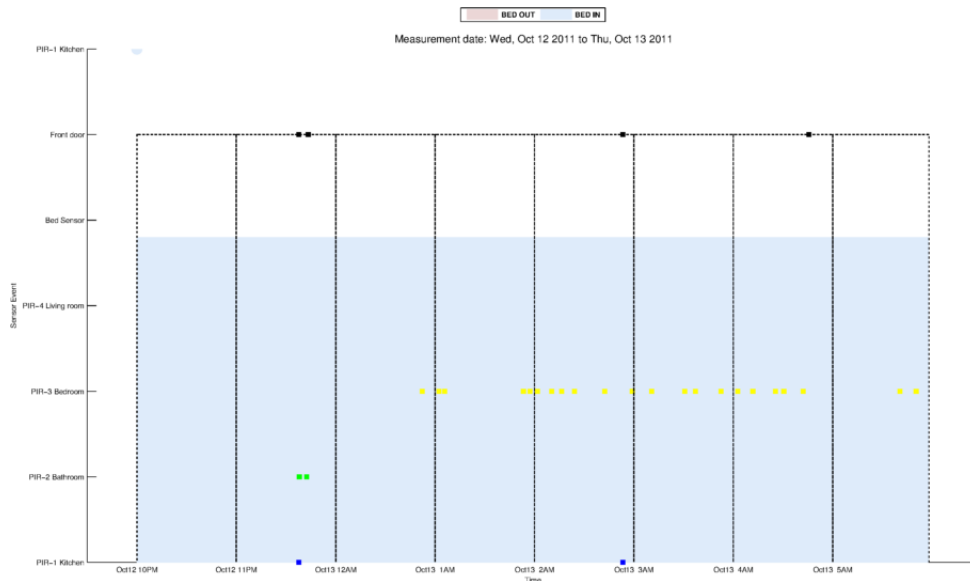


Figure 201: Sensor events and computed bed entrances and exists

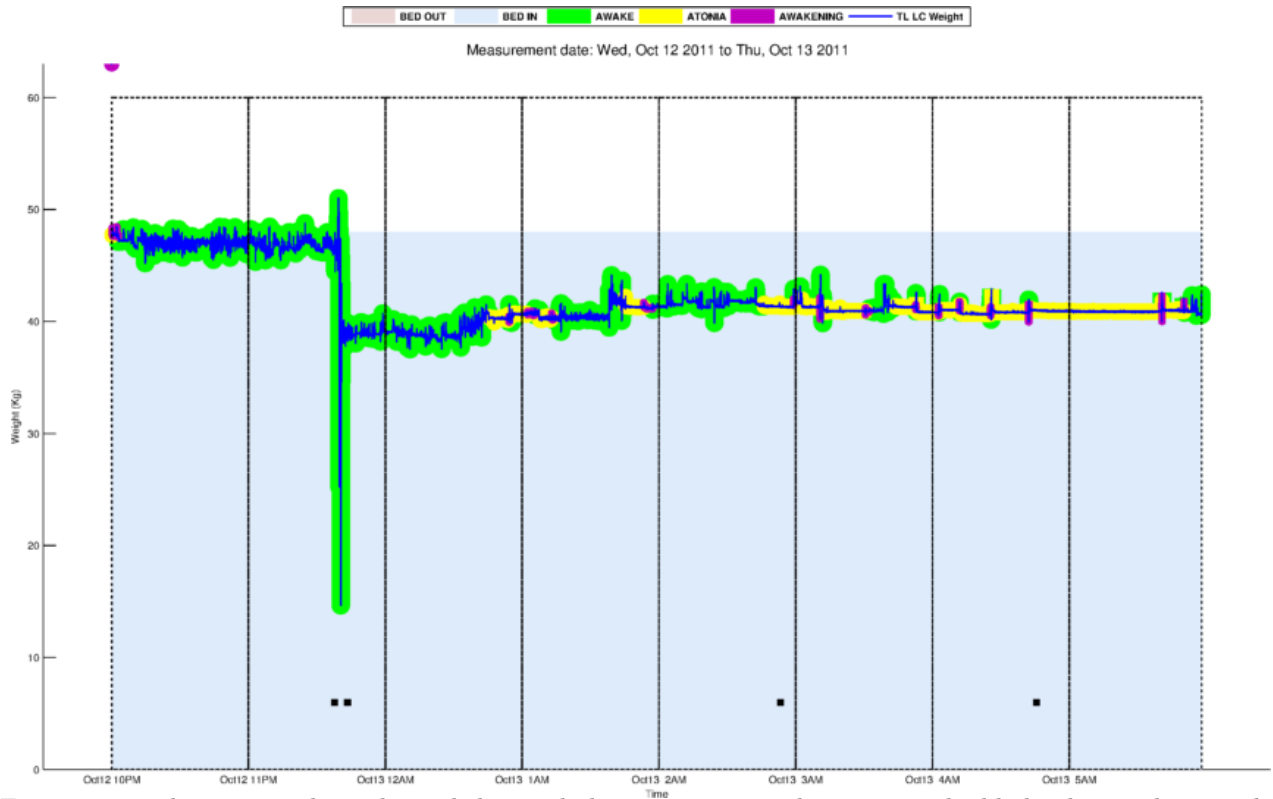


Figure 202: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 202 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 203 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 202).

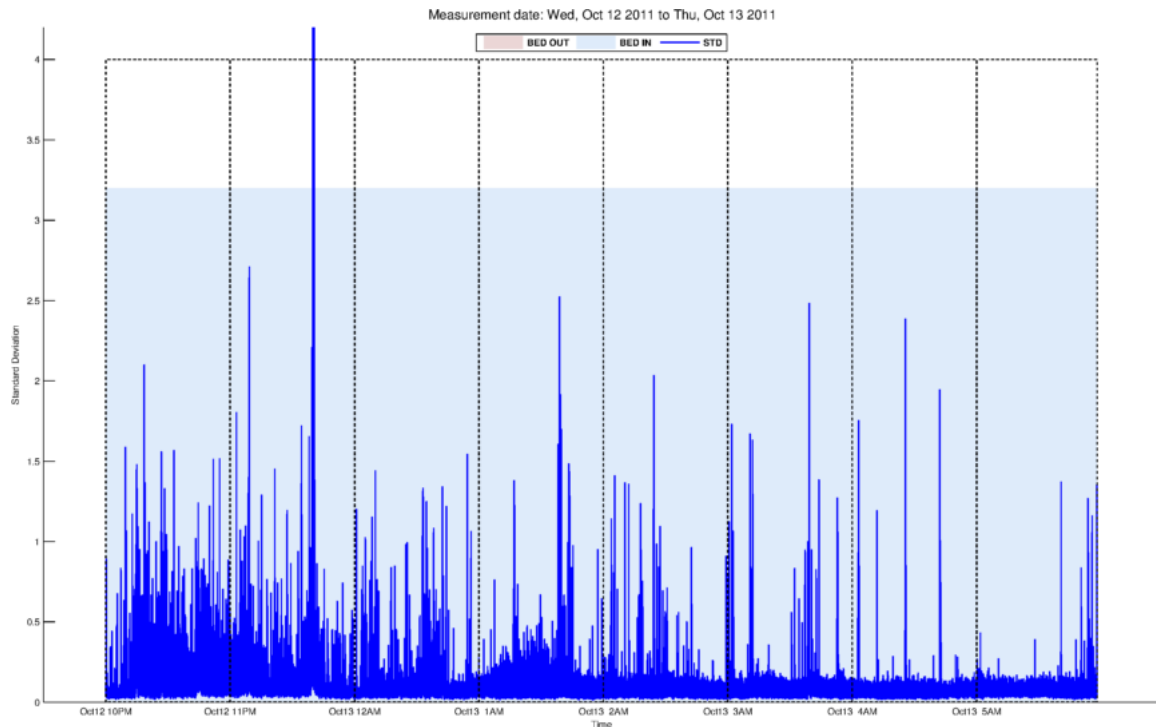


Figure 203: The moving standard deviation for the measured weight.

5.10 9th Night: from Oct 13 2011 to Oct 14 2011

Table 148 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 149 presents the duration of the estimated sleep related activities.

Table 148: Sleep related activities and sensor events measured between Oct 13 and Oct 14

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:54		22:03:01	22:03:47	22:01:54	23:30:50	03:00:30	22:32:07			23:30:49
2			22:36:11	22:36:43	22:27:57	03:00:16		23:00:25			23:31:31
3			23:02:41	23:02:52	22:54:52			23:14:42			03:00:15
4			23:19:39	23:20:38	23:04:54			23:26:06			03:02:18
5			23:26:05	23:26:44	23:20:40			23:40:47			03:47:30
6			00:23:50	00:27:19	00:17:57			00:04:04			
7			01:01:19	01:05:14	00:47:18			01:41:47			
8			01:21:01	01:21:04	01:15:21			02:26:57			
9			01:38:03	02:28:56	01:27:59			02:43:12			
10			02:26:56	02:44:06	01:38:03			02:51:45			
11			02:44:02	03:49:43	02:32:20			02:59:07			
12			03:49:19	04:04:04	03:41:54			03:10:23			
13			04:04:01	04:13:18	03:53:48			03:14:10			
14			04:13:03	04:28:09	04:06:40			03:17:26			
15			04:28:06	04:46:11	04:17:26			03:22:41			
16			04:46:07	05:15:54	04:28:35			03:29:18			
17			05:07:23	05:29:00	04:46:53			03:33:28			
18			05:12:45	05:42:40	05:07:24			03:39:38			
19			05:28:26	05:52:12	05:17:08			03:49:18			
20			05:41:57		05:35:06			03:53:42			
21			05:52:07		05:42:40			04:04:02			
22					05:53:25			04:13:04			
23								04:28:07			
24								04:31:22			
25								04:39:02			
26								04:46:09			
27								05:04:34			
28								05:10:17			
29								05:16:03			
30								05:34:49			
31								05:39:16			
32								05:42:06			
33								05:47:40			
34								05:52:08			
35								05:55:39			

Table 149: Duration of the sleep related activities presented in Table 148

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:27		00:00:46	00:24:13	00:01:07
2			00:00:32	00:18:11	00:08:16
3			00:00:10	00:02:02	00:07:51
4			00:00:59	00:00:02	00:14:48
5			00:00:39	00:51:21	00:05:26
6			00:03:29	00:20:03	00:05:54
7			00:03:56	00:10:08	00:14:03
8			00:00:03	00:06:56	00:05:40
9			00:00:00	00:03:24	00:10:05
10			00:02:01	00:57:58	00:49:01
11			00:00:03	00:04:05	00:11:44
12			00:00:24	00:02:36	00:07:27
13			00:00:03	00:04:08	00:10:14
14			00:00:15	00:00:25	00:06:24
15			00:00:03	00:00:41	00:10:41
16			00:00:04	00:01:14	00:17:35
17			00:00:01	00:06:06	00:20:34
18			00:03:09	00:00:00	00:05:22
19			00:00:34	00:01:13	00:11:20
20			00:00:43		00:06:52
21			00:00:04		00:09:28
22					00:06:35

Figure 204 presents the measured sensor events and the computed bed entrances and exits.

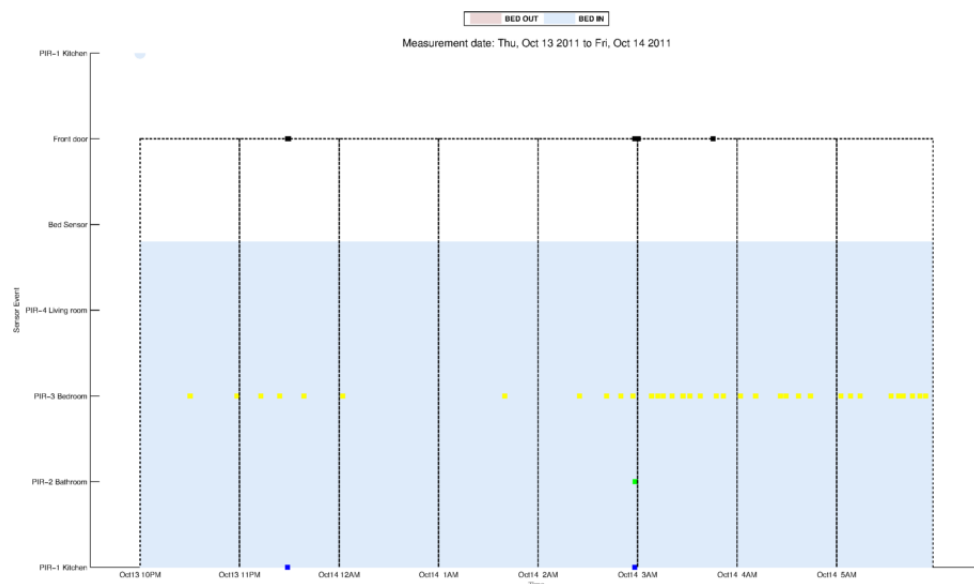


Figure 204: Sensor events and computed bed entrances and exists

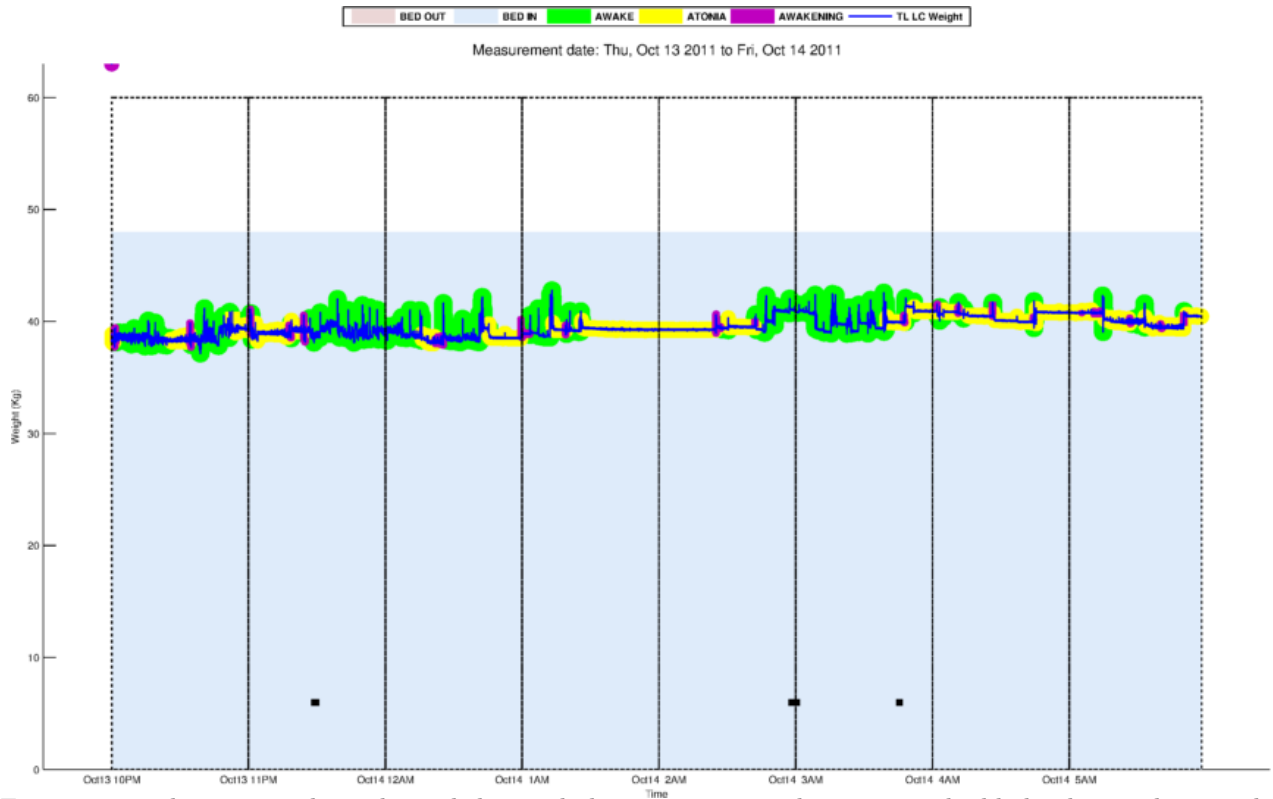


Figure 205: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 205 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 206 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 205).

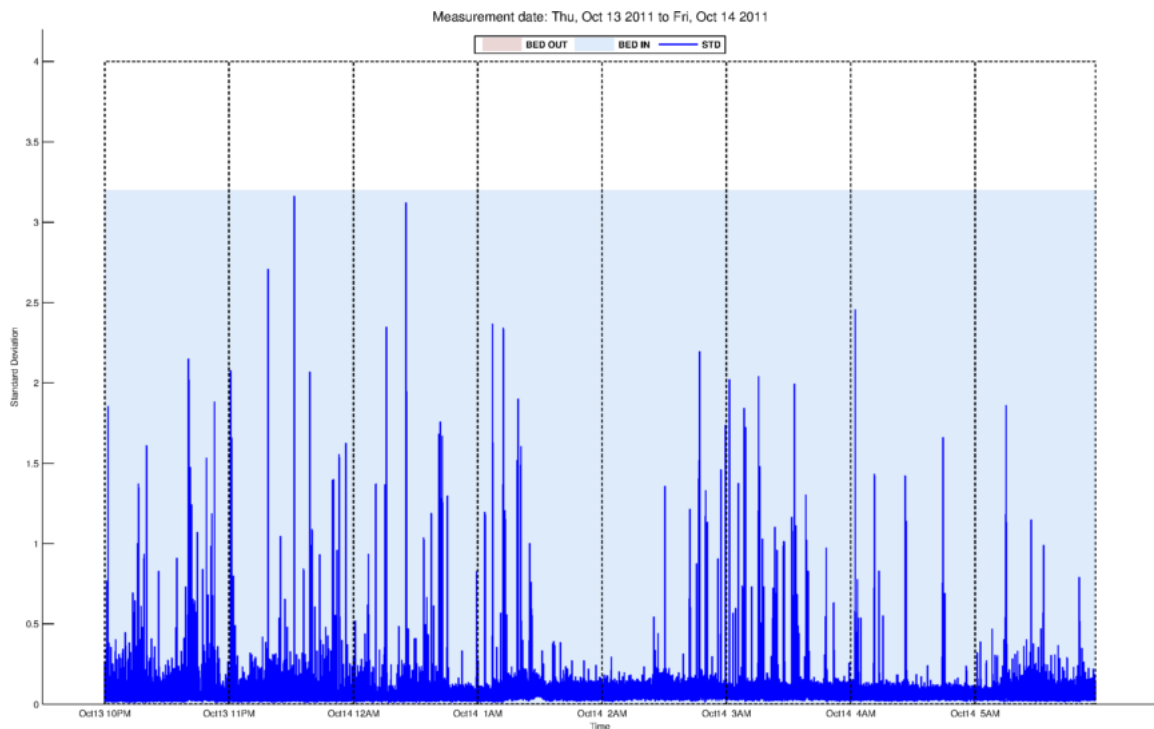


Figure 206: The moving standard deviation for the measured weight.

5.11 10th Night: from Oct 14 2011 to Oct 15 2011

Table 150 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 151 presents the duration of the estimated sleep related activities.

Table 150: Sleep related activities and sensor events measured between Oct 14 and Oct 15

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:54		22:02:25	22:02:33	22:01:54	23:51:13	23:51:18	23:03:15		23:53:49	23:51:12
2			02:10:23	02:11:33	02:02:14	03:24:58	23:55:02	23:36:56			23:55:40
3			02:43:30	02:43:34	02:20:45		03:25:03	00:23:46			23:55:52
4			02:50:20	03:03:10	02:43:46			00:50:13			02:47:29
5			03:03:07	03:31:18	02:50:24			01:25:53			03:24:57
6			03:30:48	03:49:57	03:16:08			01:44:39			03:25:32
7			03:49:54	04:03:23	03:31:19			02:05:01			
8			04:03:20	05:17:13	03:53:56			02:10:25			
9			05:17:08	05:25:17	05:02:57			02:43:31			
10			05:25:13	05:38:27	05:17:31			02:49:55			
11			05:38:23	05:55:59	05:31:03			03:03:08			
12			05:55:55		05:42:26			03:16:09			
13								03:25:01			
14								03:49:53			
15								03:53:55			
16								04:03:21			
17								04:11:16			
18								04:17:55			
19								04:21:33			
20								04:28:30			
21								04:34:42			
22								05:02:58			
23								05:06:49			
24								05:17:09			
25								05:25:15			
26								05:38:26			
27								05:59:50			

Table 151: Duration of the sleep related activities presented in Table 150

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:29		00:00:08	04:00:23	00:00:31
2			00:01:10	00:09:13	00:08:10
3			00:00:03	00:00:12	00:22:49
4			00:00:03	00:13:00	00:06:36
5			00:00:03	00:00:00	00:12:45
6			00:00:30	00:03:59	00:14:42
7			00:00:03	00:59:44	00:18:38
8			00:00:03	00:00:18	00:09:26
9			00:00:05	00:05:47	00:14:13
10			00:00:03	00:04:00	00:07:43
11			00:00:04	00:04:00	00:07:20
12			00:00:03		00:13:32

Figure 207 presents the measured sensor events and the computed bed entrances and exits.

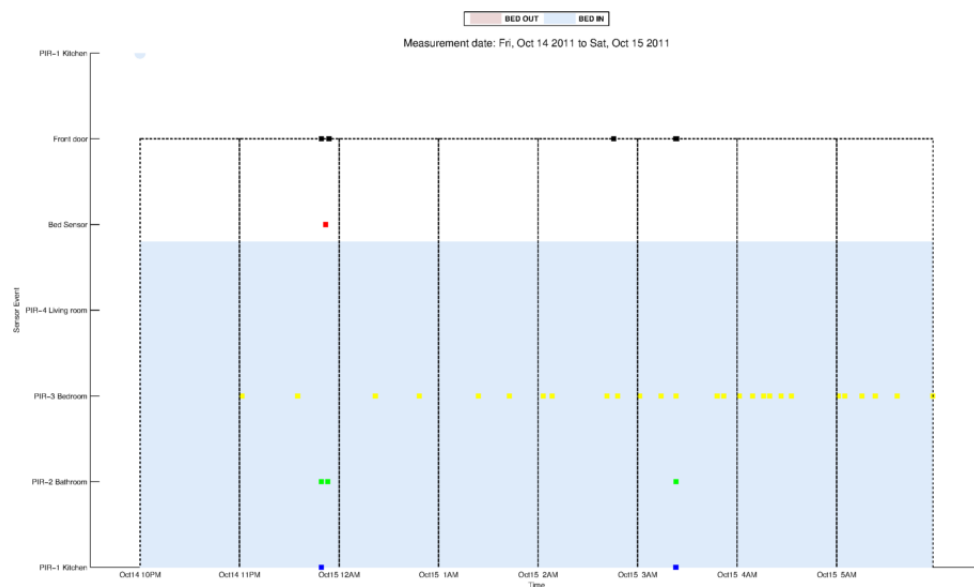


Figure 207: Sensor events and computed bed entrances and exists

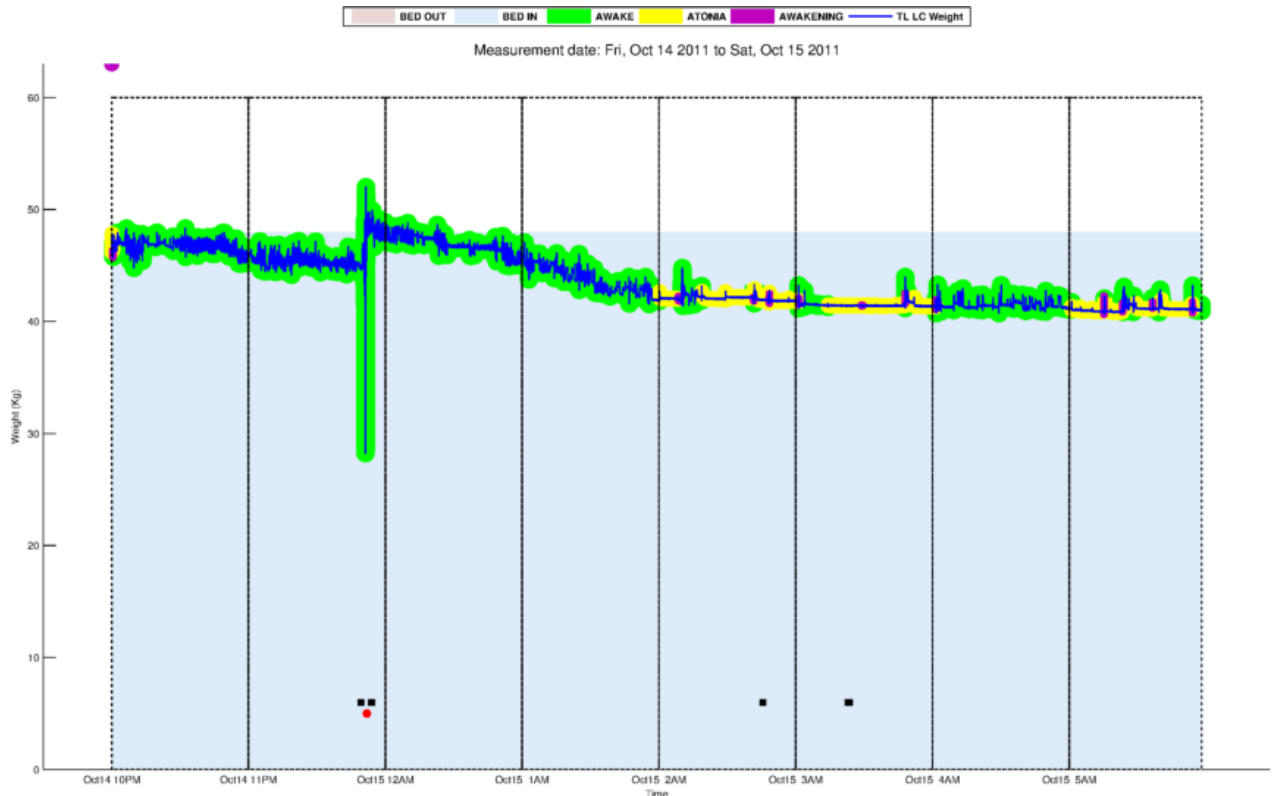


Figure 208: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 208 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 209 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 208).

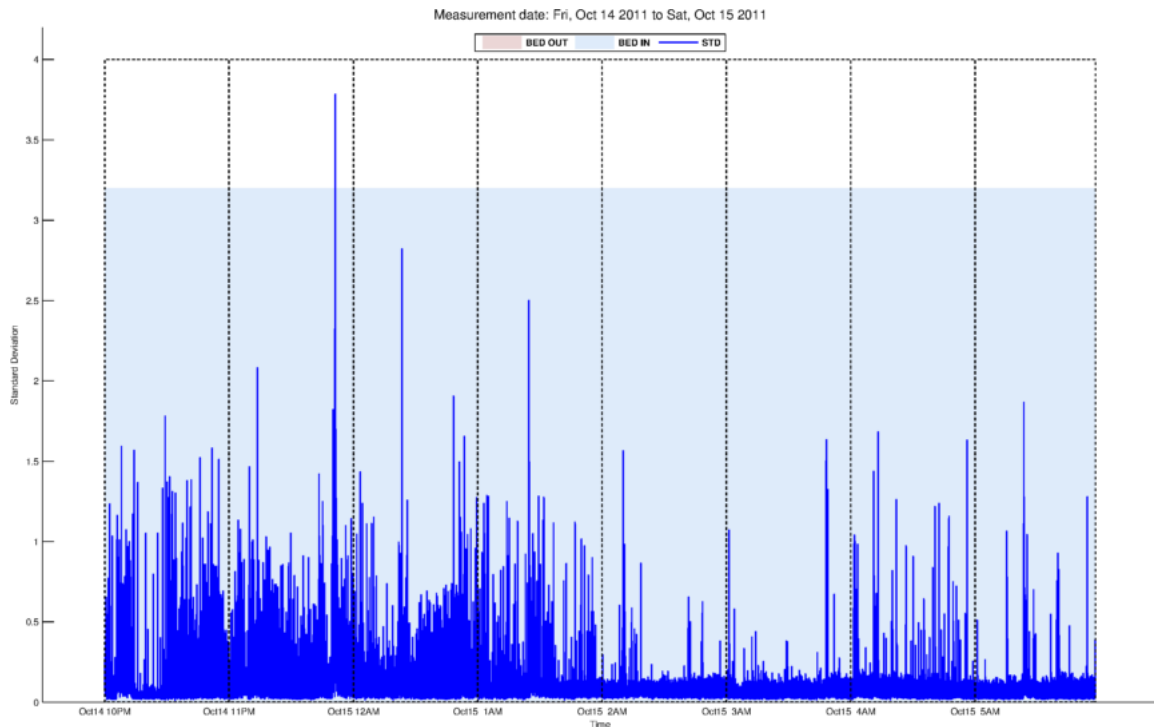


Figure 209: The moving standard deviation for the measured weight.

5.12 11th Night: from Oct 15 2011 to Oct 16 2011

Table 152 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 153 presents the duration of the estimated sleep related activities.

Table 152: Sleep related activities and sensor events measured between Oct 15 and Oct 16

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:53		22:01:57	22:01:58	22:01:53	23:38:24		00:18:04		23:40:46	23:38:23
2			22:01:58	22:02:02	23:20:26	02:48:27		00:28:54			23:42:30
3			23:31:22	23:31:56	00:59:36			01:14:32			01:47:28
4			01:14:33	01:14:40	01:16:56			01:23:25			02:48:26
5			01:23:24	01:23:38	01:34:44			01:28:11			
6			01:43:23	01:44:27	01:55:07			01:49:25			
7			02:03:51	02:04:41	02:12:34			01:55:53			
8			02:20:00	02:20:04	02:43:35			01:59:15			
9			02:51:42	02:52:21	03:20:19			02:03:15			
10			03:25:21	03:32:39	03:25:22			02:11:37			
11			03:32:17	03:48:47	03:32:57			02:16:35			
12			03:46:39	04:00:15	03:48:47			02:20:01			
13			03:55:40	04:16:55	04:09:16			02:41:42			
14			04:16:52	04:30:00	04:22:23			02:51:03			
15			04:29:57	04:36:51	04:30:27			02:55:39			
16			04:36:11	04:57:43	04:44:31			02:58:20			
17			04:55:34	05:16:18	04:57:44			03:02:50			
18			05:15:05		05:17:56			03:28:38			
19			05:23:43		05:23:44			03:44:00			
20								03:58:08			
21								04:05:21			
22								04:16:45			
23								04:22:24			
24								04:29:58			
25								04:44:31			
26								04:55:35			
27								05:03:35			
28								05:16:20			
29								05:23:44			

Table 153: Duration of the sleep related activities presented in Table 152

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:25		00:00:01	00:00:00	00:00:03
2			00:00:04	01:18:37	00:10:57
3			00:00:35	01:27:53	00:14:59
4			00:00:07	00:02:16	00:06:29
5			00:00:14	00:11:08	00:08:40
6			00:01:04	00:10:42	00:08:45
7			00:00:50	00:07:54	00:07:27
8			00:00:03	00:23:35	00:08:08
9			00:00:39	00:28:03	00:05:02
10			00:00:01	00:00:17	00:06:56
11			00:00:22	00:00:00	00:13:44
12			00:02:08	00:09:03	00:06:54
13			00:04:35	00:05:29	00:07:36
14			00:00:03	00:00:27	00:07:35
15			00:00:03	00:07:41	00:05:45
16			00:00:39	00:00:01	00:11:04
17			00:02:09	00:01:38	00:17:24
18			00:01:13		00:05:48
19			00:00:01		00:36:21

Figure 210 presents the measured sensor events and the computed bed entrances and exits.

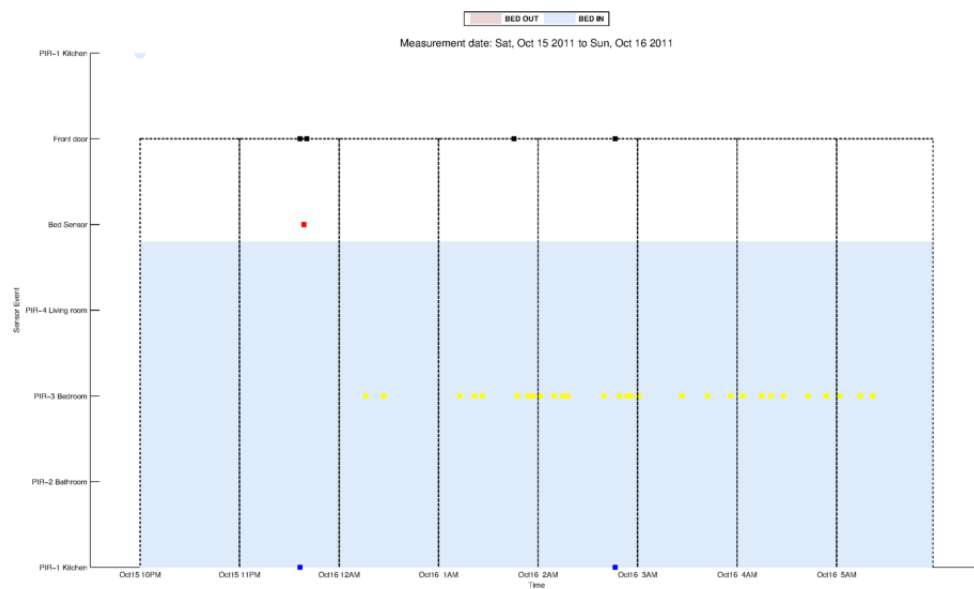


Figure 210: Sensor events and computed bed entrances and exists

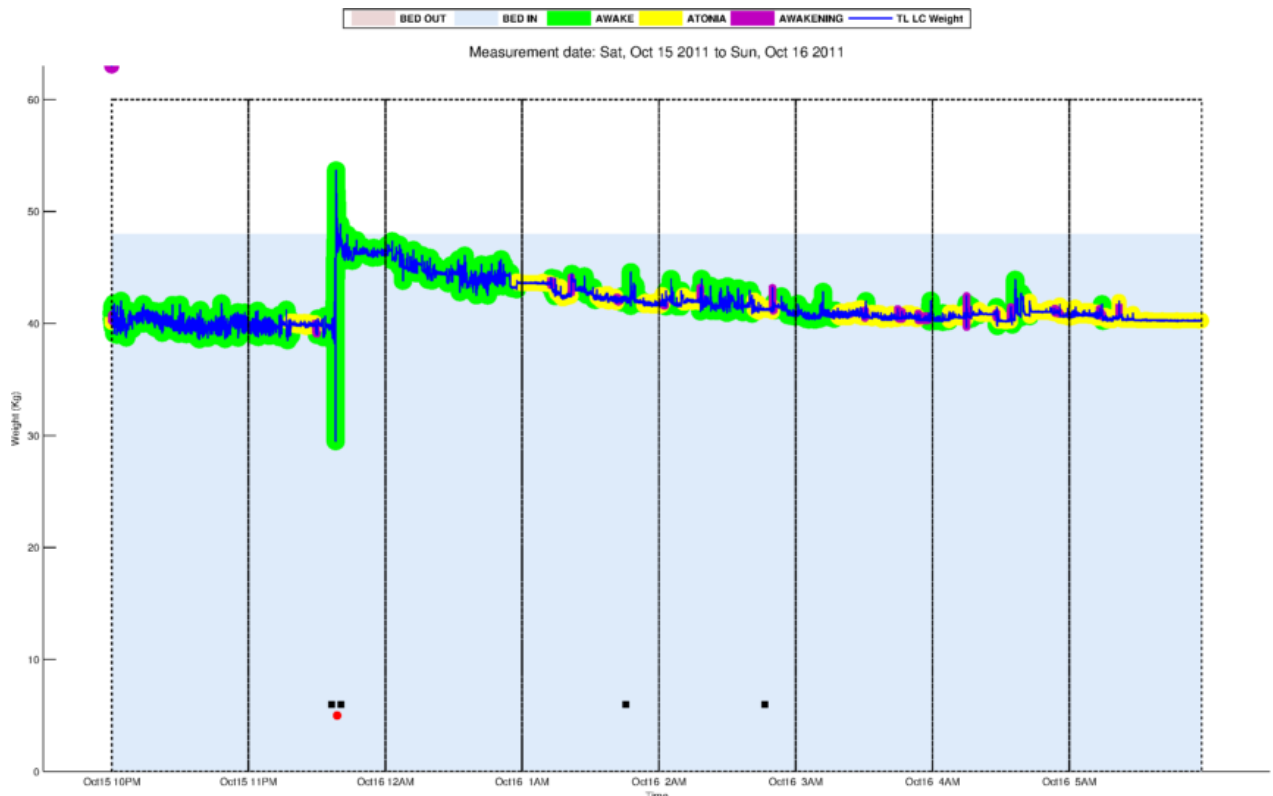


Figure 211: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 211 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 212 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 211).

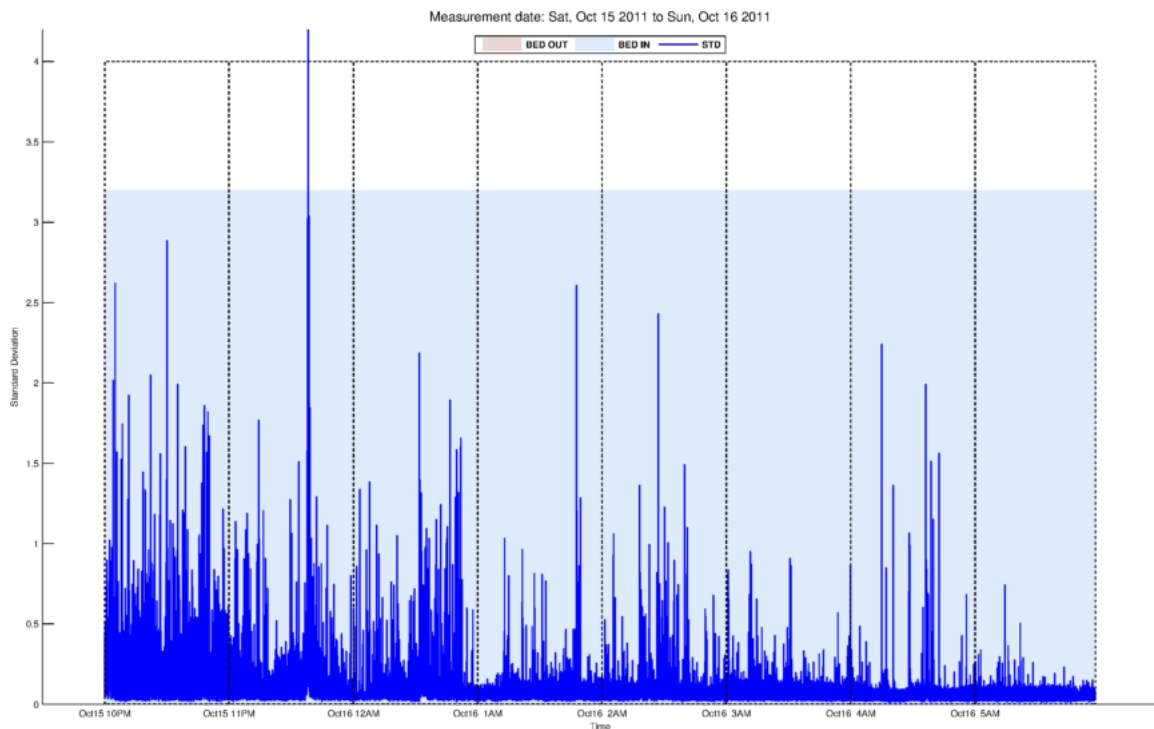


Figure 212: The moving standard deviation for the measured weight.

5.13 12th Night: from Oct 16 2011 to Oct 17 2011

Table 154 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 155 presents the duration of the estimated sleep related activities.

Table 154: Sleep related activities and sensor events measured between Oct 16 and Oct 17

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:54		22:01:57	22:02:01	22:01:54	23:40:47	02:58:08	23:15:06		03:02:03	23:40:45
2			23:28:30	23:28:37	23:23:16		03:02:34	23:28:31			23:41:51
3			23:53:31	23:53:35	23:30:55			23:33:41			00:47:26
4			00:01:13	00:01:19	23:53:39			23:38:33			02:57:52
5			00:15:08	00:15:20	00:06:42			23:53:37			03:03:02
6			00:24:09	00:24:12	00:17:49			00:01:15			
7			00:32:57	00:33:05	00:27:51			00:04:52			
8			00:41:00	00:41:03	00:34:06			00:10:34			
9			01:02:12	01:03:58	00:55:55			00:15:07			
10			01:10:23	01:10:29	01:04:50			00:24:12			
11			01:37:21	01:37:38	01:28:51			00:32:59			
12			02:12:07	02:12:20	02:06:28			00:40:59			
13			02:48:35	02:49:23	02:43:24			00:44:07			
14			03:21:43	03:24:07	03:15:56			00:50:41			
15			04:02:35	04:03:26	03:45:25			01:02:13			
16			05:24:46	05:31:41	05:09:40			01:10:25			
17			05:29:56		05:24:46			01:15:04			
18			05:48:05		05:42:17			01:20:34			
19					05:48:05			01:26:14			
20								01:37:23			
21								01:46:16			
22								01:57:48			
23								03:19:10			
24								03:27:05			
25								03:45:22			
26								04:03:27			
27								04:14:12			
28								04:20:57			
29								05:08:00			

Table 155: Duration of the sleep related activities presented in Table 154

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:22		00:00:03	01:21:28	00:00:03
2			00:00:07	00:02:18	00:05:15
3			00:00:03	00:00:04	00:22:40
4			00:00:06	00:05:23	00:07:35
5			00:00:12	00:02:30	00:08:27
6			00:00:03	00:03:39	00:06:20
7			00:00:08	00:01:01	00:05:07
8			00:00:03	00:14:54	00:06:54
9			00:01:47	00:00:52	00:06:18
10			00:00:06	00:18:25	00:05:34
11			00:00:17	00:28:54	00:08:31
12			00:00:12	00:31:09	00:05:40
13			00:00:48	00:26:37	00:05:12
14			00:02:24	00:21:21	00:05:47
15			00:00:51	01:06:25	00:17:13
16			00:00:00	00:10:38	00:15:08
17			00:01:45		00:05:10
18			00:00:00		00:05:48
19					00:11:55

Figure 213 presents the measured sensor events and the computed bed entrances and exits.

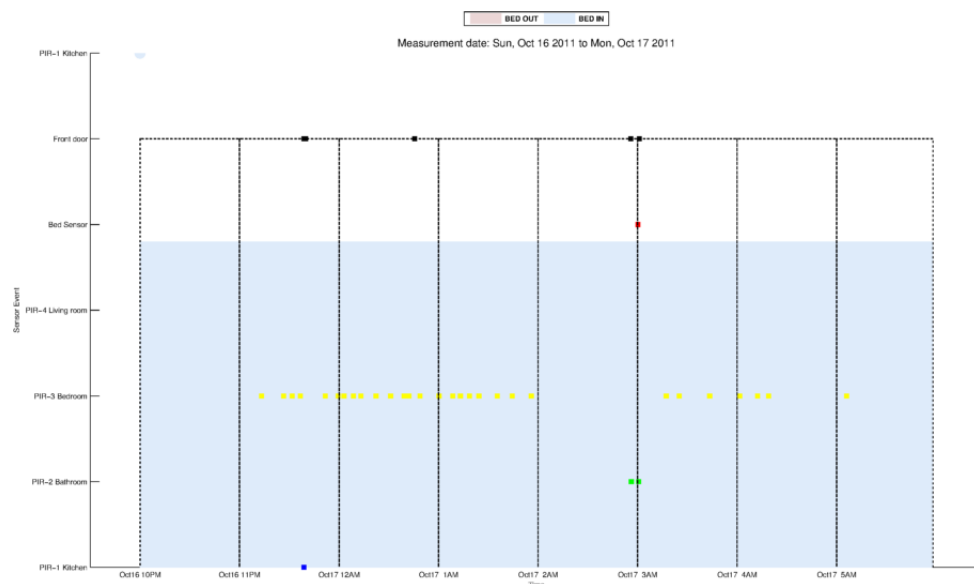


Figure 213: Sensor events and computed bed entrances and exists

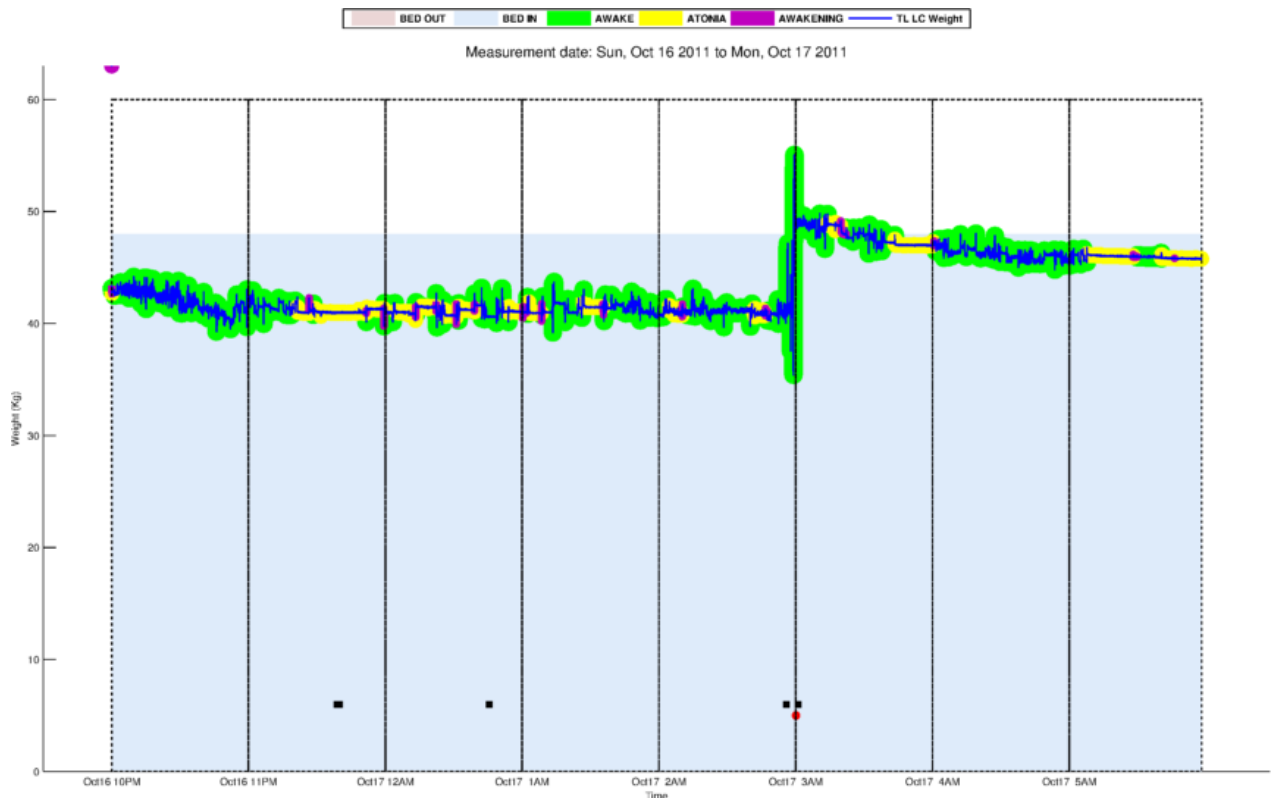


Figure 214: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 214 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 215 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 214).

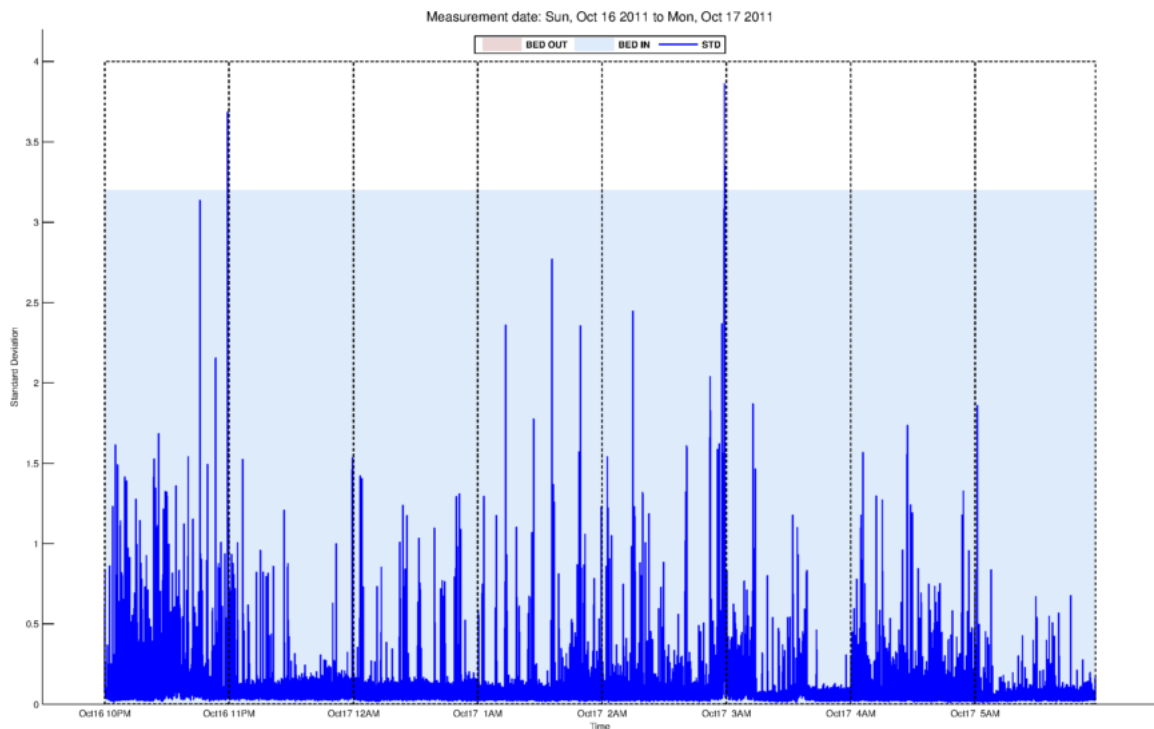


Figure 215: The moving standard deviation for the measured weight.

5.14 13th Night: from Oct 17 2011 to Oct 18 2011

Table 156 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 157 presents the duration of the estimated sleep related activities.

Table 156: Sleep related activities and sensor events measured between Oct 17 and Oct 18

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:54		22:01:57	22:01:58	22:01:54	23:24:13				02:58:55	23:24:12
2			22:01:59	22:02:06	02:17:48						23:24:57
3			02:23:59	02:24:37	04:15:11						23:47:25
4			04:20:47	04:21:09	04:21:44						02:53:55
5			04:32:01	04:36:14	04:53:57						02:59:37
6			05:06:11	05:06:14	05:32:48						
7			05:42:14	05:43:04	05:43:05						
8			05:53:16	05:54:12							

Table 157: Duration of the sleep related activities presented in Table 156

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:21		00:00:01	00:00:01	00:00:03
2			00:00:07	04:16:23	00:06:12
3			00:00:38	01:50:51	00:05:37
4			00:00:22	00:00:35	00:10:18
5			00:04:13	00:17:46	00:12:15
6			00:00:03	00:26:37	00:09:27
7			00:00:50	00:00:01	00:10:12
8			00:00:56	00:05:47	

Figure 216 presents the measured sensor events and the computed bed entrances and exits.

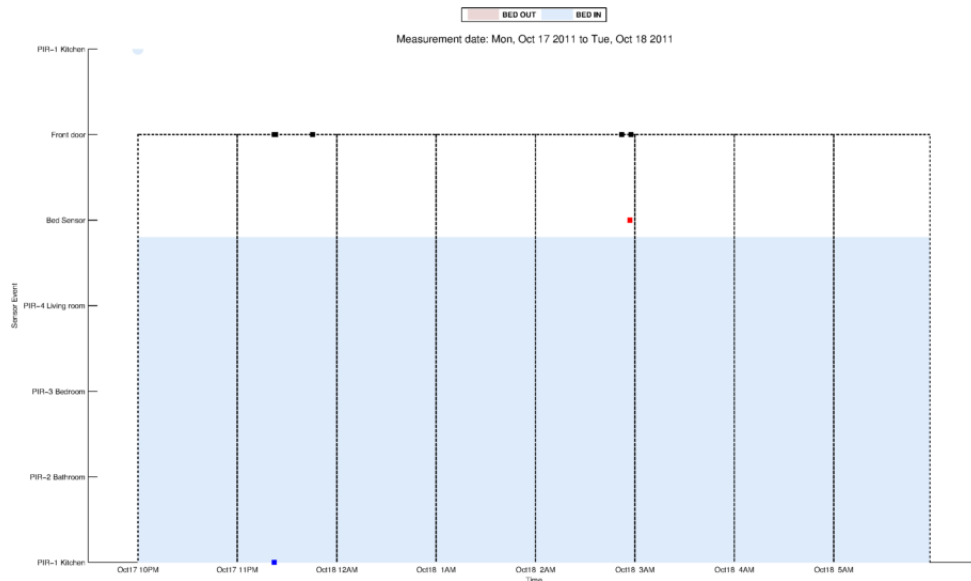


Figure 216: Sensor events and computed bed entrances and exists

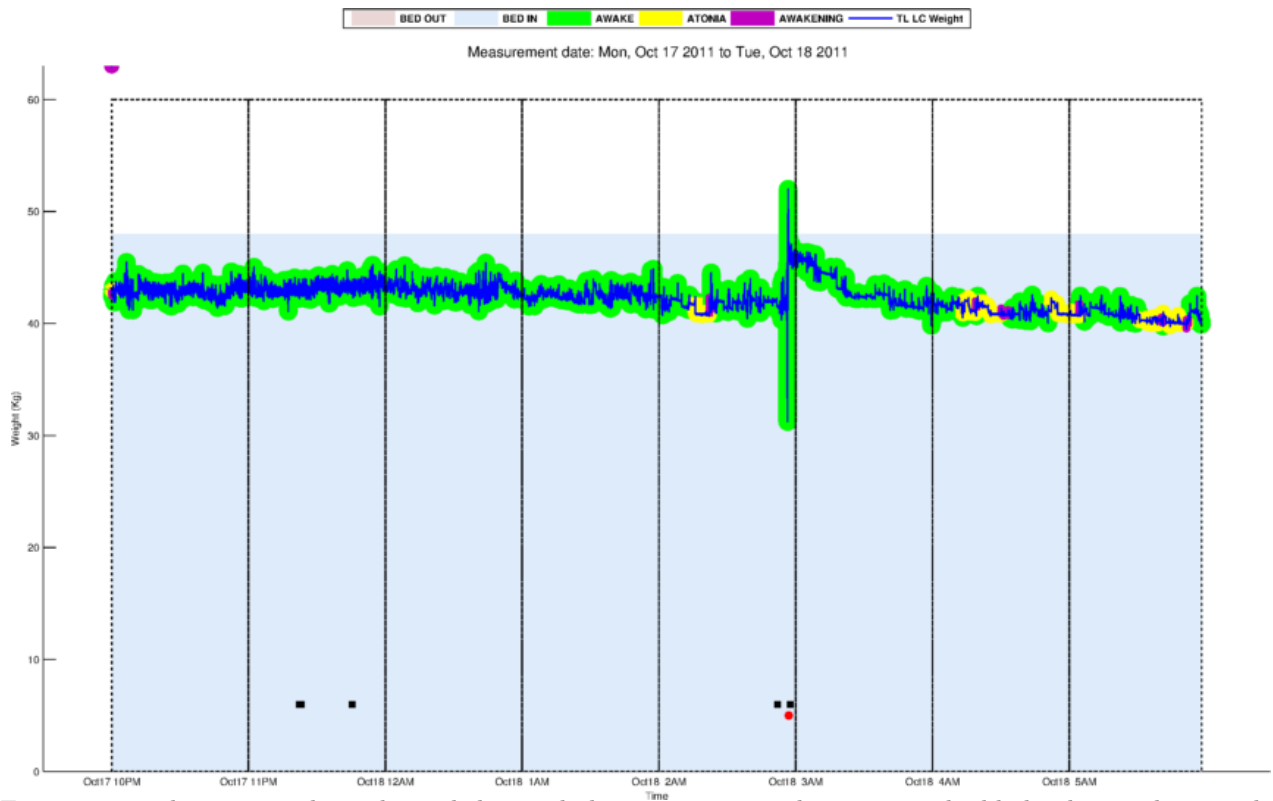


Figure 217: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 217 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 218 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 217).

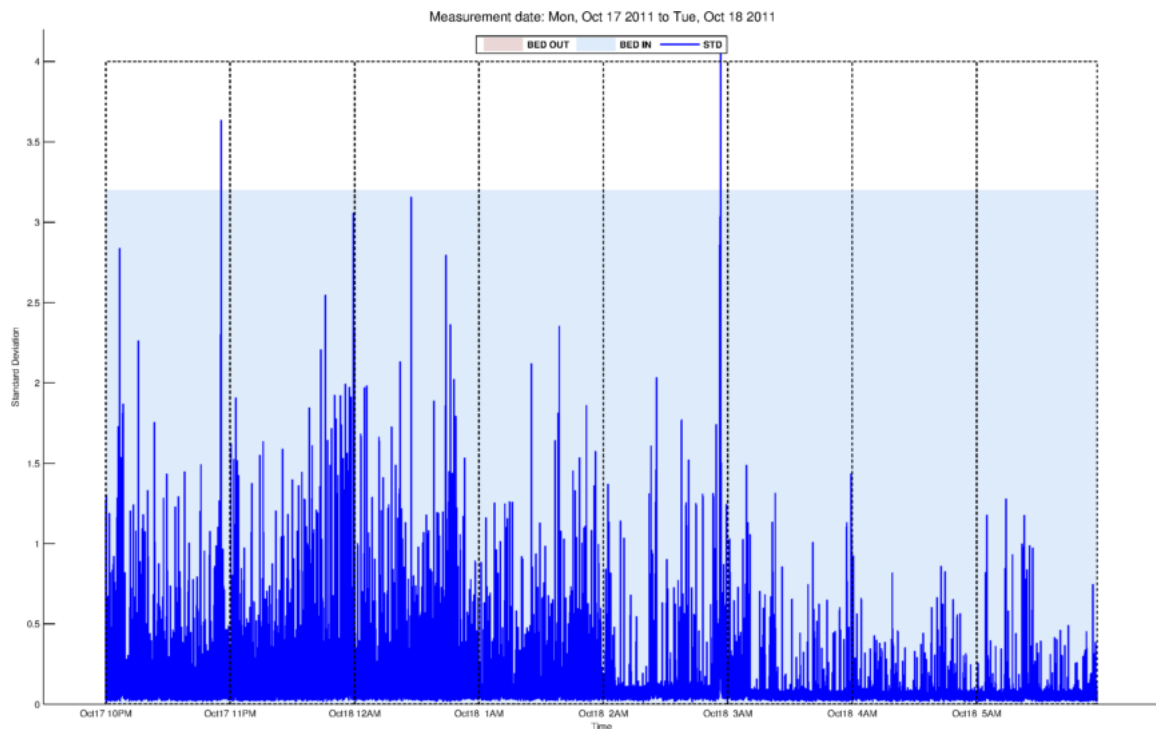


Figure 218: The moving standard deviation for the measured weight.

5.15 14th Night: from Oct 18 2011 to Oct 19 2011

Table 158 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 159 presents the duration of the estimated sleep related activities.

Table 158: Sleep related activities and sensor events measured between Oct 18 and Oct 19

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:54		22:01:57	22:01:58	22:01:54	23:28:03					22:47:24
2			00:53:47	00:54:04	00:48:19	02:38:50					23:28:01
3			01:09:20	01:09:24	01:02:54						02:38:49
4			01:16:30	01:16:33	01:10:16						02:39:30
5			01:39:37	01:39:42	01:26:46						
6			01:49:07	01:49:11	01:39:52						
7			02:04:19	02:04:23	01:57:25						
8			02:15:42	02:15:46	02:09:22						
9			02:26:29	02:26:33	02:20:58						
10			02:55:32	02:58:13	02:44:51						
11			03:06:19	03:06:32	02:59:48						
12			03:14:09	03:14:13	03:06:33						
13			03:37:21	03:37:38	03:20:01						
14			03:53:57	03:54:00	03:41:30						
15			04:03:54	04:04:03	03:54:24						
16			04:12:04	04:12:08	04:05:49						
17			04:17:34	04:17:37	04:12:17						
18			04:24:24	04:24:38	04:17:44						
19			04:36:53	04:36:56	04:24:46						
20			04:43:45	04:43:49	04:38:08						
21			05:06:18	05:06:21	04:44:25						
22			05:25:41	05:25:47	05:17:34						
23			05:46:21	05:46:29	05:37:10						
24					05:51:37						

Table 159: Duration of the sleep related activities presented in Table 158

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:21		00:00:01	02:46:47	00:00:03
2			00:00:16	00:08:52	00:05:29
3			00:00:03	00:00:52	00:06:27
4			00:00:03	00:10:15	00:06:14
5			00:00:04	00:00:10	00:12:53
6			00:00:03	00:08:15	00:09:16
7			00:00:04	00:04:59	00:06:55
8			00:00:03	00:05:13	00:06:21
9			00:00:03	00:18:21	00:05:32
10			00:02:41	00:01:35	00:10:42
11			00:00:13	00:00:01	00:06:32
12			00:00:03	00:05:49	00:07:37
13			00:00:17	00:03:53	00:17:22
14			00:00:03	00:00:24	00:12:28
15			00:00:09	00:01:47	00:09:31
16			00:00:03	00:00:09	00:06:16
17			00:00:03	00:00:07	00:05:17
18			00:00:14	00:00:07	00:06:40
19			00:00:03	00:01:12	00:12:09
20			00:00:03	00:00:36	00:05:38
21			00:00:03	00:11:14	00:21:56
22			00:00:06	00:11:24	00:08:08
23			00:00:08	00:05:09	00:09:12
24					00:08:23

Figure 219 presents the measured sensor events and the computed bed entrances and exits.

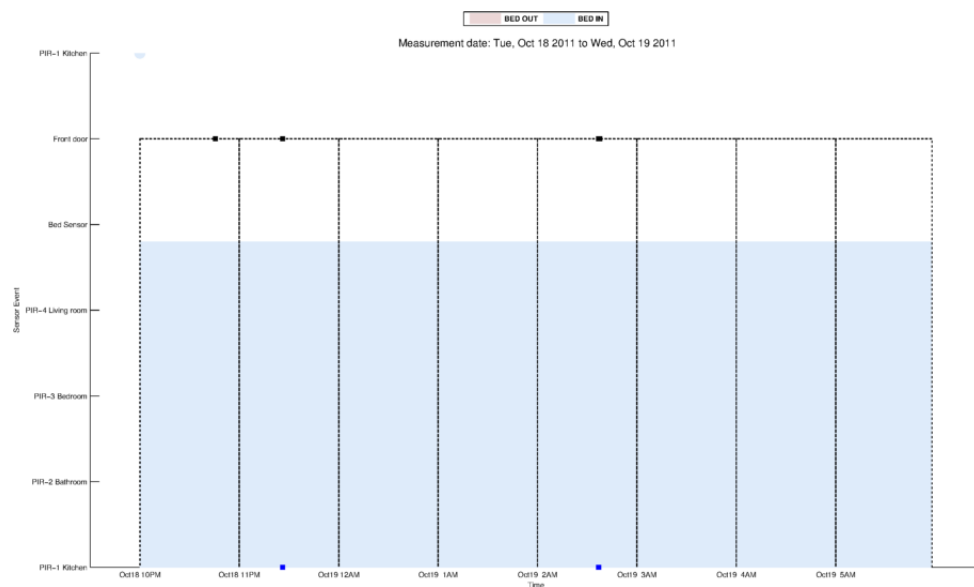


Figure 219: Sensor events and computed bed entrances and exists

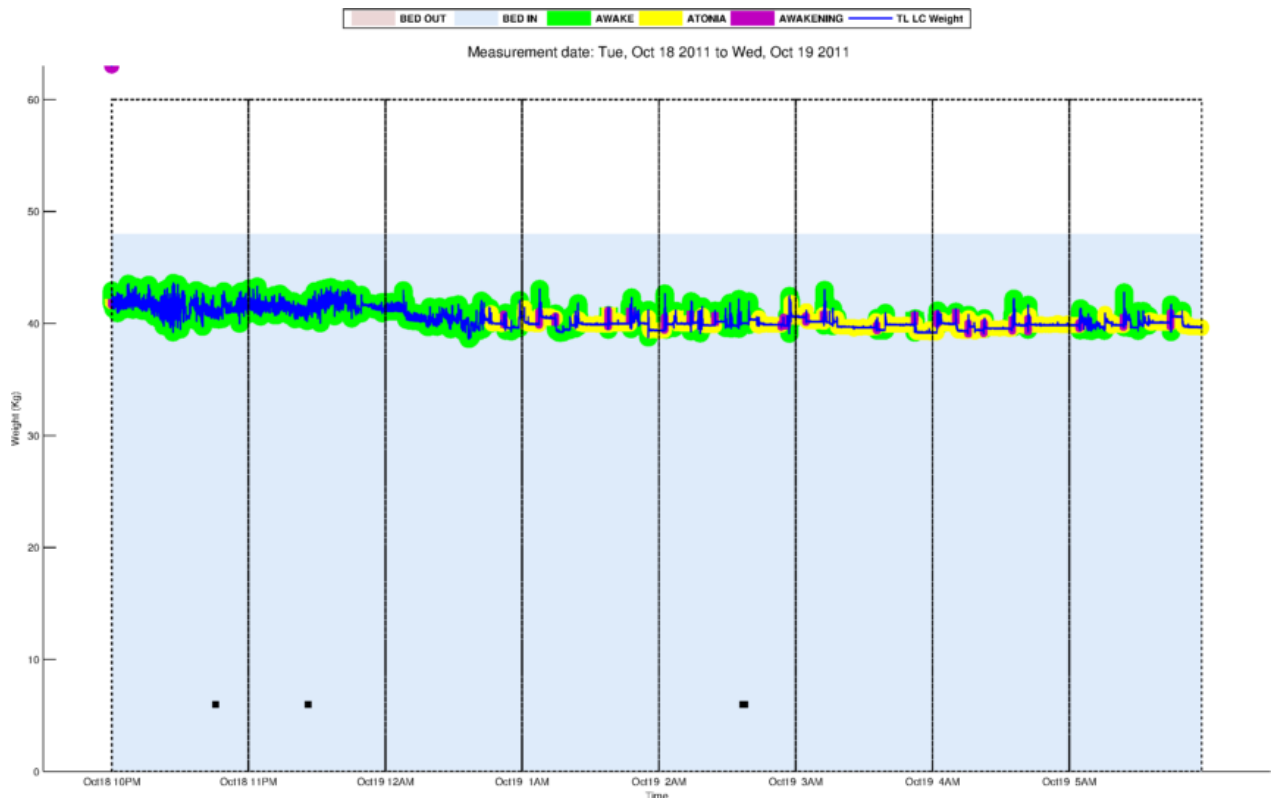


Figure 220: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 220 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 221 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 220).

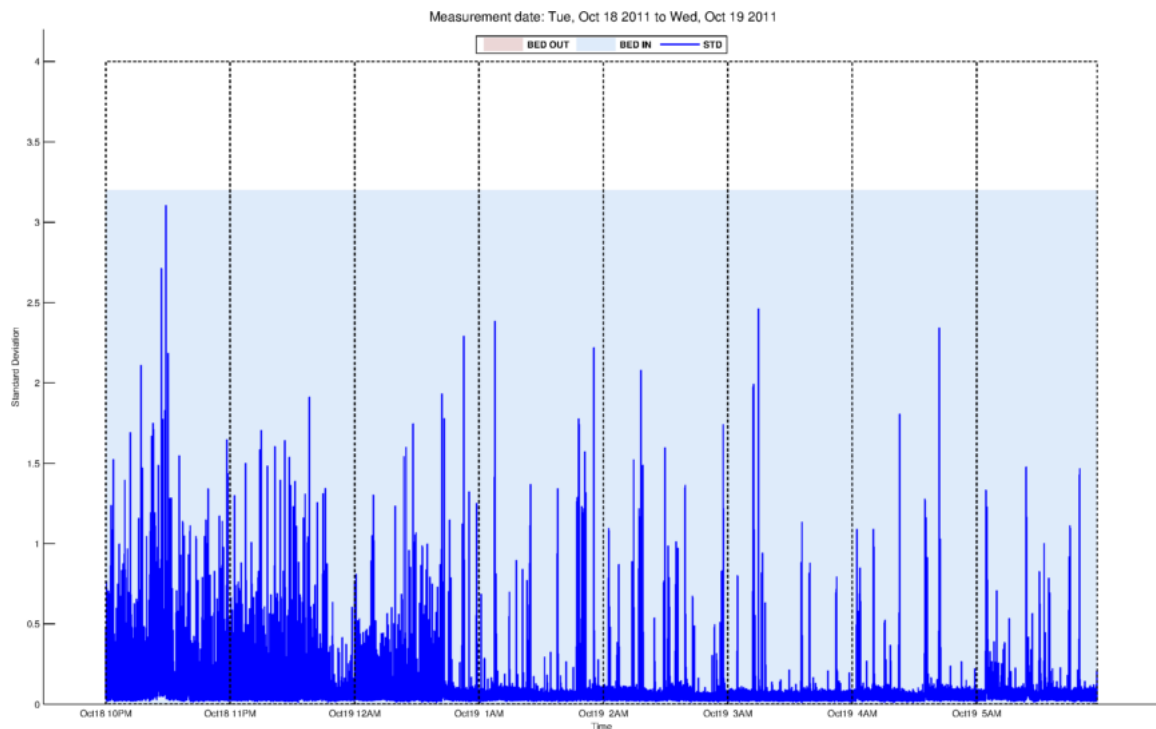


Figure 221: The moving standard deviation for the measured weight.

5.16 15th Night: from Oct 19 2011 to Oct 20 2011

Table 160 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 161 presents the duration of the estimated sleep related activities.

Table 160: Sleep related activities and sensor events measured between Oct 19 and Oct 20

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:54		22:02:21	22:04:06	22:01:54	00:03:51					00:03:49
2			04:23:22	04:23:26	04:17:34	03:19:47					00:09:42
3			05:22:25	05:24:56	05:15:26						03:19:45
4			05:35:22	05:35:55	05:24:56						03:20:25
5			05:43:07	05:44:28	05:36:24						

Table 161: Duration of the sleep related activities presented in Table 160

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:19		00:01:45	06:14:26	00:00:27
2			00:00:03	00:52:09	00:05:49
3			00:02:31	00:00:00	00:06:59
4			00:00:33	00:00:29	00:10:27
5			00:01:21	00:15:33	00:06:44

Figure 222 presents the measured sensor events and the computed bed entrances and exits.

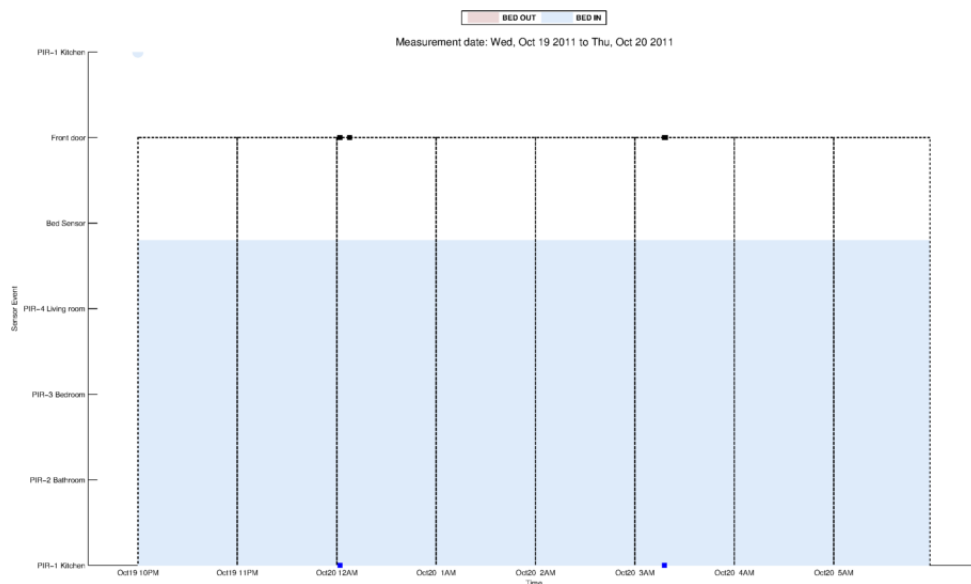


Figure 222: Sensor events and computed bed entrances and exists

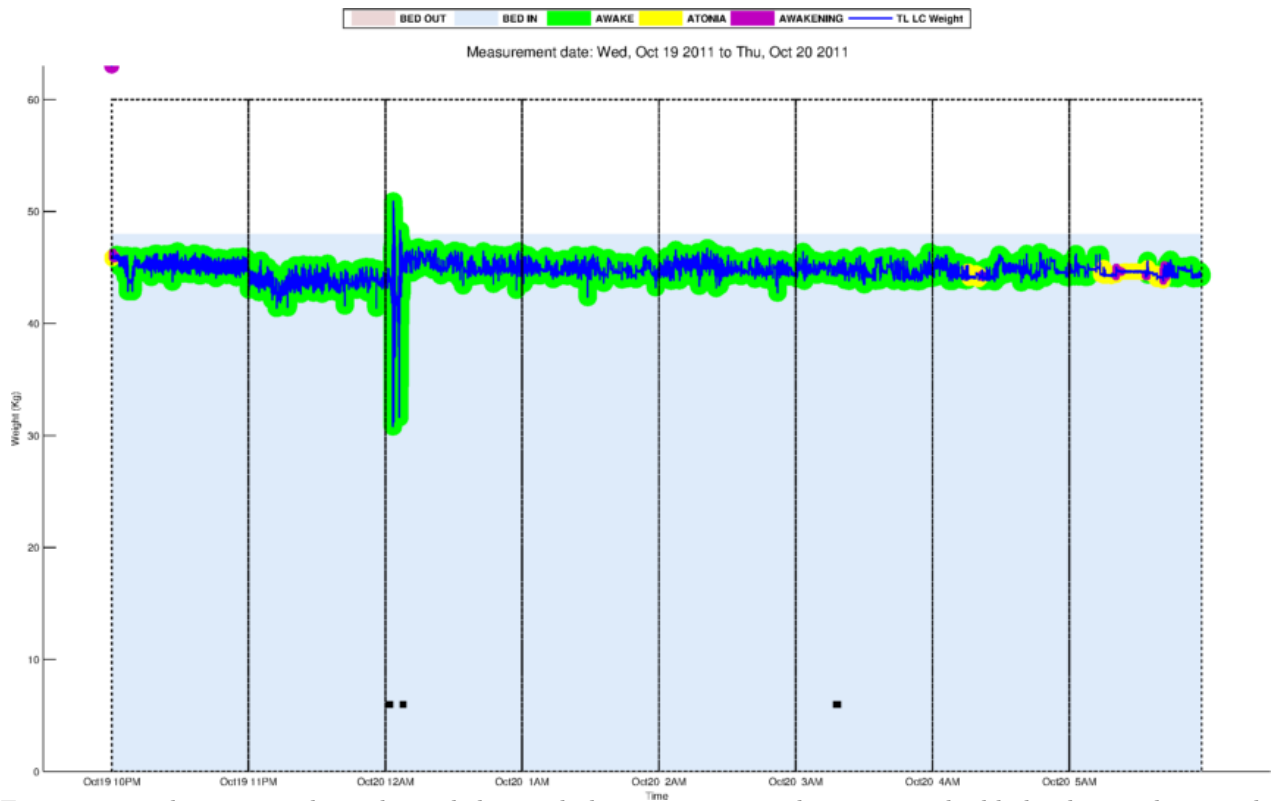


Figure 223: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 223 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 224 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 223).

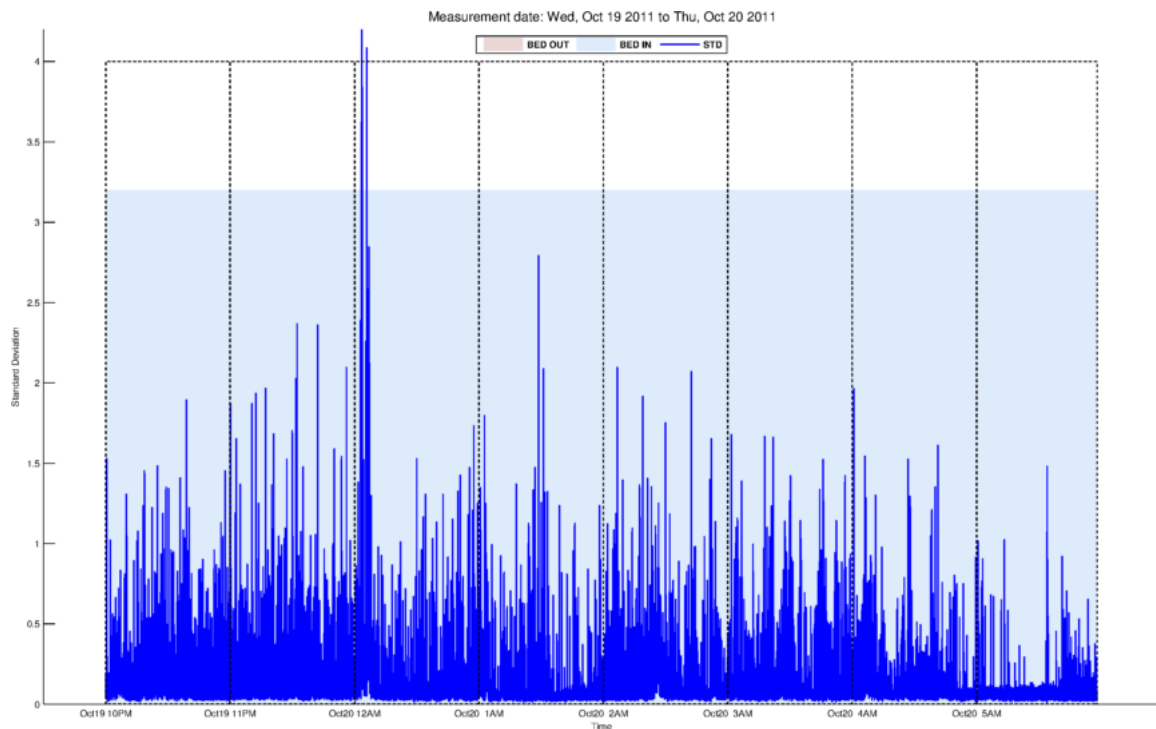


Figure 224: The moving standard deviation for the measured weight.

5.17 16th Night: from Oct 20 2011 to Oct 21 2011

Table 162 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 163 presents the duration of the estimated sleep related activities.

Table 162: Sleep related activities and sensor events measured between Oct 20 and Oct 21

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:55		22:52:08	22:01:55	22:43:43	22:06:48	22:06:46		22:02:42		22:10:40
2			00:06:13	22:52:11	23:59:31	00:01:01	22:10:16		22:06:45		00:00:59
3			00:28:49	00:06:17	00:21:50	03:24:41					00:02:01
4			00:56:04	00:29:18	00:48:41						03:24:37
5			01:14:42	00:56:34	01:08:49						03:25:13
6			02:00:54	01:15:49	01:49:33						
7			02:08:20	02:02:21	02:02:40						
8			02:28:52	02:11:39	02:15:29						
9			02:43:50	02:31:43	02:34:48						
10			02:58:59	02:46:38	02:51:00						
11			03:04:21	03:06:47	02:59:00						
12			03:20:29	03:20:43	03:06:49						
13			03:31:28	03:34:34	03:20:43						
14			03:41:01	03:41:05	03:35:00						
15			03:53:04	03:55:39	03:44:32						
16			04:15:09	04:15:27	04:09:18						
17			04:33:26	04:36:42	04:24:32						
18			04:55:18	04:59:55	04:49:08						
19			05:14:33	05:55:00	05:06:03						
20			05:54:56		05:14:34						

Table 163: Duration of the sleep related activities presented in Table 162

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:21		00:00:03	00:41:55	00:08:26
2			00:00:03	01:07:30	00:06:43
3			00:00:29	00:15:36	00:07:00
4			00:00:30	00:19:26	00:07:23
5			00:01:07	00:12:17	00:05:54
6			00:01:28	00:33:49	00:11:22
7			00:03:20	00:00:18	00:05:41
8			00:02:51	00:03:50	00:13:25
9			00:02:48	00:03:06	00:09:03
10			00:00:00	00:04:23	00:08:00
11			00:02:27	00:00:01	00:05:22
12			00:00:13	00:00:00	00:13:42
13			00:03:06	00:00:25	00:10:47
14			00:00:03	00:03:28	00:06:02
15			00:02:35	00:13:41	00:08:33
16			00:00:18	00:09:07	00:05:52
17			00:03:16	00:12:28	00:08:55
18			00:04:37	00:06:08	00:06:11
19			00:00:00	00:04:59	00:08:32
20			00:00:03		00:40:29

Figure 225 presents the measured sensor events and the computed bed entrances and exits.

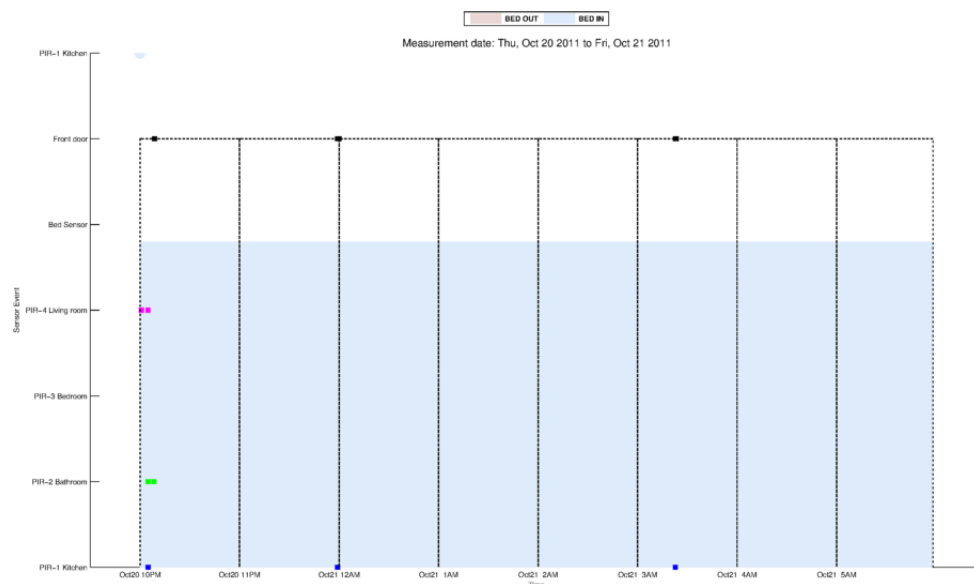


Figure 225: Sensor events and computed bed entrances and exists

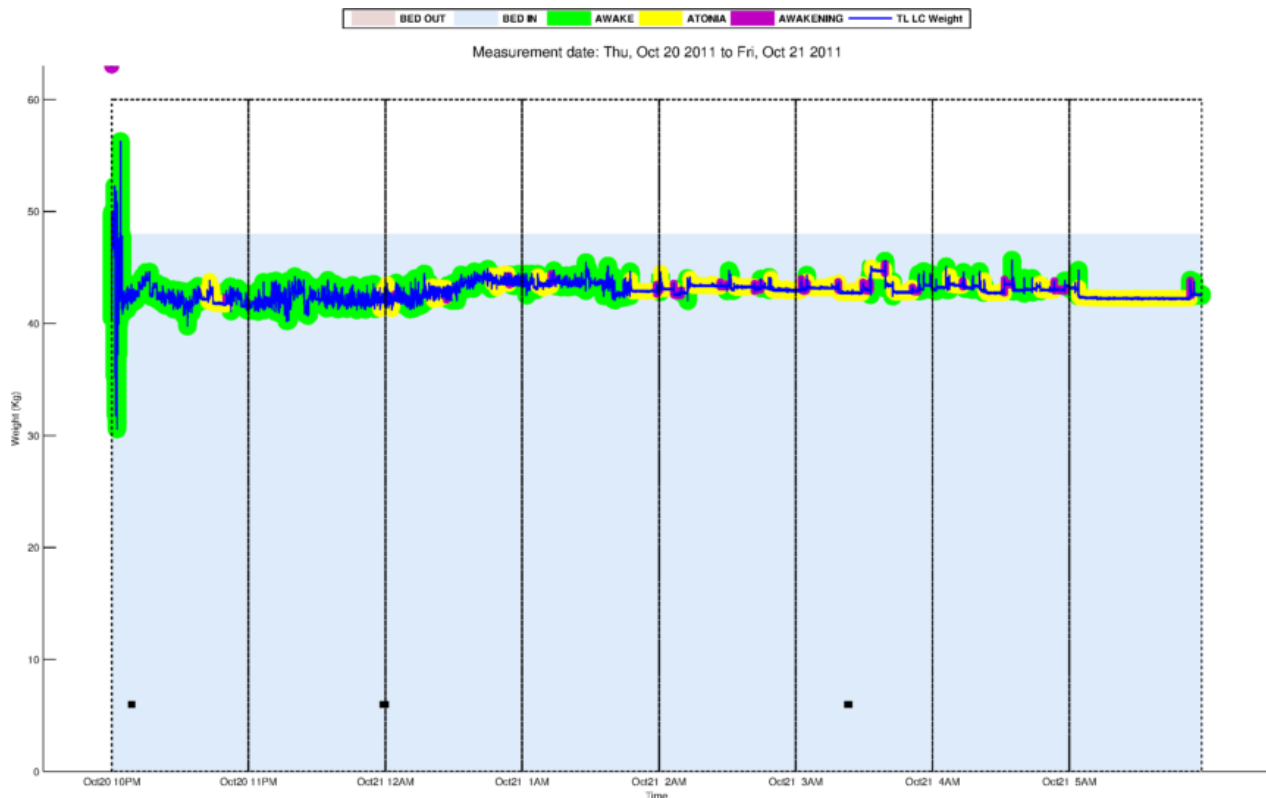


Figure 226: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 226 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 227 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 226).

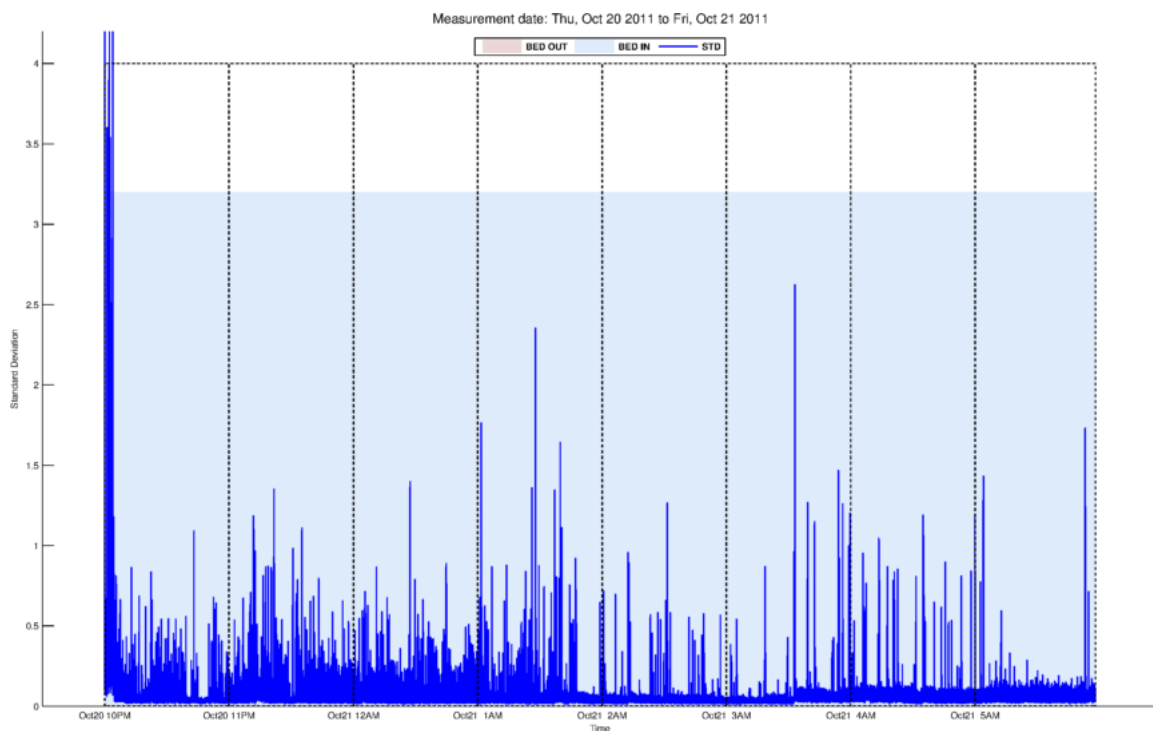


Figure 227: The moving standard deviation for the measured weight.

5.18 17th Night: from Oct 21 2011 to Oct 22 2011

Table 164 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 165 presents the duration of the estimated sleep related activities.

Table 164: Sleep related activities and sensor events measured between Oct 21 and Oct 22

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:55		22:02:02	22:02:22	22:01:55	23:52:58	23:58:01			23:56:42	23:52:56
2			02:03:19	02:03:22	01:56:27	03:05:56					23:58:33
3			02:20:01	02:20:07	02:08:18						03:05:54
4			02:38:44	02:40:26	02:29:24						03:06:48
5			02:51:22	02:53:09	02:40:31						
6			03:03:54	03:03:59	02:55:32						
7			03:09:12	03:09:16	03:03:59						
8			03:44:44	03:45:18	03:23:08						
9			04:01:22	04:22:01	03:50:36						
10			04:21:58	04:40:01	04:01:22						
11			04:39:58	05:29:11	04:33:50						
12			05:29:03	05:37:46	05:22:32						
13			05:35:43	05:45:27	05:29:12						
14			05:45:24	05:58:54	05:39:28						
15			05:58:51		05:50:00						

Table 165: Duration of the sleep related activities presented in Table 164

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:23		00:00:20	03:54:44	00:00:07
2			00:00:03	00:04:57	00:06:52
3			00:00:06	00:09:18	00:11:45
4			00:01:42	00:00:04	00:09:21
5			00:01:47	00:02:23	00:10:53
6			00:00:04	00:00:00	00:08:23
7			00:00:03	00:13:54	00:05:14
8			00:00:34	00:05:18	00:21:39
9			00:00:00	00:11:51	00:10:47
10			00:00:03	00:42:38	00:20:39
11			00:00:03	00:00:01	00:06:08
12			00:00:08	00:01:43	00:06:32
13			00:02:03	00:04:33	00:06:31
14			00:00:03	00:01:04	00:05:56
15			00:00:03		00:08:52

Figure 228 presents the measured sensor events and the computed bed entrances and exits.

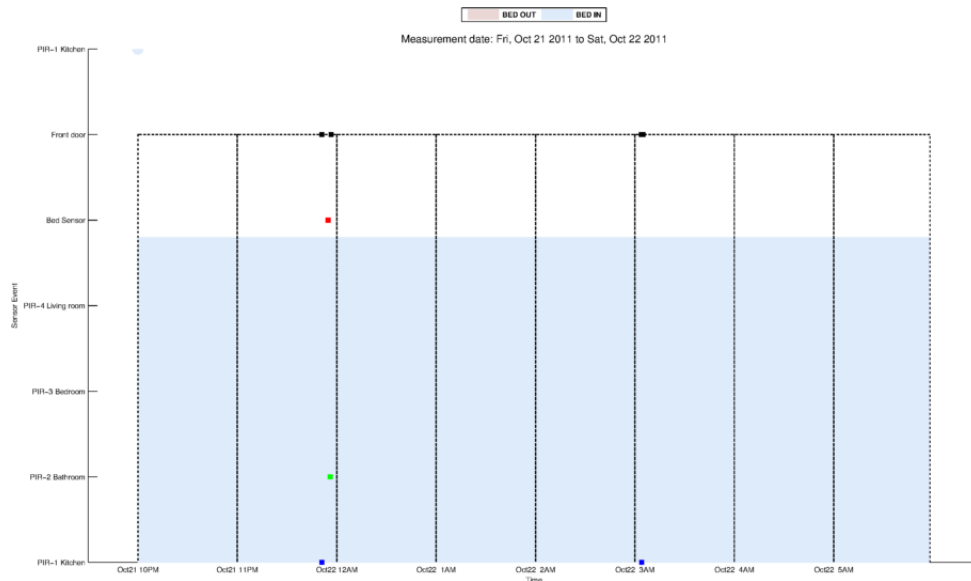


Figure 228: Sensor events and computed bed entrances and exists

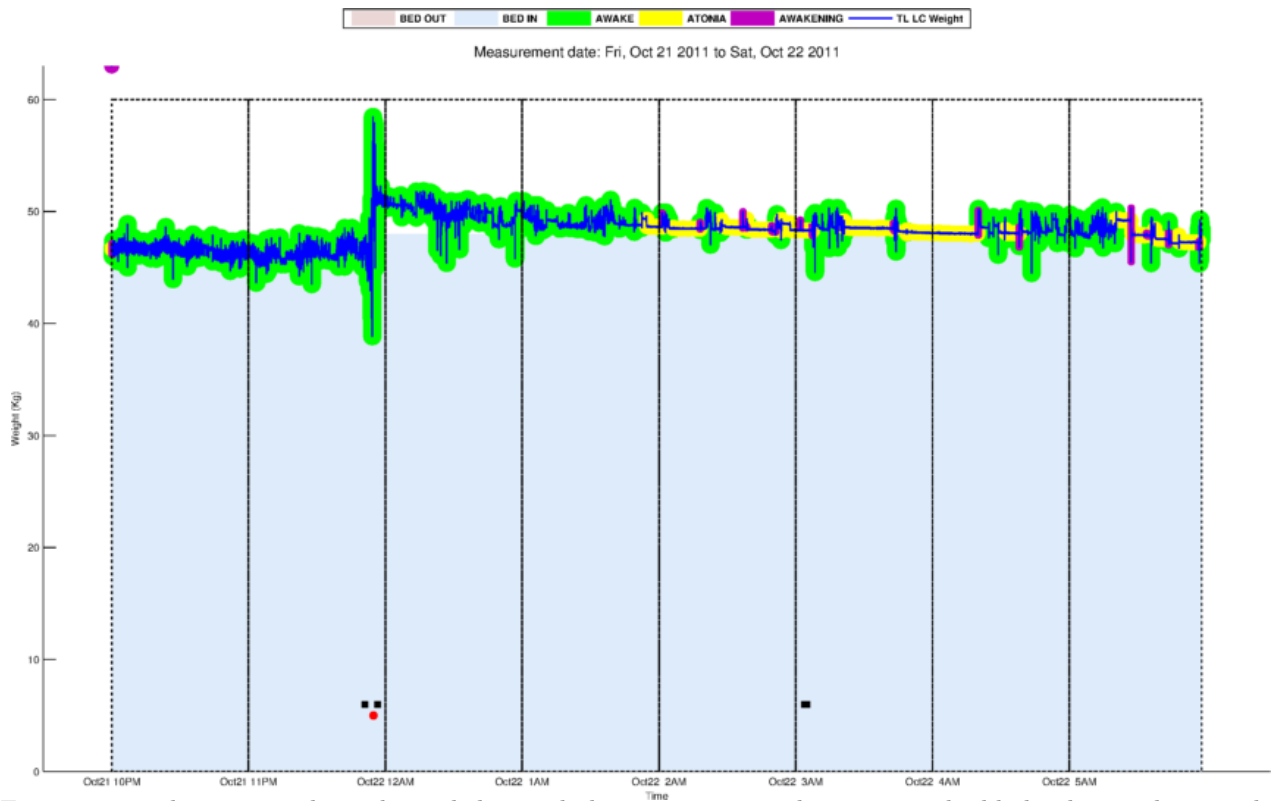


Figure 229: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 229 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 230 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 229).

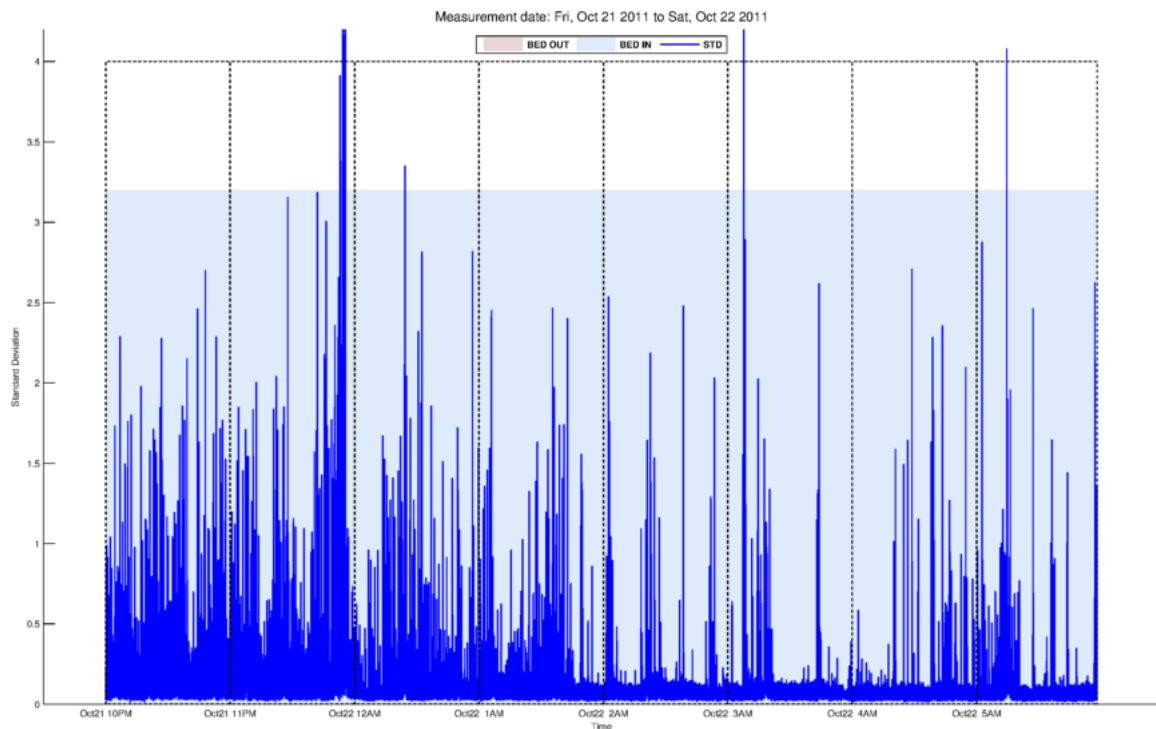


Figure 230: The moving standard deviation for the measured weight.

5.19 18th Night: from Oct 22 2011 to Oct 23 2011

Table 166 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 167 presents the duration of the estimated sleep related activities.

Table 166: Sleep related activities and sensor events measured between Oct 22 and Oct 23

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:55		22:04:06	22:04:09	22:01:55	23:49:54					23:49:52
2			23:21:06	23:21:10	23:15:14	03:22:35					23:50:42
3			00:50:16	00:55:10	00:37:16						03:22:32
4			01:06:46	01:07:00	01:00:06						03:24:53
5			02:58:48	02:59:10	02:47:28						
6			04:44:54	04:05:33	03:25:34						
7			05:12:25	04:46:11	04:13:44						
8			05:35:51	05:13:08	05:06:40						
9			05:46:03	05:36:12	05:29:50						
10				05:46:06	05:39:20						

Table 167: Duration of the sleep related activities presented in Table 166

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:21		00:00:03	01:11:16	00:02:11
2			00:00:04	01:16:18	00:05:52
3			00:04:54	00:04:57	00:13:01
4			00:00:14	01:40:44	00:06:40
5			00:00:22	00:26:28	00:11:22
6			00:01:17	00:08:12	00:40:05
7			00:00:43	00:20:33	00:31:15
8			00:00:21	00:16:44	00:05:45
9			00:00:03	00:03:09	00:06:01
10				00:13:54	00:06:44

Figure 231 presents the measured sensor events and the computed bed entrances and exits.

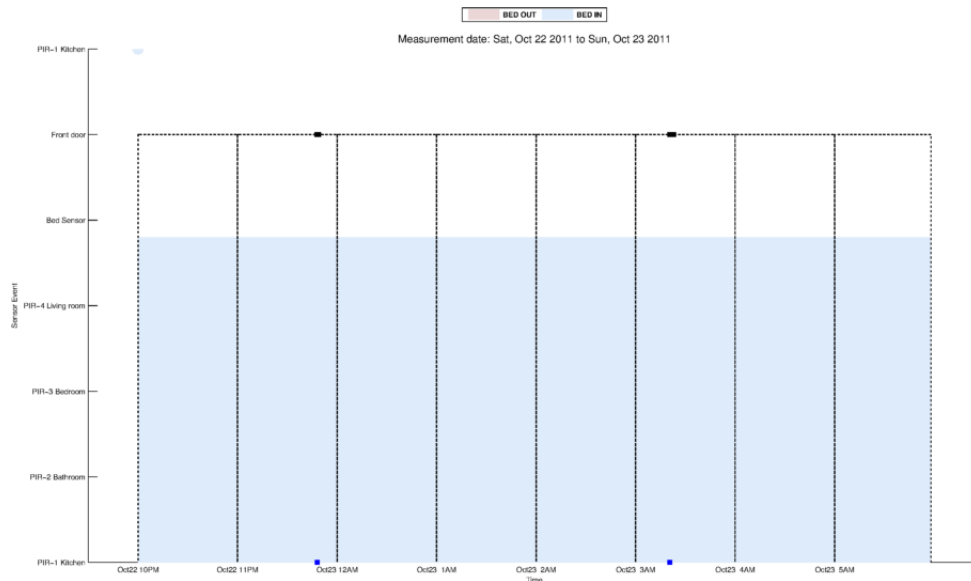


Figure 231: Sensor events and computed bed entrances and exists

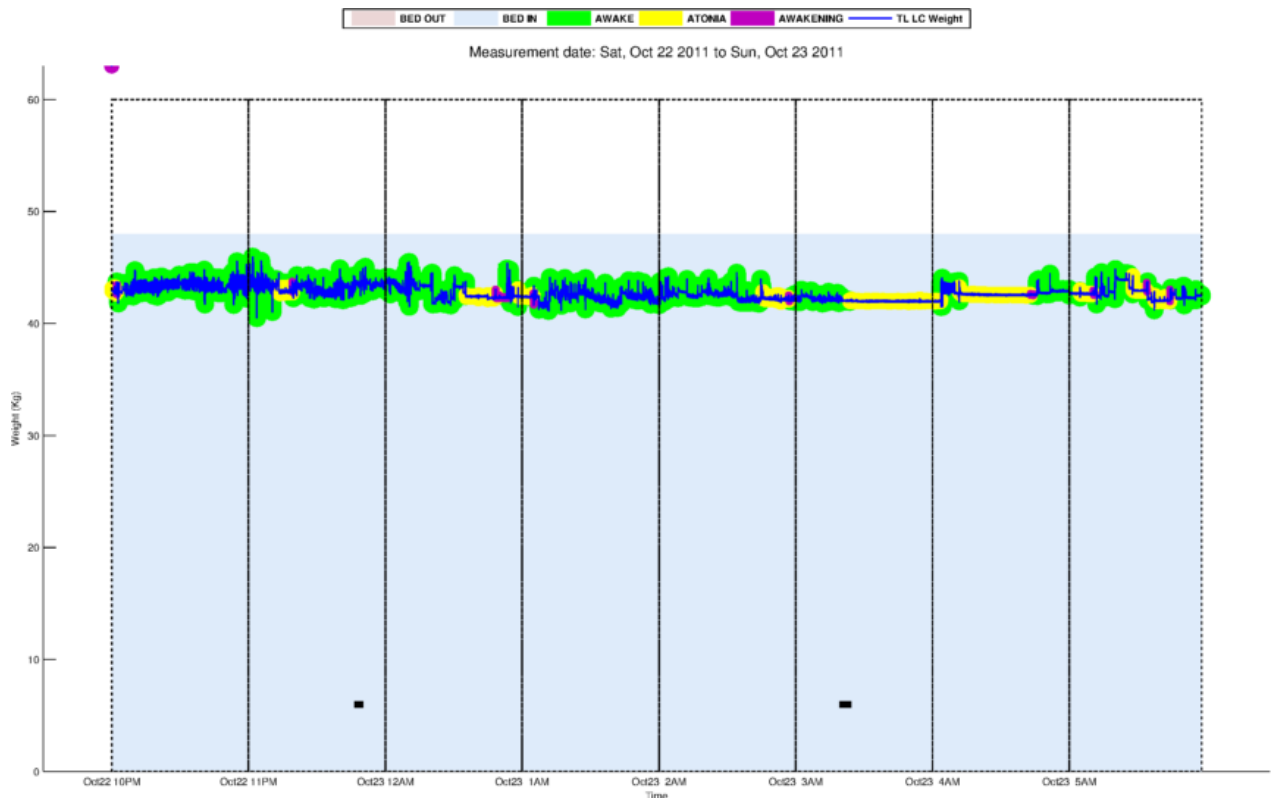


Figure 232: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 232 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 233 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 232).

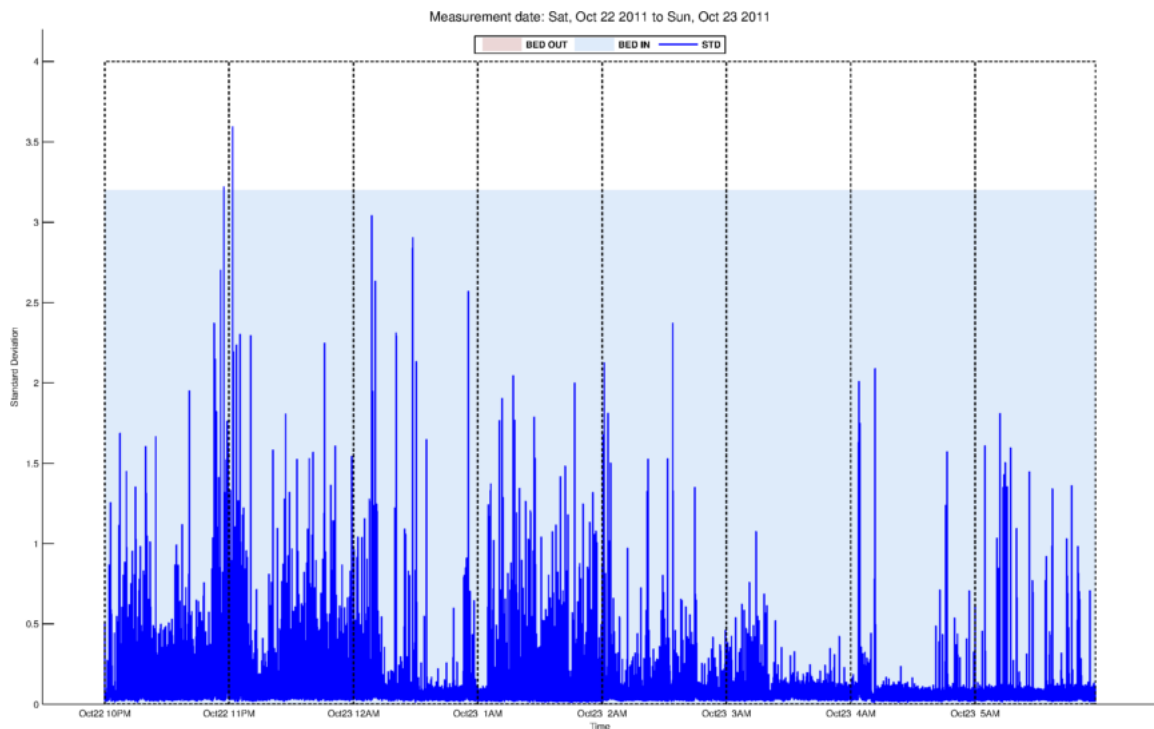


Figure 233: The moving standard deviation for the measured weight.

5.20 19th Night: from Oct 23 2011 to Oct 24 2011

Table 168 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 169 presents the duration of the estimated sleep related activities.

Table 168: Sleep related activities and sensor events measured between Oct 23 and Oct 24

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:55		22:02:52	22:03:37	22:01:55	00:13:31	00:13:52				00:13:28
2			00:48:02	00:49:37	00:42:39	03:25:15					03:25:13
3			01:45:02	01:45:13	01:39:42						03:26:07
4			02:03:24	02:03:30	01:55:39						
5			02:17:35	02:19:02	02:12:26						
6			02:37:25	02:39:46	02:25:54						
7			02:50:29	02:50:34	02:45:07						
8			03:02:34	03:02:45	02:57:31						
9			03:27:10	03:27:24	03:21:59						
10			03:40:46	03:41:03	03:34:00						
11			03:51:32	03:52:09	03:45:49						
12			03:58:30	04:01:44	03:52:24						
13			04:12:42	04:14:15	04:07:06						
14			04:22:14	04:22:59	04:15:40						
15			04:43:48	04:43:59	04:31:10						
16			04:51:03	04:51:43	04:44:47						
17			05:03:14	05:03:40	04:58:02						
18			05:20:15	05:24:24	05:14:53						
19			05:54:14	05:54:26	05:48:11						

Table 169: Duration of the sleep related activities presented in Table 168

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:23		00:00:44	02:39:28	00:00:57
2			00:01:36	00:50:13	00:05:23
3			00:00:10	00:10:28	00:05:21
4			00:00:06	00:08:57	00:07:46
5			00:01:26	00:06:53	00:05:10
6			00:02:21	00:05:22	00:11:33
7			00:00:05	00:06:57	00:05:22
8			00:00:10	00:19:17	00:05:04
9			00:00:13	00:06:37	00:05:12
10			00:00:17	00:04:47	00:06:47
11			00:00:37	00:00:15	00:05:44
12			00:03:14	00:05:23	00:06:07
13			00:01:33	00:01:25	00:05:36
14			00:00:45	00:08:11	00:06:35
15			00:00:10	00:00:49	00:12:40
16			00:00:40	00:06:20	00:06:16
17			00:00:26	00:11:14	00:05:13
18			00:04:10	00:23:50	00:05:23
19			00:00:11	00:05:34	00:06:04

Figure 234 presents the measured sensor events and the computed bed entrances and exits.

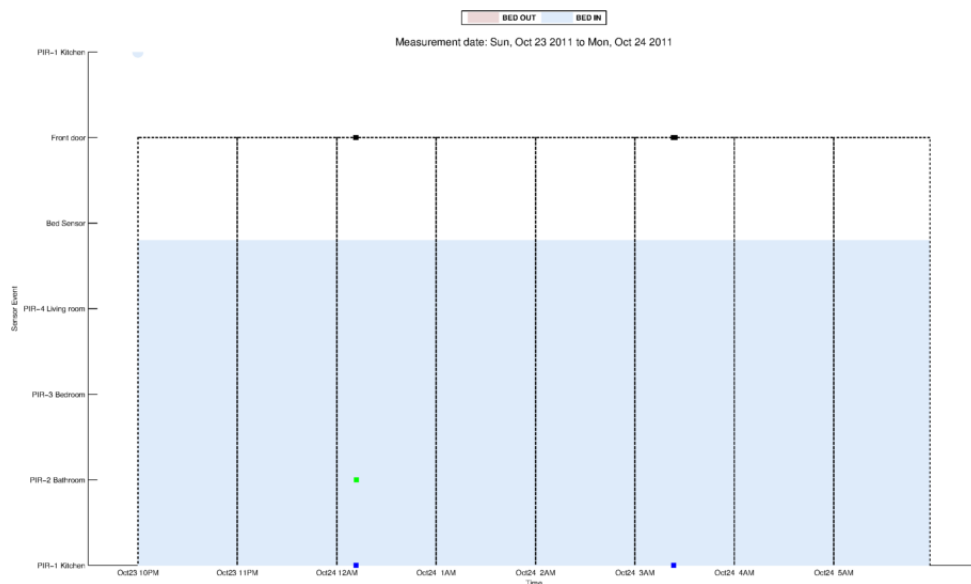


Figure 234: Sensor events and computed bed entrances and exists

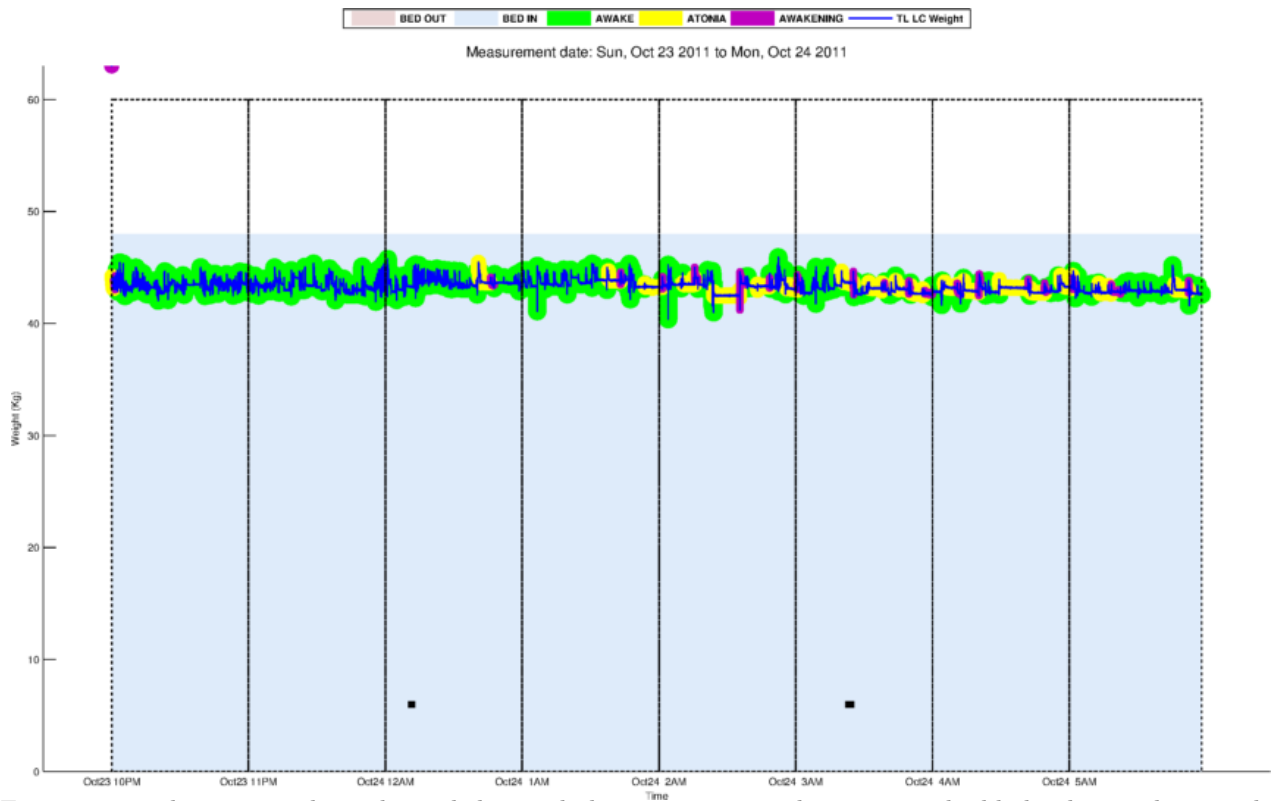


Figure 235: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 235 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 236 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 235).

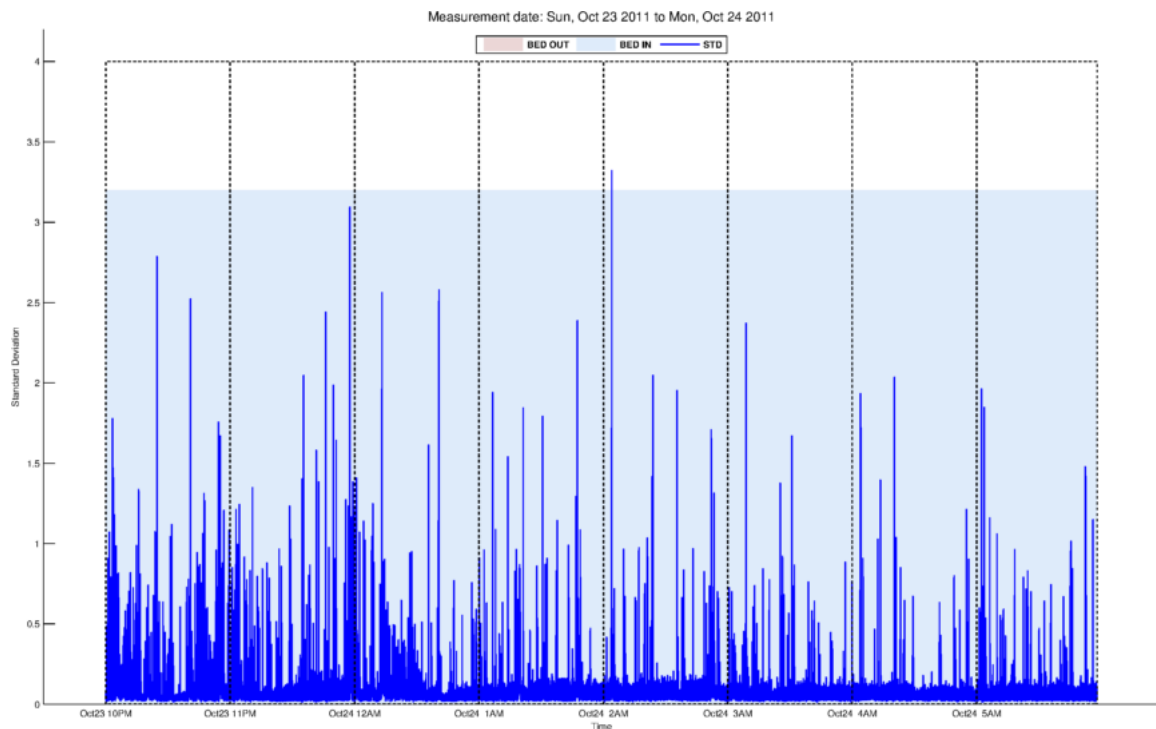


Figure 236: The moving standard deviation for the measured weight.

5.21 20th Night: from Oct 24 2011 to Oct 25 2011

Table 170 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 171 presents the duration of the estimated sleep related activities.

Table 170: Sleep related activities and sensor events measured between Oct 24 and Oct 25

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:55		23:32:11	22:01:55	23:26:27	23:44:07				02:53:21	23:44:04
2			23:41:26	23:32:20	23:34:09	02:49:54					23:47:57
3			00:50:53	23:41:29	00:45:40						02:54:10
4			01:47:46	00:50:56	01:40:59						
5			03:16:22	01:48:15	03:10:27						
6			03:35:50	03:16:26	03:27:39						
7			04:05:31	03:35:54	03:54:27						
8			04:11:41	04:06:34	04:06:35						
9			04:26:45	04:13:38	04:21:27						
10			04:51:15	04:26:49	04:44:08						
11				04:56:14	05:48:50						

Table 171: Duration of the sleep related activities presented in Table 170

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:20		00:00:09	01:24:46	00:05:44
2			00:00:03	00:01:48	00:07:18
3			00:00:03	01:04:20	00:05:14
4			00:00:29	00:50:11	00:06:47
5			00:00:04	01:22:25	00:05:56
6			00:00:03	00:11:14	00:08:12
7			00:01:03	00:18:36	00:11:05
8			00:01:58	00:00:01	00:05:06
9			00:00:03	00:07:49	00:05:19
10			00:04:59	00:17:22	00:07:08
11				00:52:44	00:11:10

Figure 237 presents the measured sensor events and the computed bed entrances and exits.

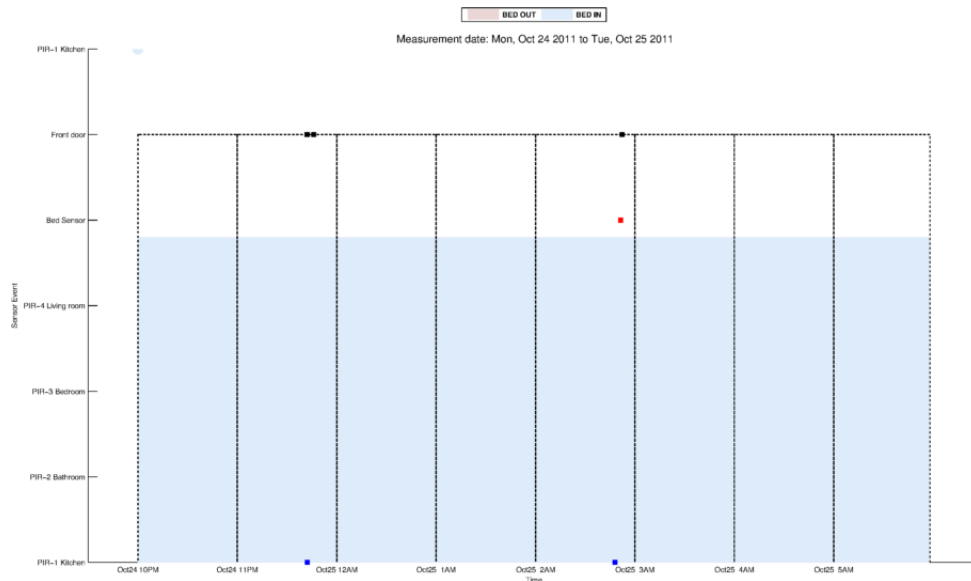


Figure 237: Sensor events and computed bed entrances and exists

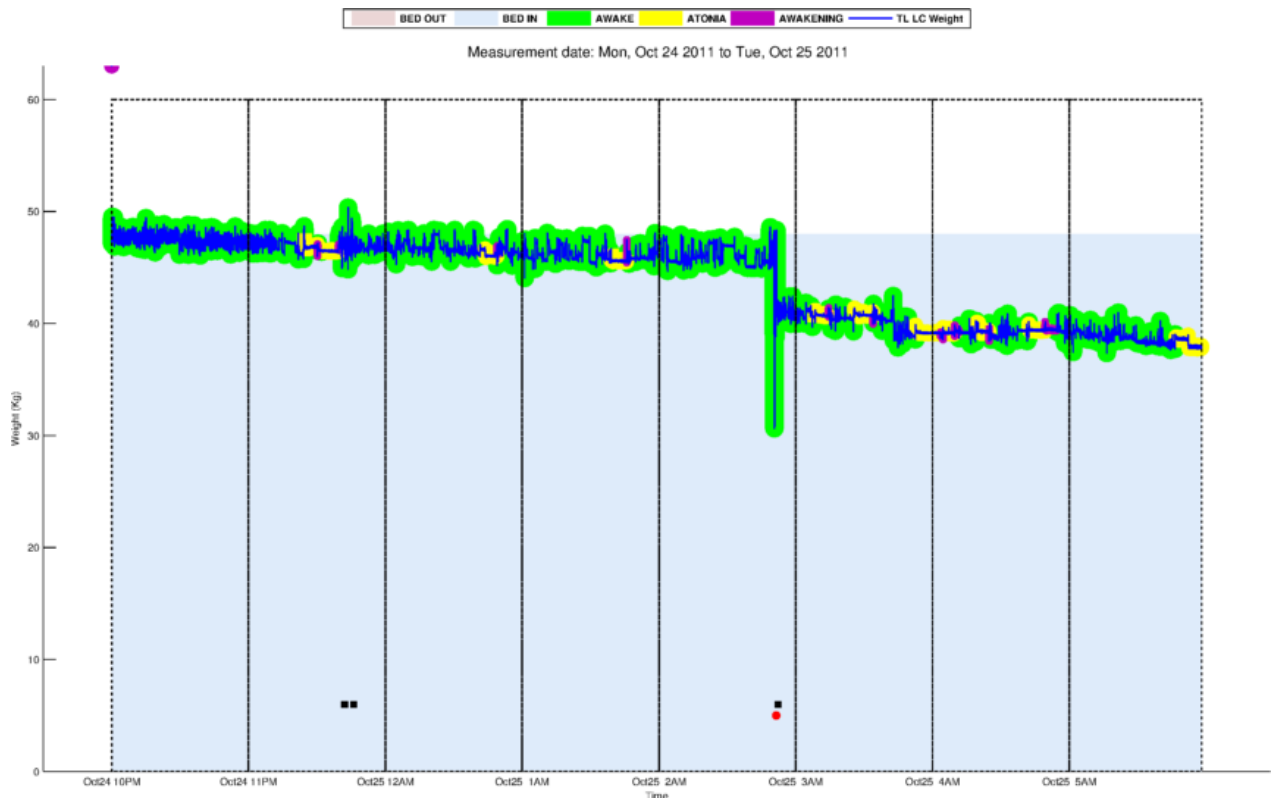


Figure 238: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 238 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 239 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 238).

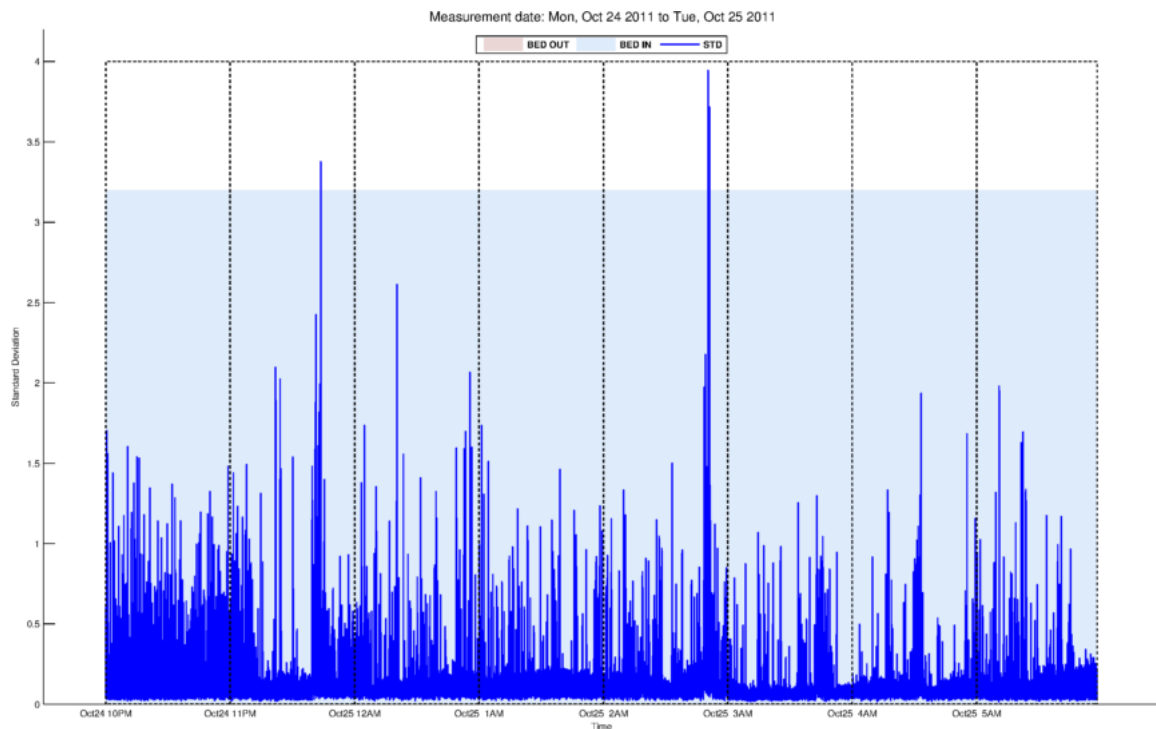


Figure 239: The moving standard deviation for the measured weight.

5.22 21st Night: from Oct 25 2011 to Oct 26 2011

Table 172 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 173 presents the duration of the estimated sleep related activities.

Table 172: Sleep related activities and sensor events measured between Oct 25 and Oct 26

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:56		22:02:03	22:02:07	22:01:56	23:45:14					23:45:14
2			00:38:23	00:39:50	00:31:29	02:39:57					02:39:55
3			01:25:37	01:25:40	01:20:34						
4			01:43:31	01:43:38	01:38:14						
5			03:20:42	03:20:48	03:11:22						
6			04:26:34	04:26:37	04:19:27						
7			05:25:57	05:31:40	05:19:08						
8			05:31:36	05:52:20	05:26:00						
9			05:48:56		05:40:32						

Table 173: Duration of the sleep related activities presented in Table 172

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:20		00:00:03	02:29:46	00:00:07
2			00:01:27	00:40:50	00:06:55
3			00:00:03	00:12:35	00:05:03
4			00:00:07	01:27:58	00:05:17
5			00:00:05	00:58:48	00:09:22
6			00:00:03	00:52:39	00:07:08
7			00:00:03	00:08:53	00:06:50
8			00:00:03	00:07:40	00:05:37
9			00:03:25		00:08:25

Figure 240 presents the measured sensor events and the computed bed entrances and exits.

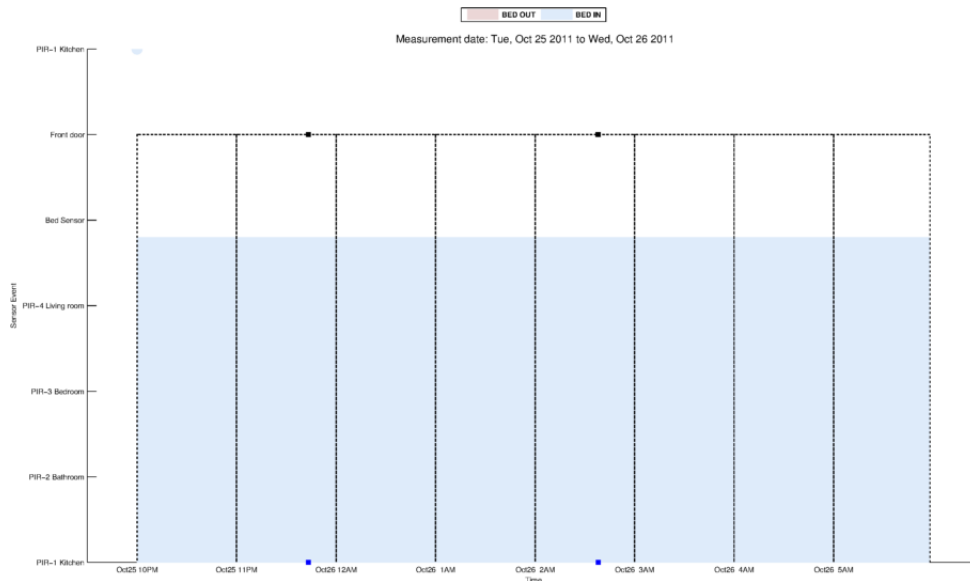


Figure 240: Sensor events and computed bed entrances and exists

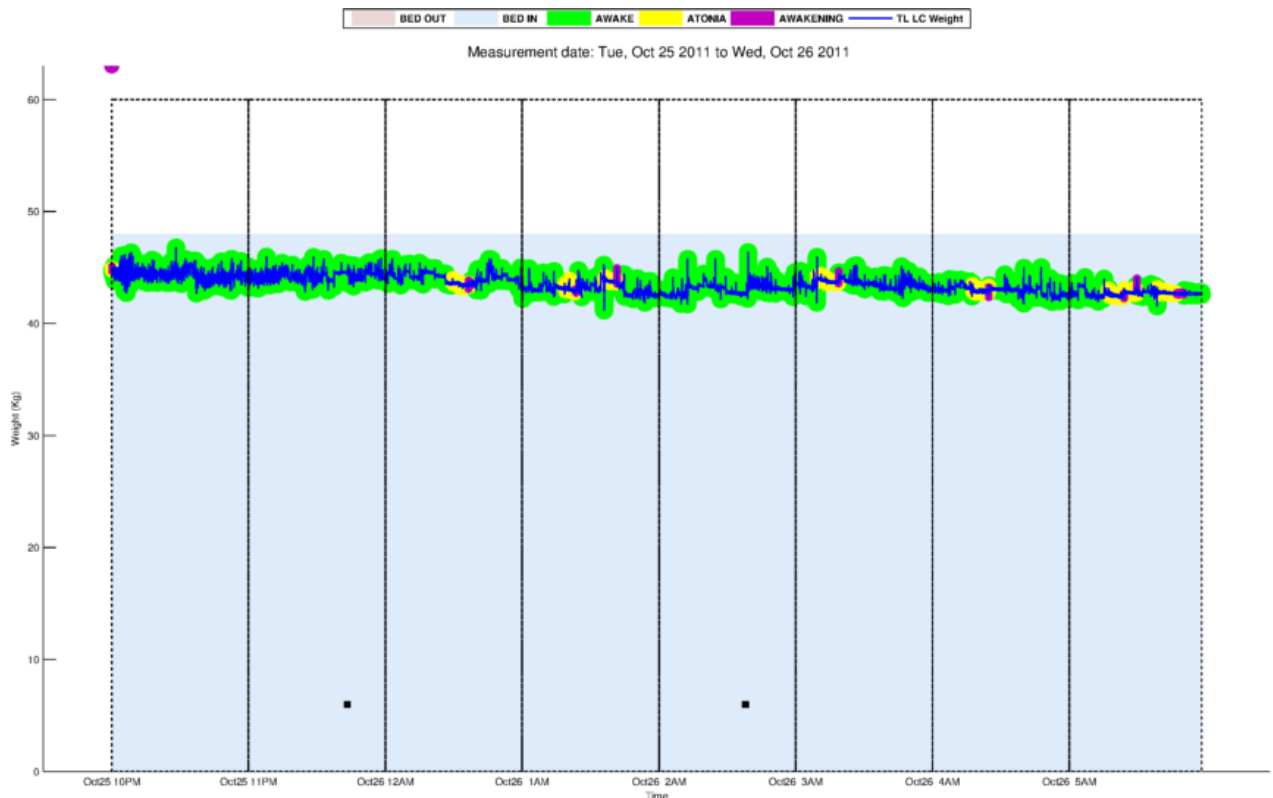


Figure 241: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 241 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 242 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 241).

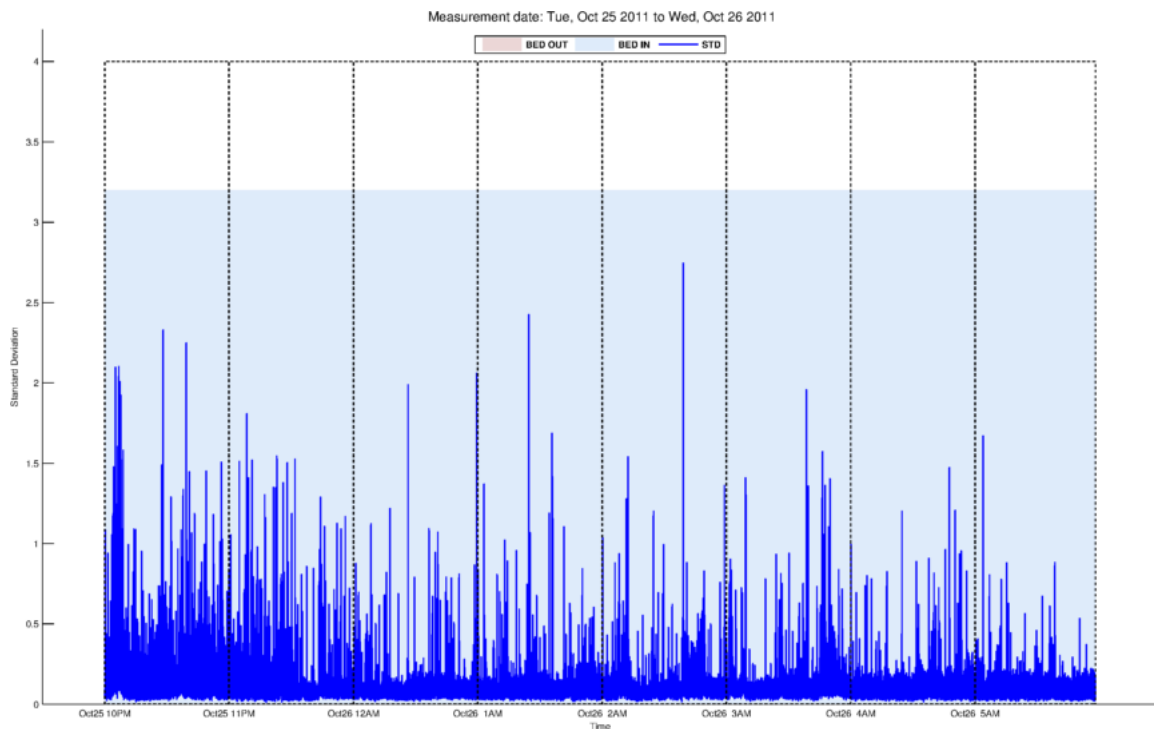


Figure 242: The moving standard deviation for the measured weight.

5.23 22nd Night: from Oct 26 2011 to Oct 27 2011

Table 174 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 175 presents the duration of the estimated sleep related activities.

Table 174: Sleep related activities and sensor events measured between Oct 26 and Oct 27

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:56		22:03:08	22:03:29	22:01:56	23:19:55					23:19:54
2			22:33:51	22:34:26	22:28:26	02:23:15					23:23:38
3			23:59:03	23:59:07	23:41:33						02:23:13
4			00:07:21	00:07:24	00:01:19						02:27:21
5			00:44:59	00:59:52	00:37:59						05:37:23
6			00:55:22	01:27:10	00:45:00						
7			01:24:18	03:24:45	01:19:05						
8			03:24:41	03:40:12	03:18:49						
9			03:39:02	03:47:50	03:32:28						
10			03:47:42	04:03:02	03:40:25						
11			04:02:58	05:24:48	03:57:39						
12			05:24:38		05:16:25						

Table 175: Duration of the sleep related activities presented in Table 174

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:20		00:00:21	00:25:00	00:01:12
2			00:00:35	01:07:18	00:05:26
3			00:00:03	00:02:12	00:17:33
4			00:00:03	00:30:39	00:06:03
5			00:00:01	00:19:16	00:07:02
6			00:04:30	01:51:57	00:10:23
7			00:02:52	00:07:44	00:05:14
8			00:00:04	00:00:13	00:05:52
9			00:01:10	00:09:50	00:06:35
10			00:00:08	01:13:35	00:07:17
11			00:00:04	00:35:16	00:05:20
12			00:00:10		00:08:13

Figure 243 presents the measured sensor events and the computed bed entrances and exits.

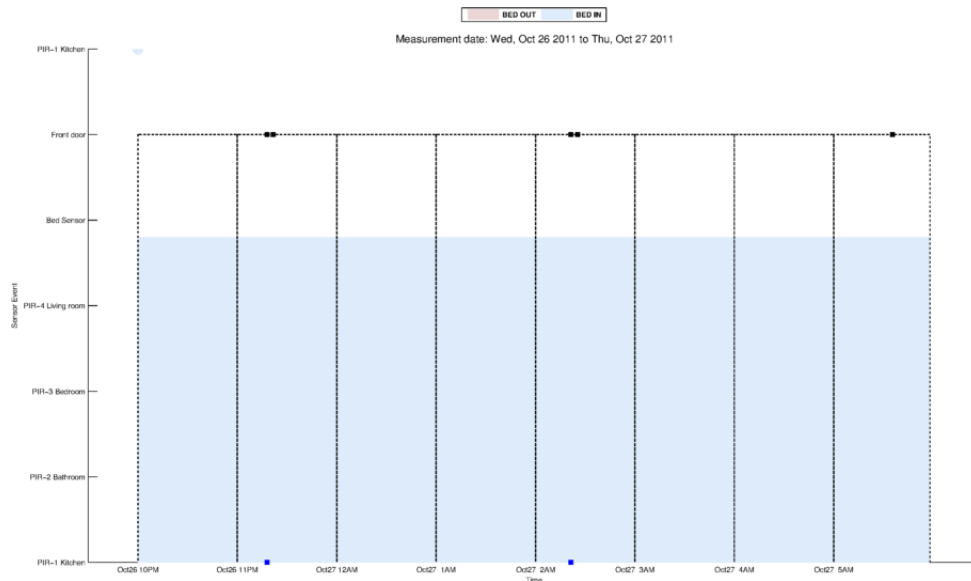


Figure 243: Sensor events and computed bed entrances and exists

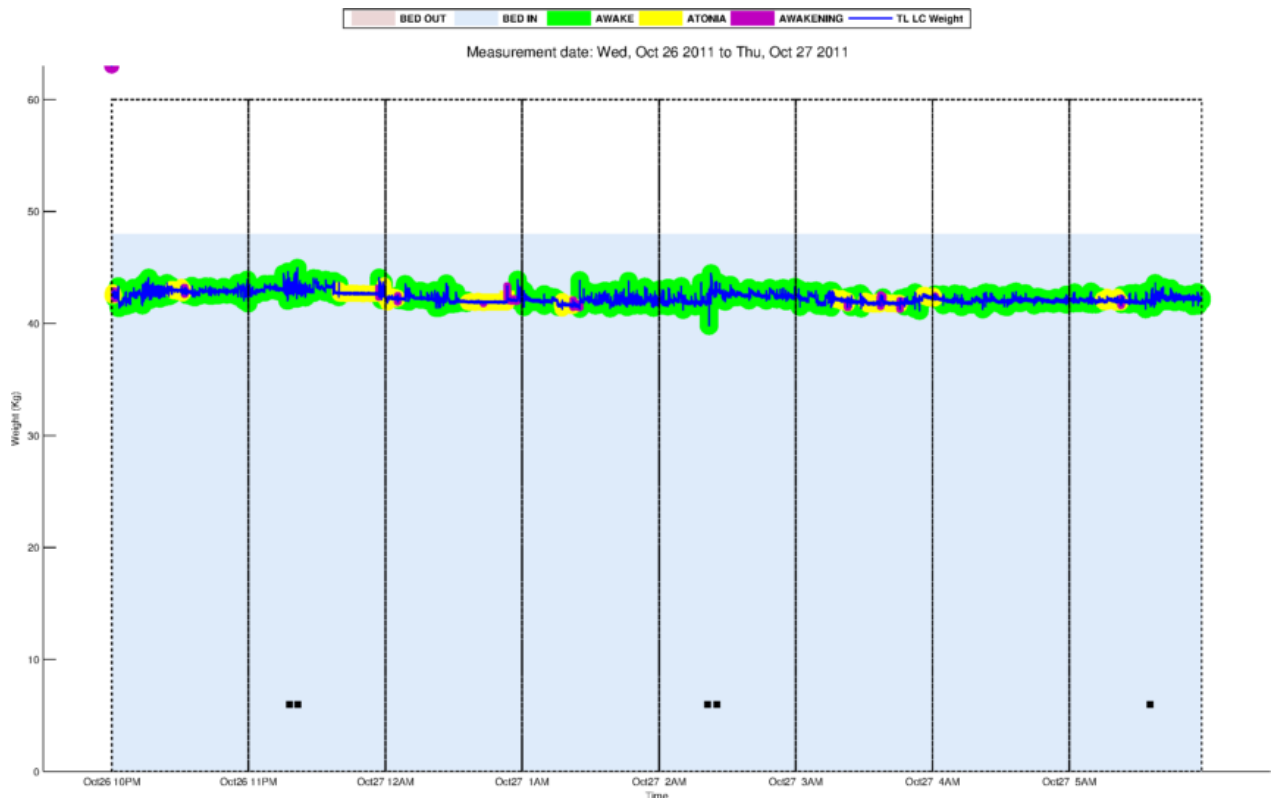


Figure 244: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 244 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 245 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 244).

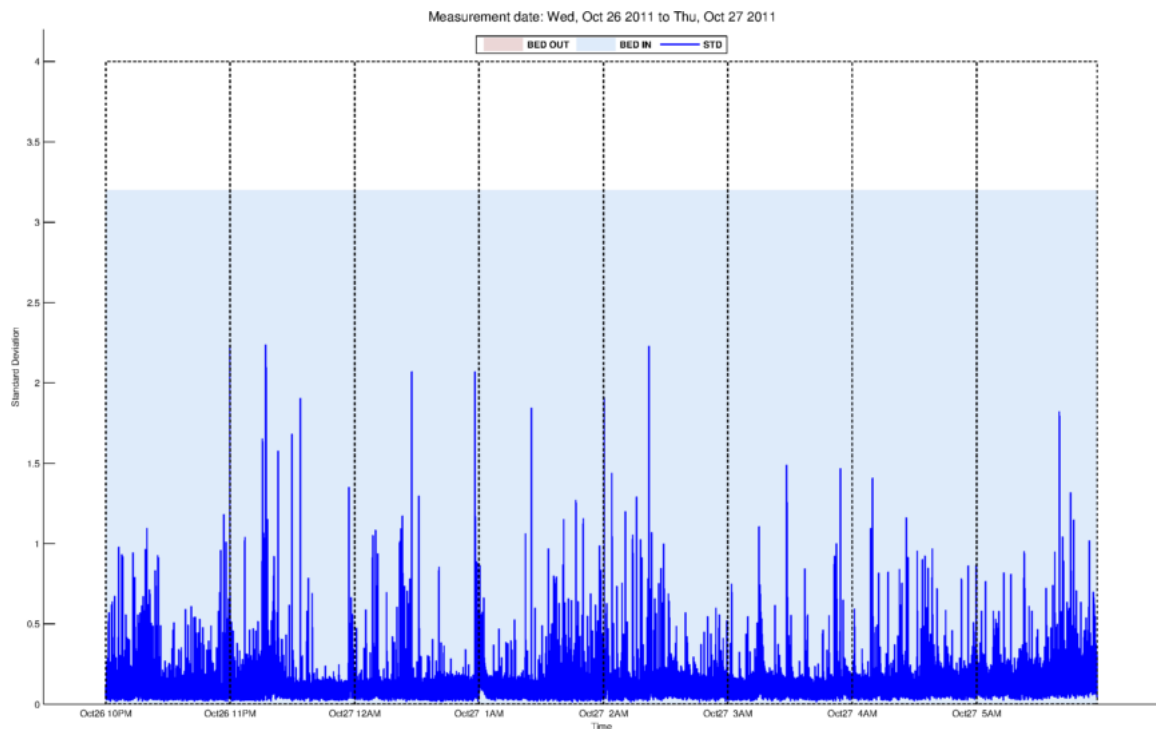


Figure 245: The moving standard deviation for the measured weight.

5.24 23rd Night: from Oct 27 2011 to Oct 28 2011

Table 176 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 177 presents the duration of the estimated sleep related activities.

Table 176: Sleep related activities and sensor events measured between Oct 27 and Oct 28

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:56		22:02:17	22:03:06	22:01:56	23:21:16	04:24:12	22:01:49			23:21:15
2			00:00:17	23:51:45	23:21:29	02:40:29		22:05:30			23:23:45
3			00:13:52	00:16:47	23:54:56	04:23:48		22:16:06			02:40:28
4			01:55:20	01:55:24	00:00:19			22:23:11			02:41:03
5			02:07:19	02:07:22	01:05:31			22:55:51			04:13:23
6			02:24:16	02:31:13	02:01:36			22:58:36			04:24:45
7			02:30:57	02:45:07	02:11:24			23:03:37			
8			02:45:03	03:10:19	02:24:17			23:07:35			
9			03:07:11	03:16:40	02:31:16			23:21:39			
10			03:16:37	03:37:15	02:46:04			00:16:48			
11			03:36:18	04:01:21	03:10:20			00:25:23			
12			04:01:16	04:14:51	03:20:33			00:28:34			
13			04:14:14	04:30:35	03:46:59			00:41:59			
14			04:30:28	04:36:39	04:06:22			00:50:03			
15			04:36:35	04:52:11	04:25:17			01:05:03			
16			04:52:07	05:11:57	04:30:41			01:55:22			
17			05:11:32	05:22:15	04:46:28			02:01:00			
18			05:21:45		04:59:15			02:07:20			
19					05:16:22			02:17:28			
20								02:24:17			
21								02:30:58			
22								02:40:43			
23								02:45:03			
24								03:10:22			
25								03:16:37			
26								03:20:31			
27								03:42:02			
28								03:46:54			
29								03:56:54			
30								04:01:17			
31								04:05:00			
32								04:10:05			
33								04:13:42			
34								04:28:32			
35								04:36:36			
36								04:43:16			
37								04:46:23			
38								04:52:08			
39								05:02:24			
40								05:11:29			
41								05:21:49			
42								05:28:28			
43								05:35:34			
44								05:45:02			
45								05:51:14			
46								05:57:26			

Figure 246 presents the measured sensor events and the computed bed entrances and exits.

Table 177: Duration of the sleep related activities presented in Table 176

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:20		00:00:48	01:18:36	00:00:21
2			00:00:02	00:03:12	00:30:20
3			00:02:55	00:48:51	00:05:21
4			00:00:03	00:06:13	00:13:35
5			00:00:03	00:04:02	00:49:57
6			00:00:00	00:00:03	00:05:44
7			00:00:16	00:00:58	00:12:54
8			00:00:04	00:00:01	00:06:41
9			00:03:08	00:03:53	00:13:48
10			00:00:03	00:09:46	00:21:10
11			00:00:57	00:05:02	00:06:17
12			00:00:04	00:10:28	00:15:47
13			00:00:37	00:00:05	00:14:19
14			00:00:07	00:09:51	00:07:53
15			00:00:03	00:07:05	00:05:11
16			00:00:03	00:04:26	00:05:55
17			00:00:25	00:37:50	00:05:40
18			00:00:29		00:12:19
19					00:05:24

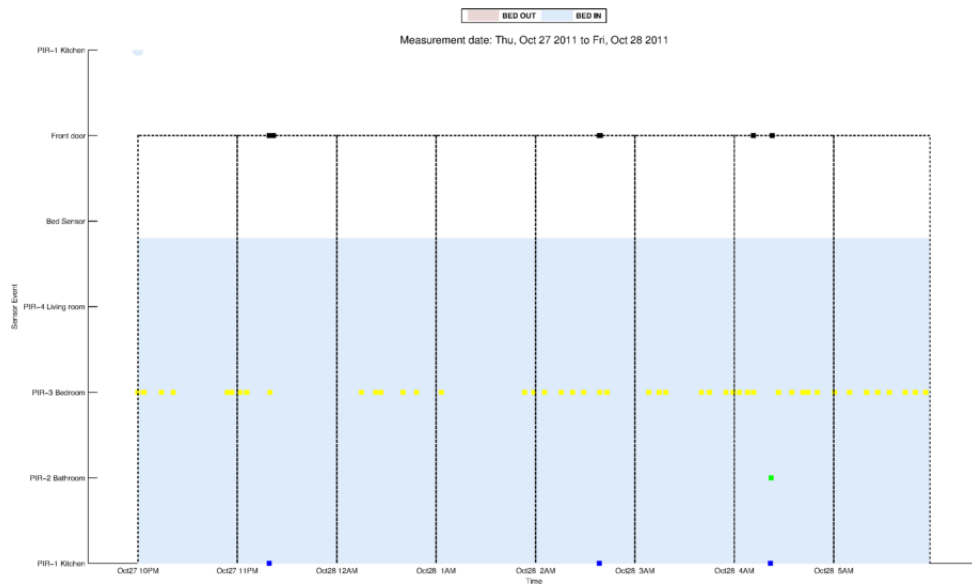


Figure 246: Sensor events and computed bed entrances and exists

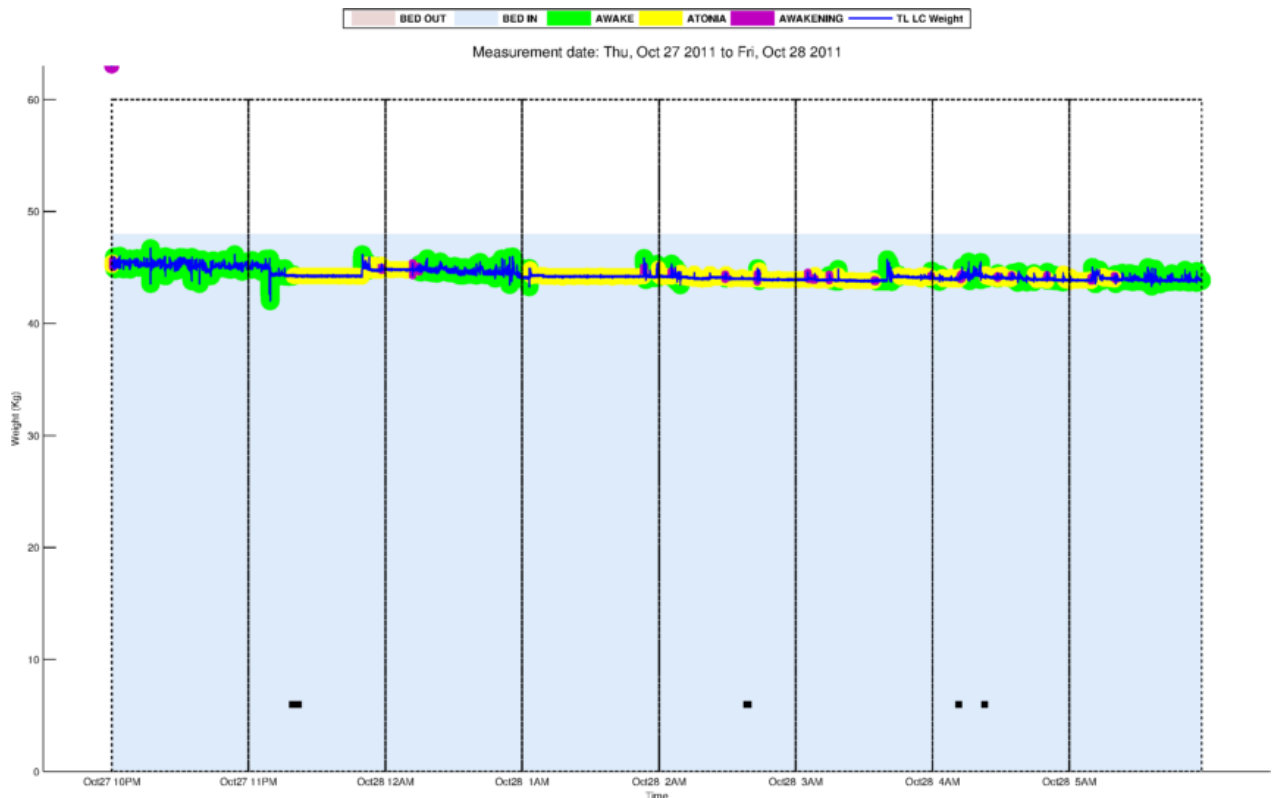


Figure 247: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 247 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 248 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 247).

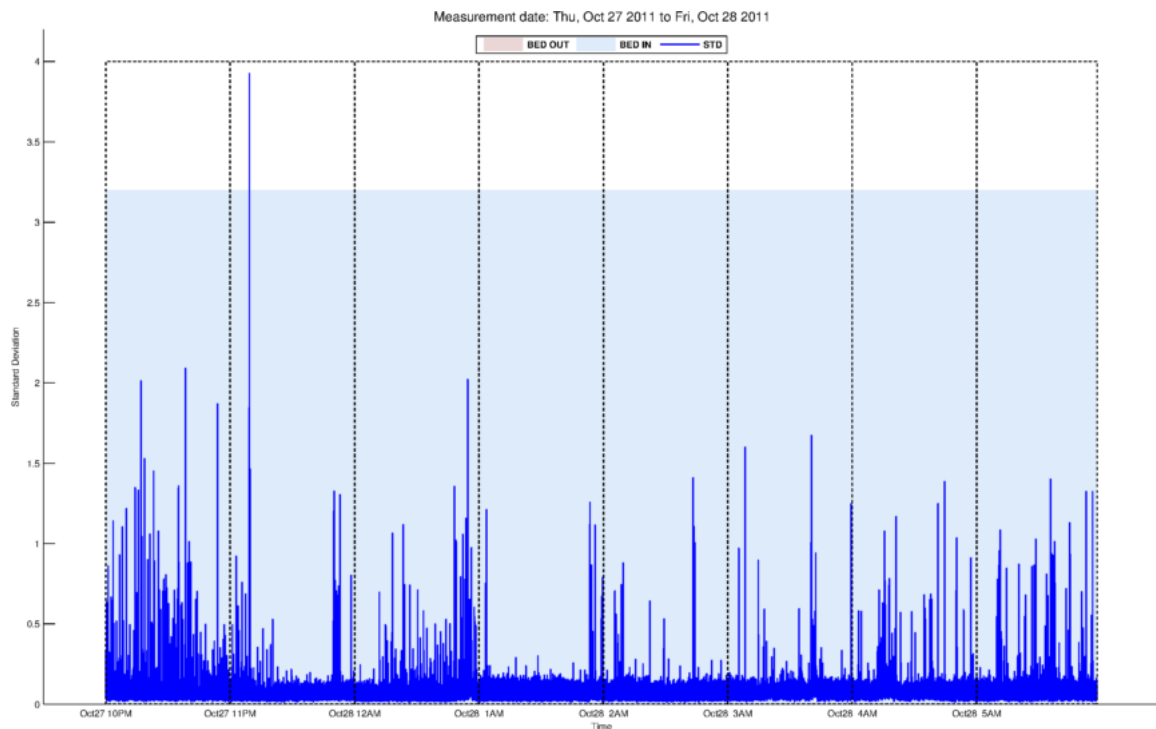


Figure 248: The moving standard deviation for the measured weight.

5.25 24th Night: from Oct 28 2011 to Oct 29 2011

Table 178 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 179 presents the duration of the estimated sleep related activities.

Table 178: Sleep related activities and sensor events measured between Oct 28 and Oct 29

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:56		22:02:32	22:02:36	22:01:56	22:05:32	22:05:46	22:18:22			22:05:30
2			22:56:01	22:56:09	22:48:56	02:29:39		22:32:58			22:09:23
3			01:36:17	01:37:08	01:30:14			22:36:42			02:29:38
4			03:48:48	03:49:20	03:42:14			22:40:00			02:29:50
5			04:01:44	04:01:59	03:56:35			22:48:10			02:38:26
6			04:12:37	04:23:24	04:06:29			22:54:29			
7			04:23:19	05:36:17	04:12:38			23:01:29			
8			04:39:42	05:57:41	04:31:12			23:09:14			
9			05:36:08		04:39:43			00:23:42			
10			05:55:21		05:39:01			00:31:10			
11								00:49:45			
12								01:44:57			
13								02:14:50			
14								02:25:26			
15								02:49:05			
16								03:04:29			
17								03:17:08			
18								03:21:23			
19								03:42:15			
20								03:49:15			
21								03:54:45			
22								04:12:38			
23								04:19:08			
24								04:22:59			
25								04:29:06			
26								05:35:09			
27								05:57:59			

Table 179: Duration of the sleep related activities presented in Table 178

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:22		00:00:03	00:46:28	00:00:36
2			00:00:08	02:34:30	00:07:06
3			00:00:51	02:05:26	00:06:04
4			00:00:33	00:07:15	00:06:34
5			00:00:15	00:04:30	00:05:10
6			00:00:01	00:07:50	00:06:09
7			00:00:04	00:02:44	00:10:43
8			00:00:01	00:02:18	00:08:30
9			00:00:09		00:56:34
10			00:02:21		00:16:23

Figure 249 presents the measured sensor events and the computed bed entrances and exits.

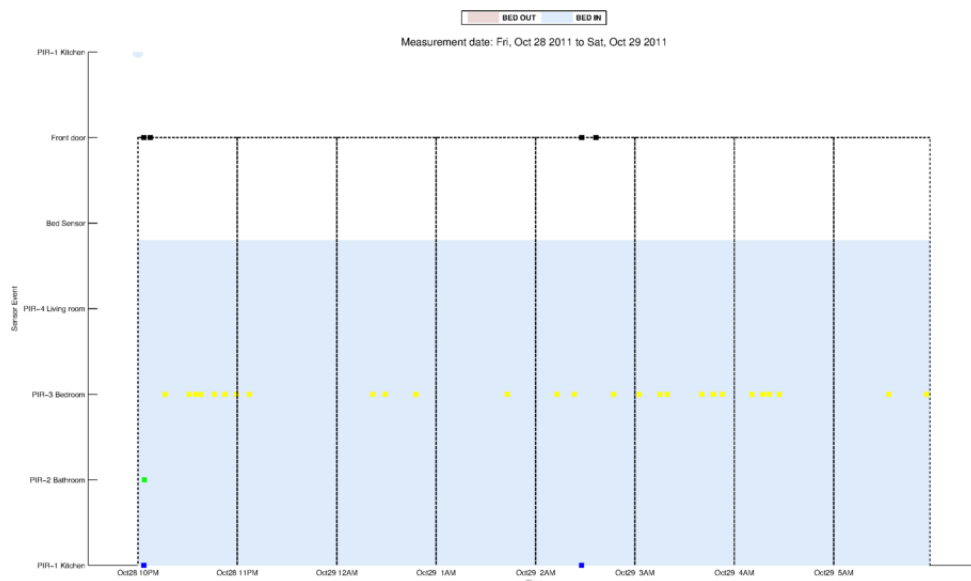


Figure 249: Sensor events and computed bed entrances and exists

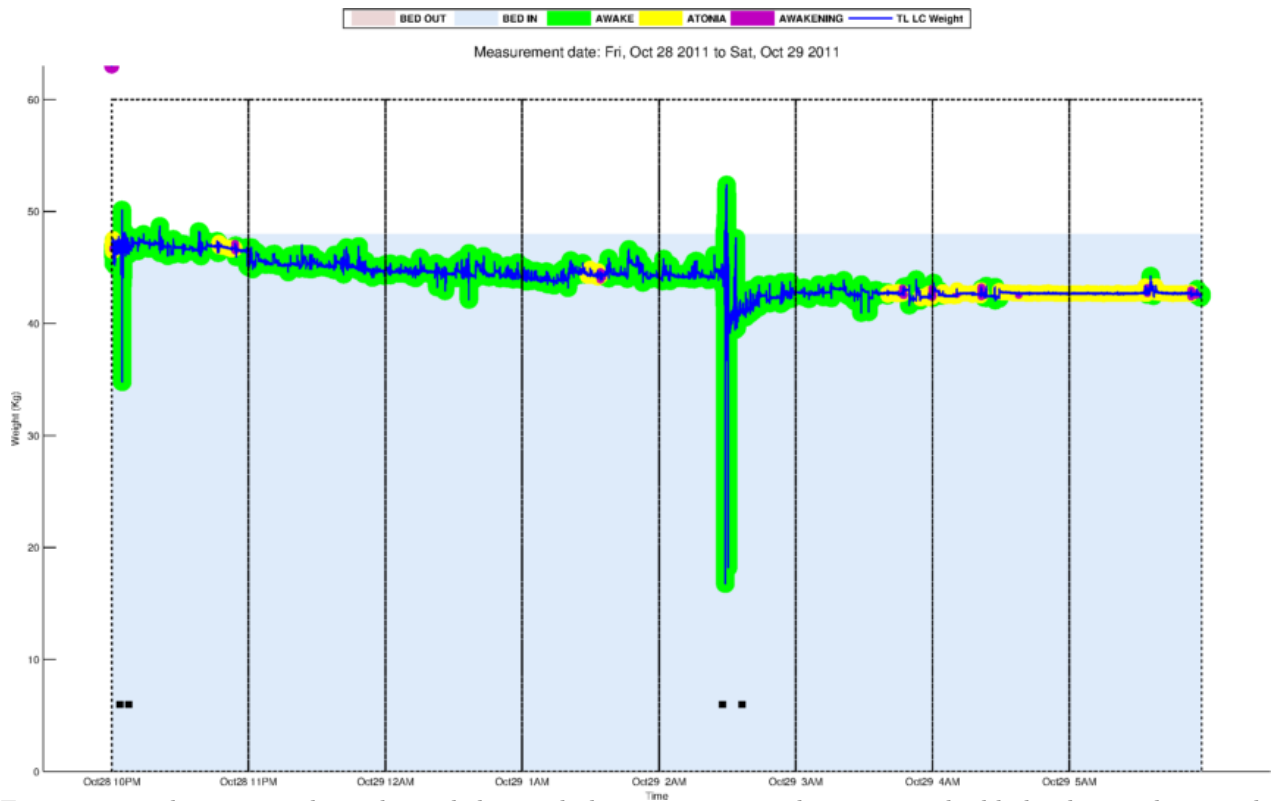


Figure 250: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 250 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 251 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 250).

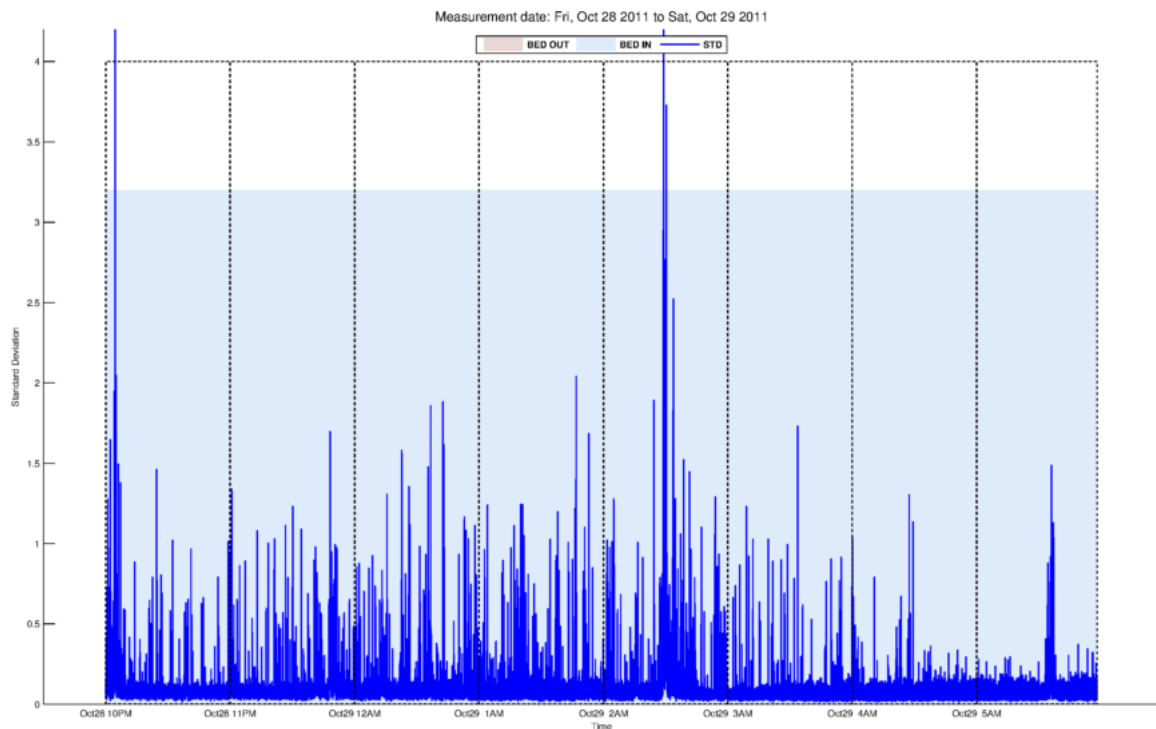


Figure 251: The moving standard deviation for the measured weight.

5.26 25th Night: from Oct 29 2011 to Oct 30 2011

Table 180 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 181 presents the duration of the estimated sleep related activities.

Table 180: Sleep related activities and sensor events measured between Oct 29 and Oct 30

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:56		22:03:31	22:03:44	22:01:56	23:46:43	23:46:50	22:23:40		02:49:11	23:46:43
2			22:43:37	23:02:16	22:35:13	04:33:33	02:47:01	22:28:16		04:36:09	23:51:53
3			22:52:16	23:14:04	22:43:38		02:53:39	22:43:38			02:46:48
4			23:01:11	23:46:00	22:52:16		04:36:20	22:55:28			04:33:32
5			23:13:56	01:16:28	23:06:53			22:58:25			04:40:10
6			23:37:05	01:40:36	23:23:45			23:02:19			
7			23:45:48	02:14:08	23:37:06			23:13:57			
8			01:16:25	02:24:05	01:10:54			23:18:24			
9			01:34:15	02:47:37	01:28:22			23:23:23			
10			01:40:15	02:55:55	01:34:16			23:27:51			
11			02:11:18	05:01:30	02:02:55			23:33:16			
12			02:20:52	05:55:02	02:14:21			23:43:22			
13			02:47:29		02:39:30			01:21:31			
14			02:55:47		02:55:04			01:33:45			
15			05:00:56		04:54:58			01:37:30			
16			05:54:58		05:48:39			02:11:18			
17								02:34:18			
18								02:39:31			
19								02:46:56			
20								03:59:11			

Table 181: Duration of the sleep related activities presented in Table 180

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	08:59:32		00:00:13	00:31:34	00:01:35
2			00:00:00	00:04:37	00:08:26
3			00:00:00	00:09:42	00:08:39
4			00:01:05	01:25:08	00:08:56
5			00:00:08	00:11:55	00:07:05
6			00:00:00	00:22:22	00:13:22
7			00:00:11	00:00:13	00:08:44
8			00:00:03	00:15:27	00:05:31
9			00:00:01	00:26:23	00:05:54
10			00:00:21	02:35:30	00:06:00
11			00:02:50	00:47:17	00:08:24
12			00:03:13	00:04:57	00:06:32
13			00:00:08		00:08:00
14			00:00:57		00:05:02
15			00:00:34		00:05:59
16			00:00:03		00:06:20

Figure 252 presents the measured sensor events and the computed bed entrances and exits.

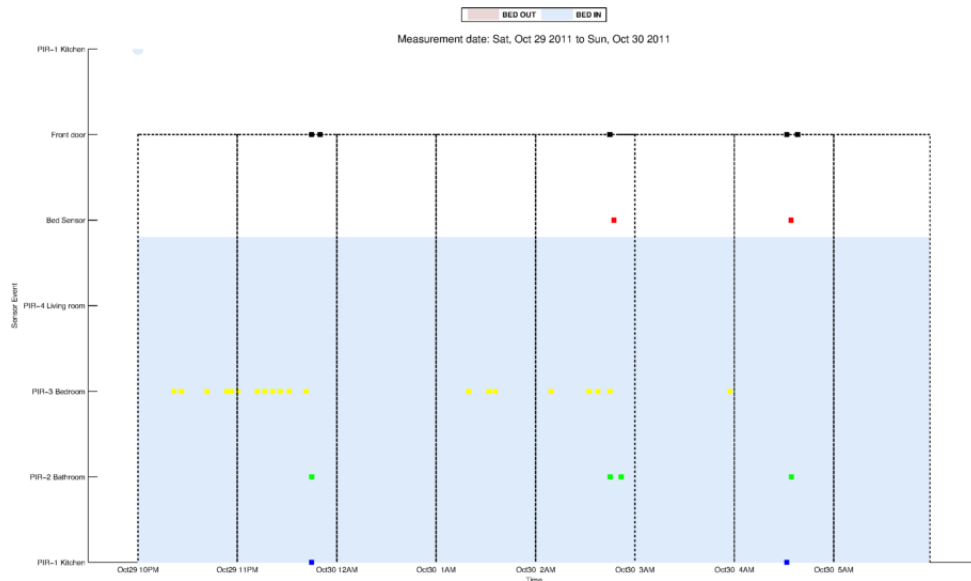


Figure 252: Sensor events and computed bed entrances and exists

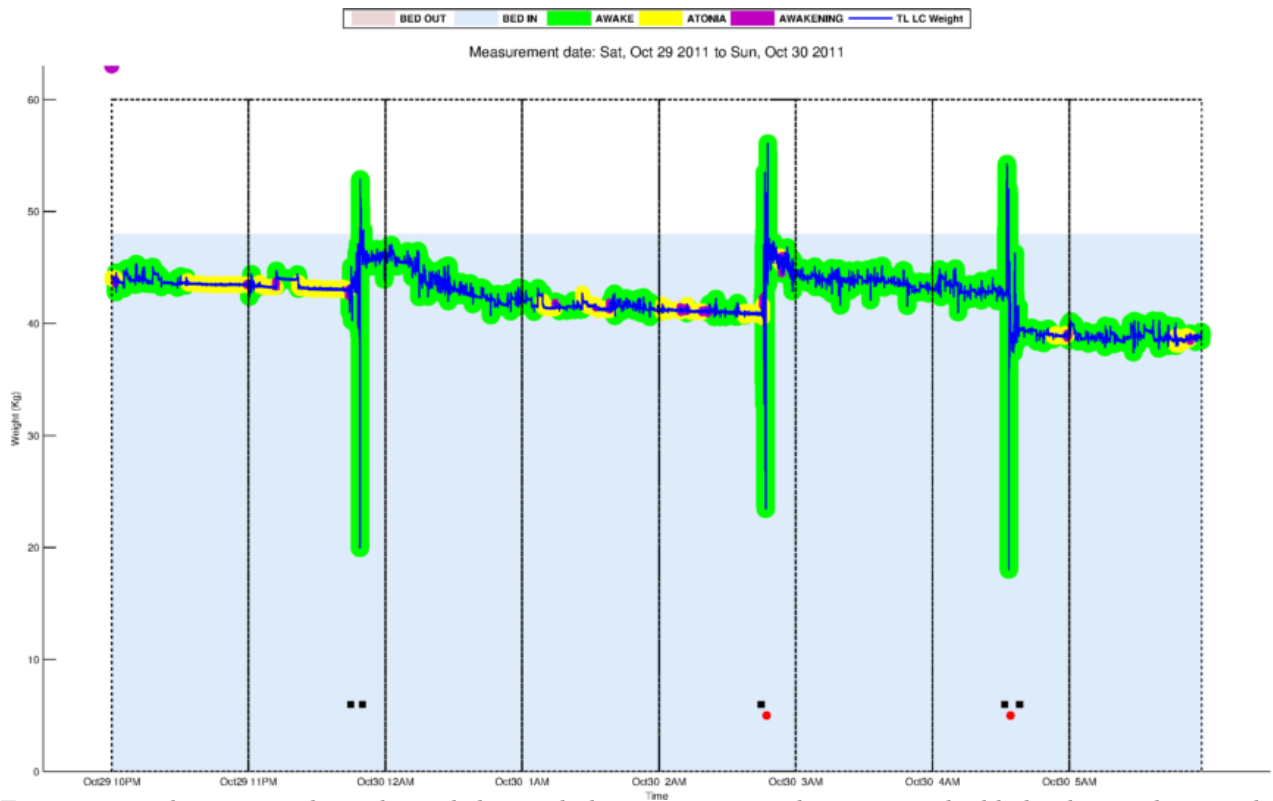


Figure 253: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 253 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 254 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 253).

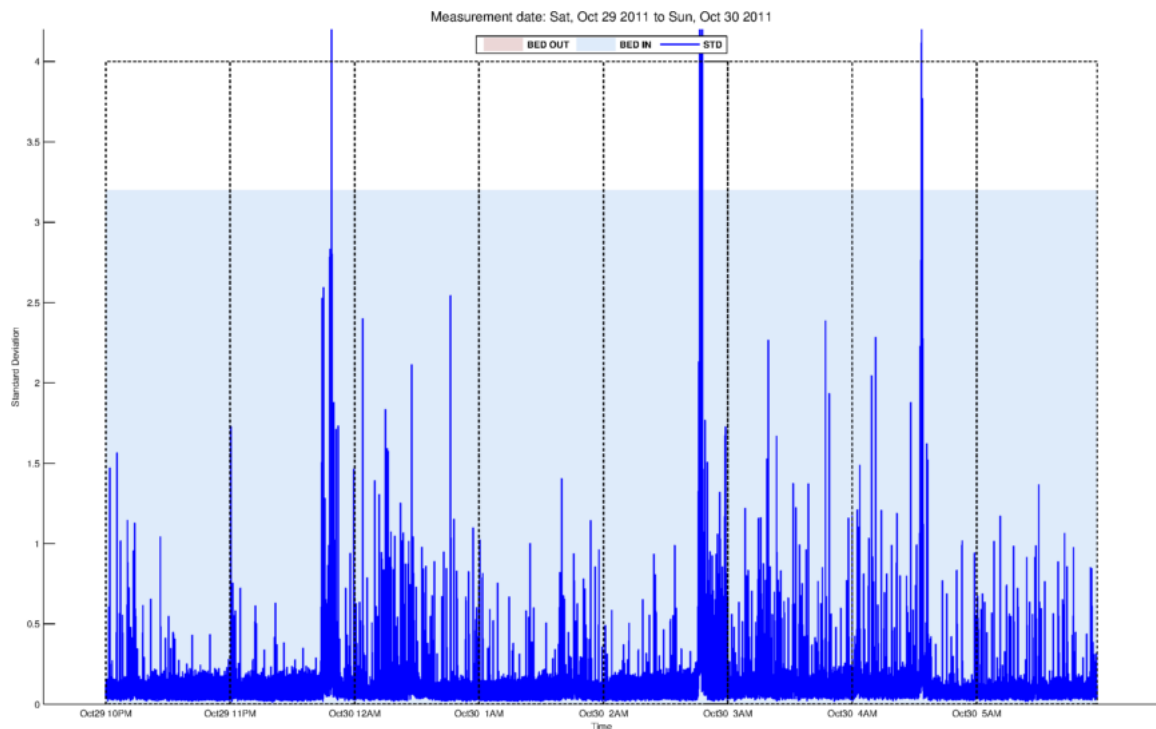


Figure 254: The moving standard deviation for the measured weight.

5.27 26th Night: from Oct 30 2011 to Oct 31 2011

Table 182 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 183 presents the duration of the estimated sleep related activities.

Table 182: Sleep related activities and sensor events measured between Oct 30 and Oct 31

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:56		22:02:05	22:02:09	22:01:56	23:32:08	23:33:13	05:18:50			23:32:06
2			05:18:07	05:18:49	05:12:21	23:45:14	23:43:00	05:32:10			23:52:52
3			05:32:42	05:35:55	05:27:27			05:45:03			02:40:44
4			05:41:27	05:43:34	05:35:55			05:50:14			02:42:13
5			05:51:19	05:52:51	05:45:03			05:58:42			

Table 183: Duration of the sleep related activities presented in Table 182

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:21		00:00:03	07:11:23	00:00:09
2			00:00:42	00:08:39	00:05:47
3			00:03:13	00:00:00	00:05:16
4			00:02:07	00:01:29	00:05:32
5			00:01:32	00:07:09	00:06:17

Figure 255 presents the measured sensor events and the computed bed entrances and exits.

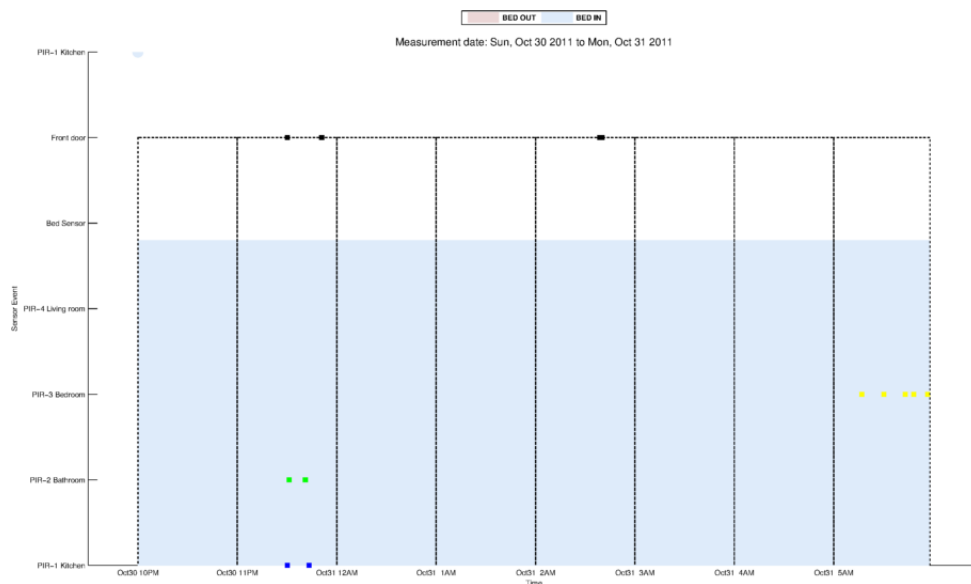


Figure 255: Sensor events and computed bed entrances and exists

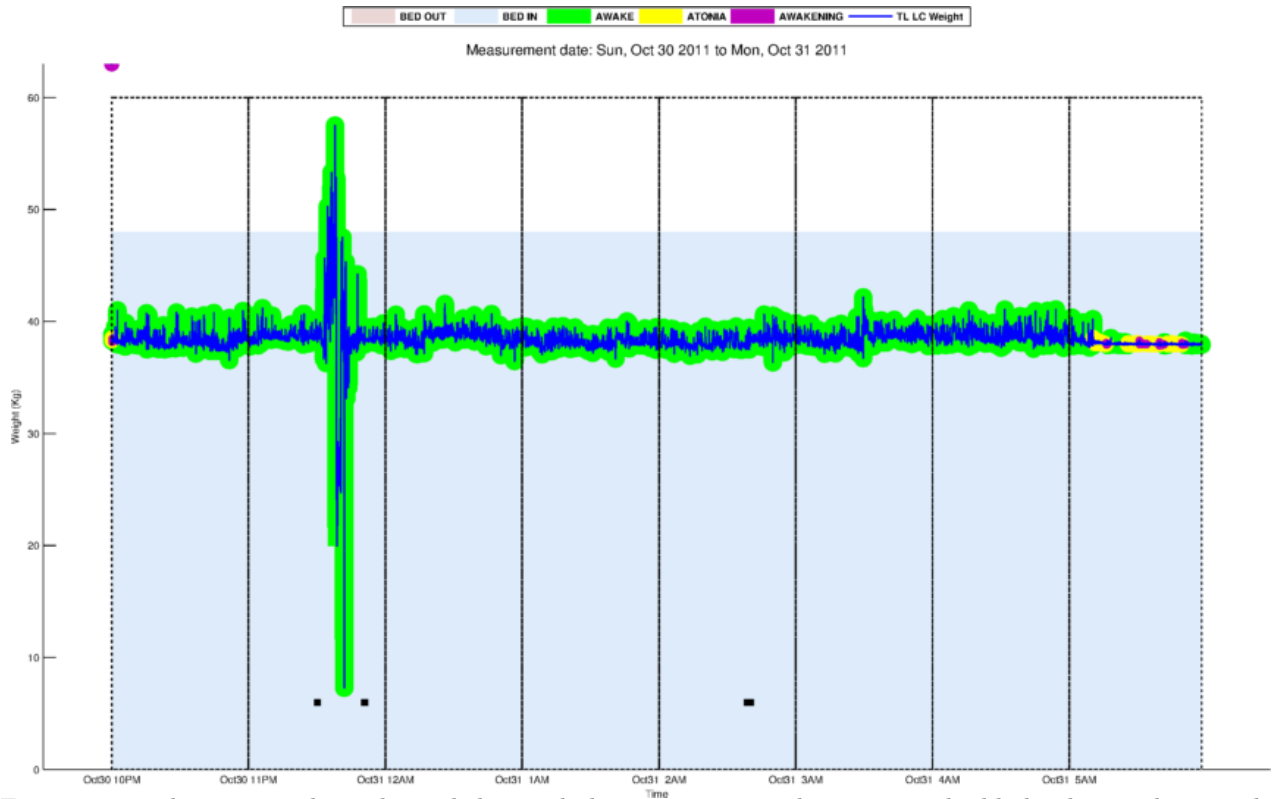


Figure 256: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 256 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 257 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 256).

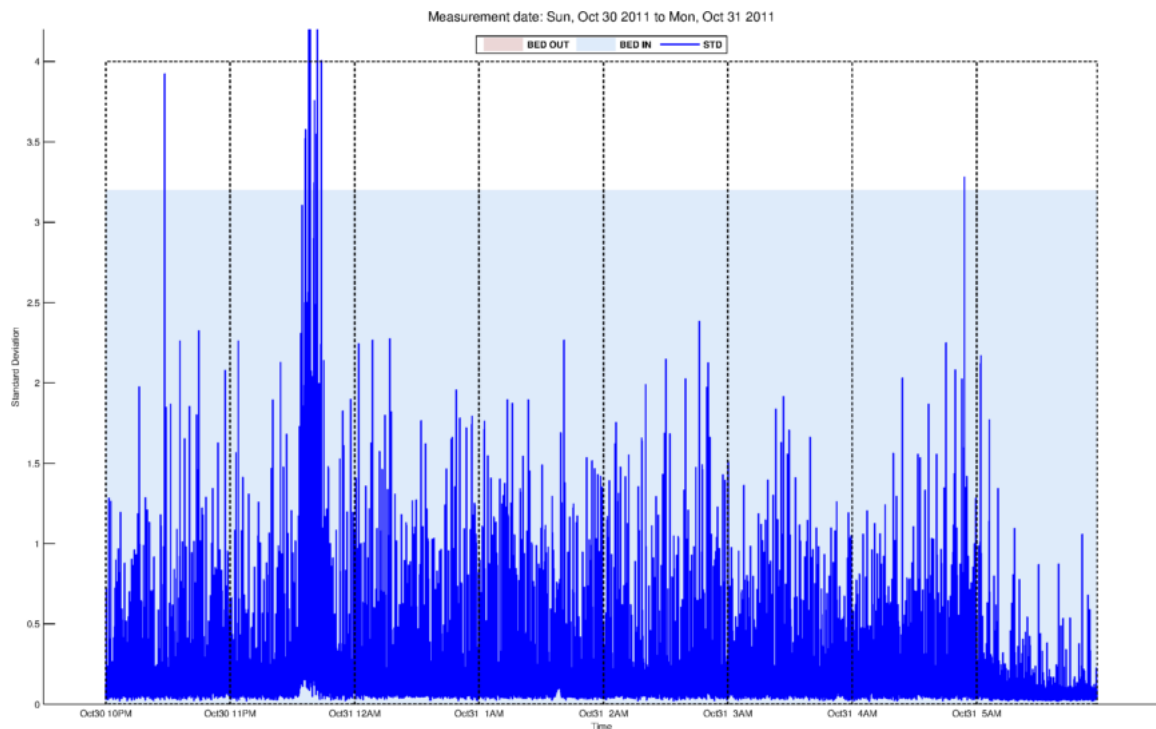


Figure 257: The moving standard deviation for the measured weight.

5.28 27th Night: from Oct 31 2011 to Nov 01 2011

Table 184 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 185 presents the duration of the estimated sleep related activities.

Table 184: Sleep related activities and sensor events measured between Oct 31 and Nov 01

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:56		23:17:37	22:01:56	22:59:08	23:24:32		22:14:02			23:24:31
2			00:21:40	23:17:40	00:07:01	01:32:52		23:07:03			23:34:02
3			00:29:23	00:21:43	00:24:18	02:51:32		23:46:18			01:32:50
4			01:15:04	00:32:06	00:47:46			00:01:54			01:33:04
5			01:30:52	01:15:08	01:20:39			00:18:04			01:57:49
6			01:52:12	01:30:55	01:46:29			00:21:40			02:51:31
7			02:08:53	01:52:33	01:57:48			00:52:10			02:52:42
8			02:19:22	02:08:57	02:11:35			00:56:41			
9			02:57:44	02:19:30	02:19:31			01:08:50			
10			03:46:51	02:57:48	03:01:05			01:15:05			
11			03:56:14	04:44:38	03:48:39			01:30:53			
12			04:44:34	05:22:26	03:56:14			01:50:27			
13			04:52:49	05:55:18	04:45:39			01:56:14			
14			05:22:09		04:52:50			02:07:55			
15			05:50:24		05:23:11			02:15:59			
16								02:19:24			
17								02:26:35			
18								02:34:06			
19								02:57:45			
20								03:32:01			
21								03:34:50			
22								03:41:58			
23								03:46:12			
24								03:49:32			
25								03:54:56			
26								03:59:39			
27								04:13:31			
28								04:28:47			
29								04:44:36			
30								04:48:08			
31								05:01:46			
32								05:07:37			
33								05:14:42			
34								05:21:59			
35								05:27:04			
36								05:32:14			
37								05:43:38			
38								05:49:32			

Table 185: Duration of the sleep related activities presented in Table 184

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:19		00:00:03	00:57:20	00:18:32
2			00:00:03	00:49:29	00:14:40
3			00:02:43	00:02:35	00:05:06
4			00:00:04	00:15:42	00:27:23
5			00:00:03	00:05:31	00:10:15
6			00:00:20	00:15:36	00:05:43
7			00:00:03	00:05:16	00:11:07
8			00:00:08	00:02:38	00:07:48
9			00:00:04	00:00:01	00:38:19
10			00:01:49	00:03:17	00:45:53
11			00:00:00	00:01:01	00:07:35
12			00:00:03	00:00:45	00:48:28
13			00:00:00	00:04:42	00:07:11
14			00:00:17		00:29:24
15			00:04:54		00:27:17

Figure 258 presents the measured sensor events and the computed bed entrances and exits.

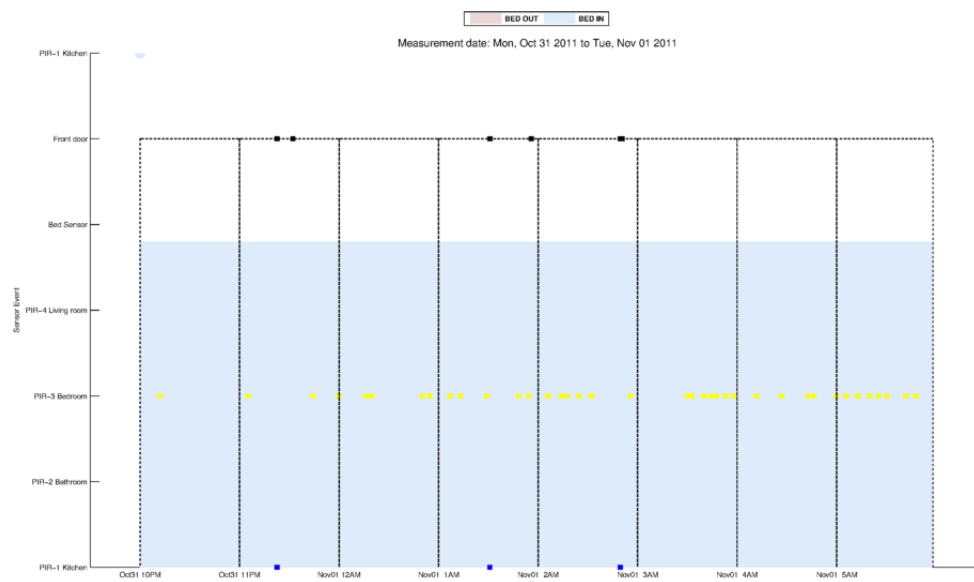


Figure 258: Sensor events and computed bed entrances and exists

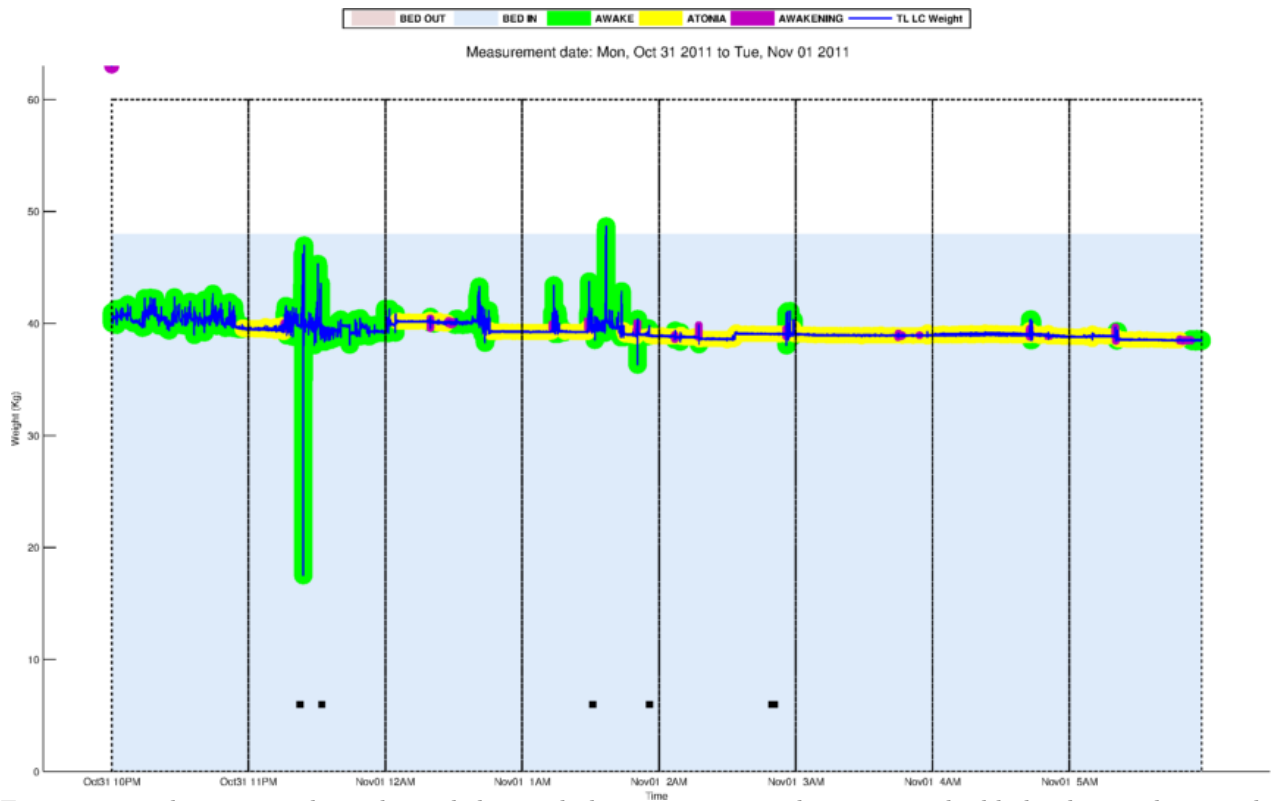


Figure 259: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 259 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 260 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 259).

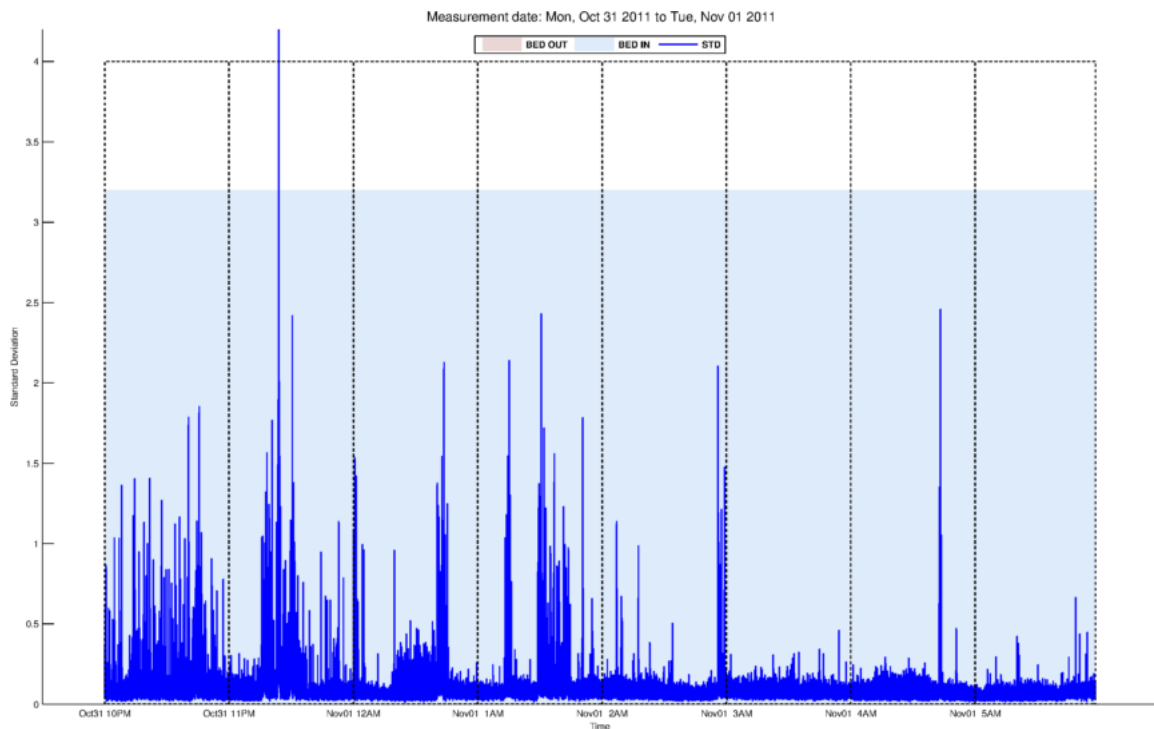


Figure 260: The moving standard deviation for the measured weight.

5.29 28th Night: from Nov 01 2011 to Nov 02 2011

Table 186 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 187 presents the duration of the estimated sleep related activities.

Table 186: Sleep related activities and sensor events measured between Nov 01 and Nov 02

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:57		22:01:58	22:02:01	22:01:57	00:05:13	00:05:31	22:01:35	02:25:50		00:05:12
2			02:34:01	02:34:05	02:26:36	02:21:06	00:10:20	22:56:51			00:13:16
3			05:39:20	05:39:24	05:33:31		02:21:36	23:21:32			02:21:06
4								23:28:47			02:26:05
5								23:35:16			
6								00:04:49			
7								00:36:06			
8								01:27:48			
9								02:31:30			
10								02:37:40			
11								02:40:36			
12								02:50:41			
13								02:54:02			
14								02:59:03			
15								04:30:04			
16								04:42:18			
17								04:55:04			
18								05:07:07			
19								05:16:56			
20								05:36:45			
21								05:39:21			

Table 187: Duration of the sleep related activities presented in Table 186

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:22		00:00:03	04:25:19	00:00:01
2			00:00:03	02:59:56	00:07:26
3			00:00:04	00:20:38	00:05:50

Figure 261 presents the measured sensor events and the computed bed entrances and exits.

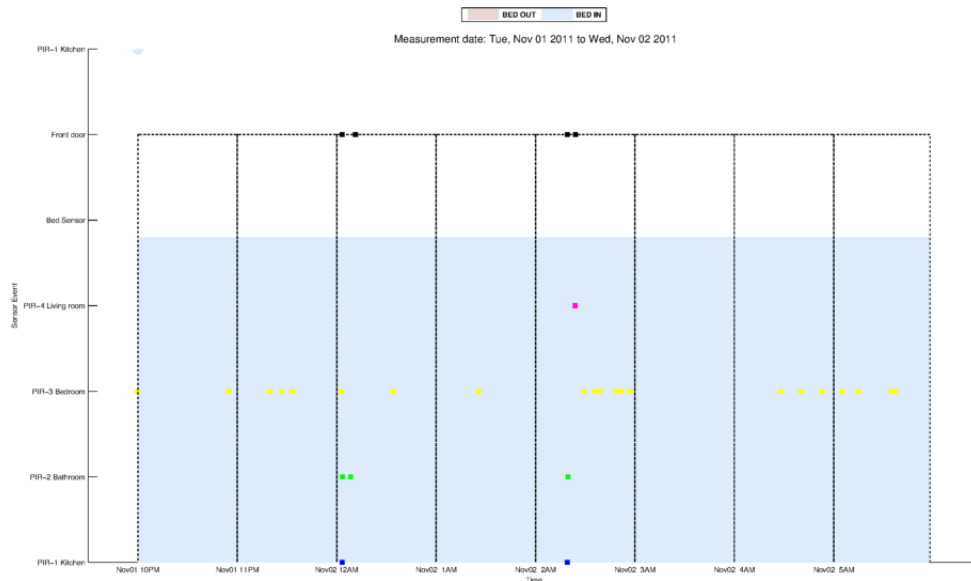


Figure 261: Sensor events and computed bed entrances and exists

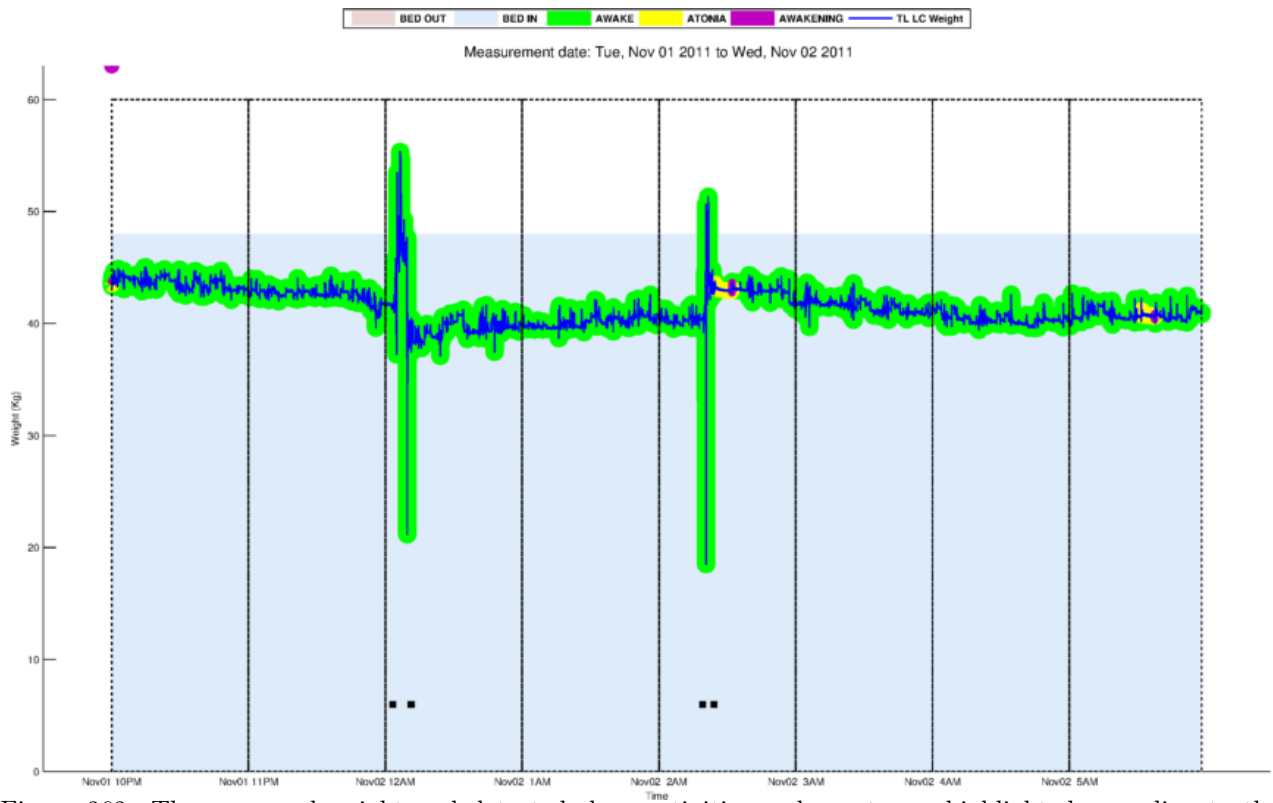


Figure 262: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 262 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 263 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 262).

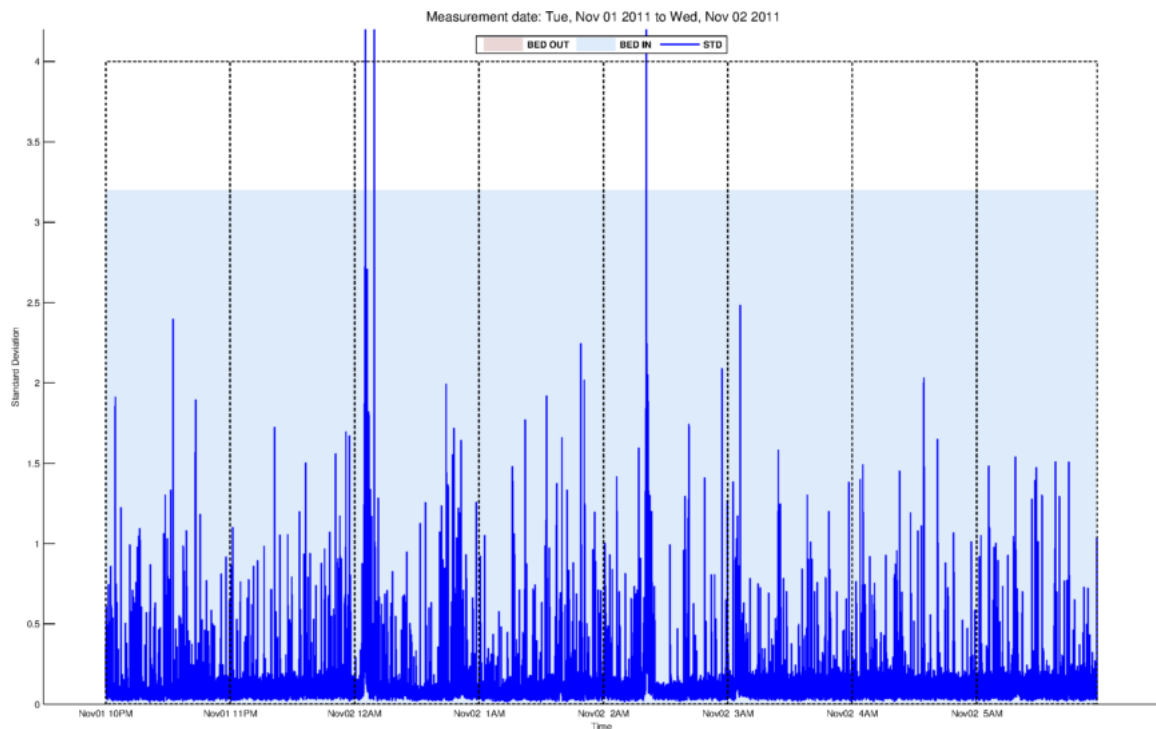


Figure 263: The moving standard deviation for the measured weight.

5.30 29th Night: from Nov 02 2011 to Nov 03 2011

Table 188 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 189 presents the duration of the estimated sleep related activities.

Table 188: Sleep related activities and sensor events measured between Nov 02 and Nov 03

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:57		22:02:24	22:03:45	22:01:57	00:20:14	00:20:56	23:35:02			00:20:13
2			00:44:09	00:44:42	00:20:13	02:49:23	02:49:52	23:53:00			00:22:43
3			01:05:47	01:06:43	00:57:35			23:55:37			02:49:22
4			01:55:39	01:55:42	01:40:15			00:10:34			02:50:23
5			02:52:39	02:52:46	02:36:25			00:45:22			05:47:02
6			03:20:36	03:20:39	03:14:01			00:48:51			
7			03:38:39	03:38:46	03:27:15			01:36:27			
8			04:06:53	04:08:05	03:52:02			01:55:40			
9			04:35:17	04:35:23	04:25:21			02:03:16			
10			04:43:54	04:53:42	04:35:24			02:07:31			
11			04:53:38	05:22:16	04:43:57			02:23:01			
12			05:18:12	05:31:26	04:56:08			02:26:54			
13			05:45:09		05:23:52			02:32:06			
14			05:55:56		05:38:50			02:34:49			
15					05:45:10			02:49:42			
16								02:52:39			
17								03:05:44			
18								03:12:30			
19								03:20:38			
20								03:27:15			
21								03:38:35			
22								03:43:39			
23								03:46:48			
24								04:06:54			
25								04:14:14			
26								04:35:19			
27								04:38:49			
28								04:43:56			
29								04:53:40			
30								05:07:28			
31								05:13:26			
32								05:19:55			
33								05:29:13			
34								05:38:30			
35								05:42:20			
36								05:48:34			
37								05:55:37			

Table 189: Duration of the sleep related activities presented in Table 188

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:24		00:01:21	02:16:51	00:00:27
2			00:00:33	00:12:54	00:23:59
3			00:00:57	00:33:37	00:08:13
4			00:00:03	00:40:50	00:15:26
5			00:00:07	00:21:19	00:16:16
6			00:00:03	00:06:37	00:06:35
7			00:00:07	00:13:18	00:11:25
8			00:01:12	00:17:19	00:14:53
9			00:00:06	00:00:01	00:09:58
10			00:00:03	00:02:27	00:08:31
11			00:00:03	00:01:36	00:09:42
12			00:04:04	00:07:26	00:22:07
13			00:00:01		00:07:35
14			00:04:03		00:06:19
15					00:10:48

Figure 264 presents the measured sensor events and the computed bed entrances and exits.



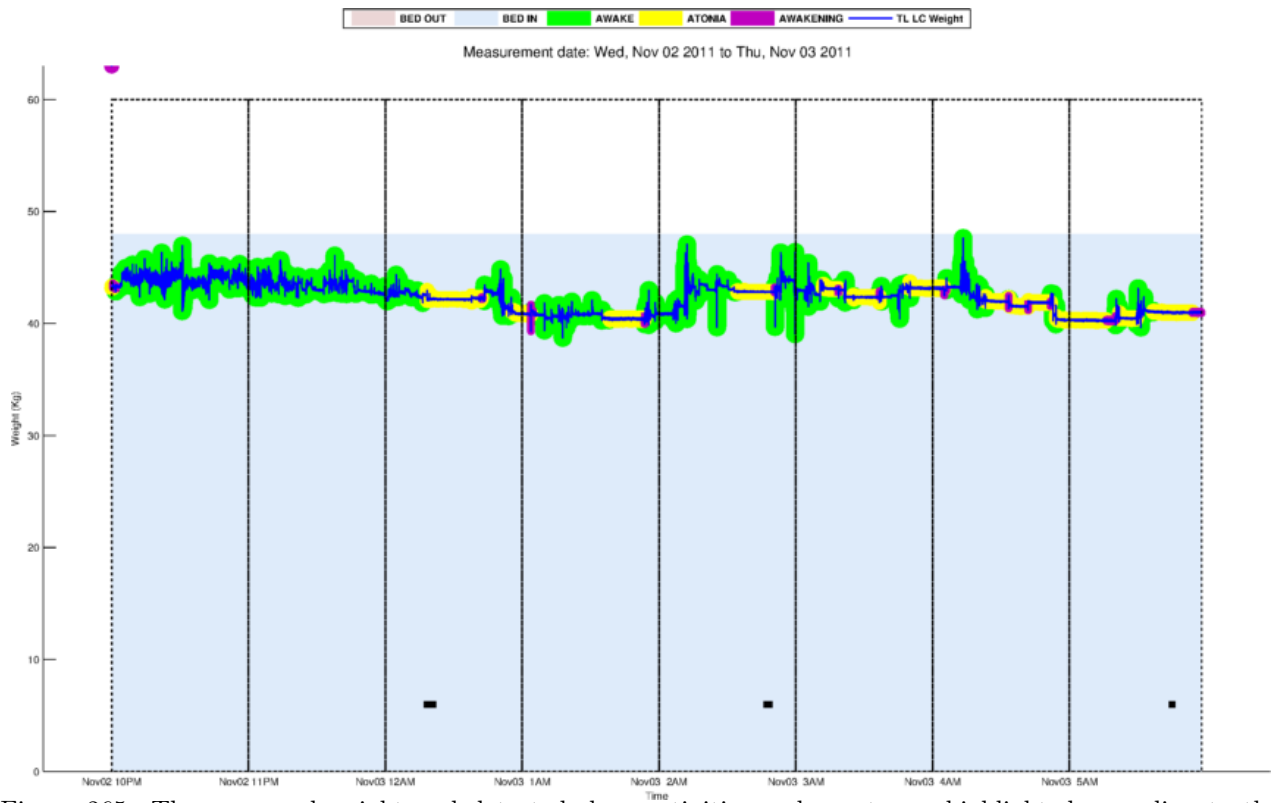


Figure 265: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 265 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 266 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 265).

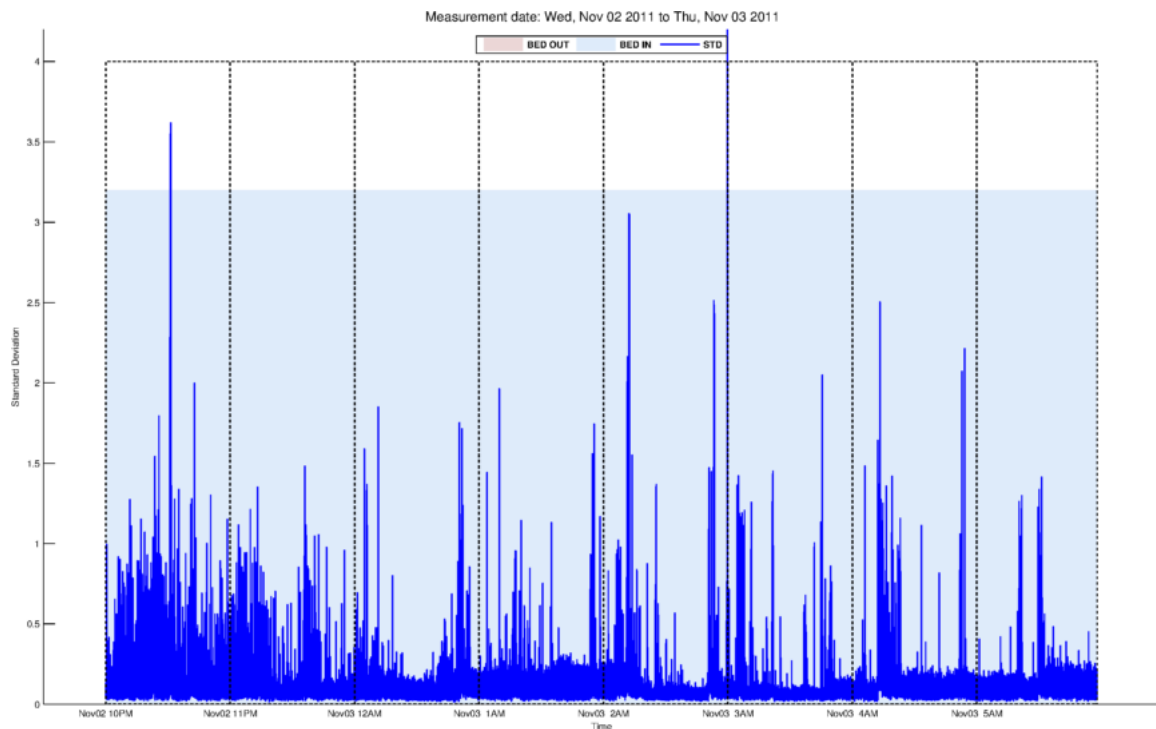


Figure 266: The moving standard deviation for the measured weight.

5.31 30th Night: from Nov 03 2011 to Nov 04 2011

Table 190 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 191 presents the duration of the estimated sleep related activities.

Table 190: Sleep related activities and sensor events measured between Nov 03 and Nov 04

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:57		22:02:47	22:03:11	22:01:57	00:06:48		22:35:27		02:48:51	00:06:48
2			22:54:09	23:10:08	22:47:04	00:13:27		23:29:56			00:13:42
3			23:09:38	23:21:27	22:54:10	02:46:38		23:38:46			02:46:36
4			23:17:02	23:38:44	23:10:08			23:42:10			04:47:01
5			23:29:55	00:53:04	23:24:53			23:52:09			
6			23:35:09	01:01:46	23:29:56			00:00:07			
7			00:52:55	01:23:09	00:46:17			00:59:53			
8			00:59:51	01:32:23	00:54:22			01:09:48			
9			01:23:06	01:42:04	01:05:51			01:15:15			
10			01:32:19	02:21:15	01:23:29			01:23:08			
11			01:41:58	02:41:07	01:33:28			01:30:15			
12			01:57:56	03:10:27	01:49:58			01:39:22			
13			02:10:21	03:27:06	01:57:57			02:00:45			
14			02:21:09	03:40:07	02:10:22			02:21:03			
15			03:09:30	03:50:16	02:26:00			02:25:39			
16			03:27:00	04:14:58	03:04:13			02:30:22			
17			03:40:03	04:37:58	03:10:28			02:38:10			
18			03:47:20	04:48:52	03:32:03			02:58:15			
19			03:57:12	05:06:51	03:40:47			03:01:19			
20			04:14:19	05:34:22	03:50:34			03:04:13			
21			04:37:48		03:57:12			03:19:31			
22			04:48:46		04:31:03			03:27:01			
23			04:58:43		04:43:23			03:35:38			
24			05:05:33		04:48:55			03:40:01			
25			05:34:17		04:58:43			03:49:14			
26					05:17:18			04:04:19			
27					05:45:12			04:17:37			
28								04:37:49			
29								05:17:17			
30								05:34:19			

Table 191: Duration of the sleep related activities presented in Table 190

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:22		00:00:24	00:44:00	00:00:50
2			00:00:01	00:00:00	00:07:06
3			00:00:30	00:03:26	00:15:30
4			00:04:25	01:07:43	00:06:55
5			00:00:00	00:01:18	00:05:03
6			00:03:35	00:04:05	00:05:14
7			00:00:09	00:00:20	00:06:39
8			00:01:55	00:01:05	00:05:30
9			00:00:03	00:07:55	00:17:17
10			00:00:04	00:04:46	00:08:51
11			00:00:06	00:23:10	00:08:31
12			00:00:00	00:00:01	00:07:59
13			00:00:00	00:04:57	00:12:26
14			00:00:06	00:00:40	00:10:49
15			00:00:57	00:00:18	00:15:09
16			00:00:06	00:16:07	00:05:18
17			00:00:03	00:05:26	00:16:34
18			00:02:56	00:00:03	00:08:02
19			00:00:00	00:10:28	00:06:34
20			00:00:39	00:10:52	00:06:38
21			00:00:09		00:17:10
22			00:00:05		00:06:46
23			00:00:00		00:05:24
24			00:01:18		00:09:49
25			00:00:05		00:06:50
26					00:17:02
27					00:14:49

Figure 267 presents the measured sensor events and the computed bed entrances and exits.

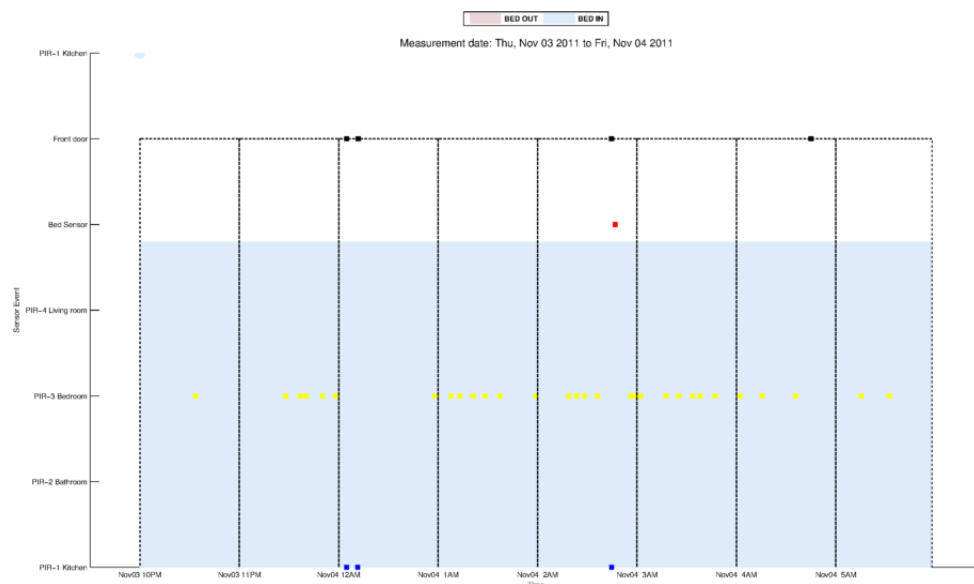


Figure 267: Sensor events and computed bed entrances and exists

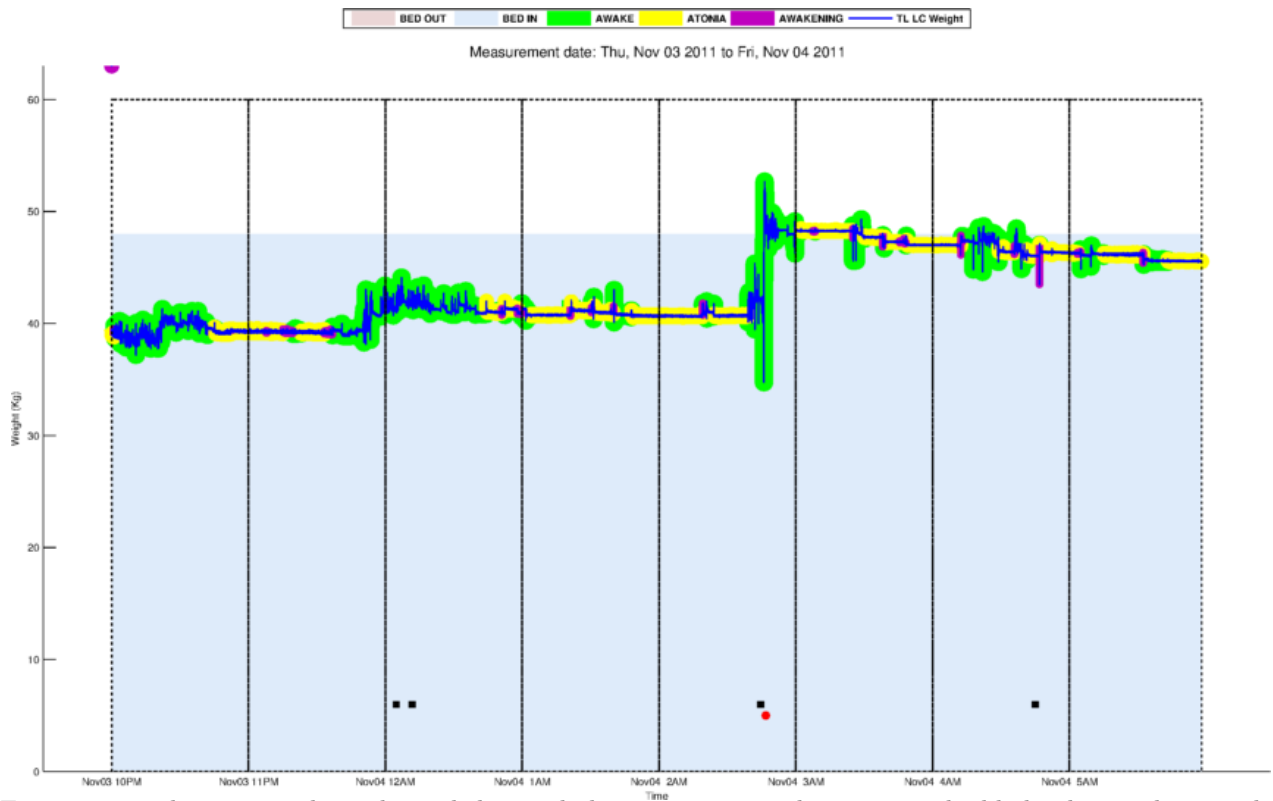


Figure 268: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 268 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 269 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 268).

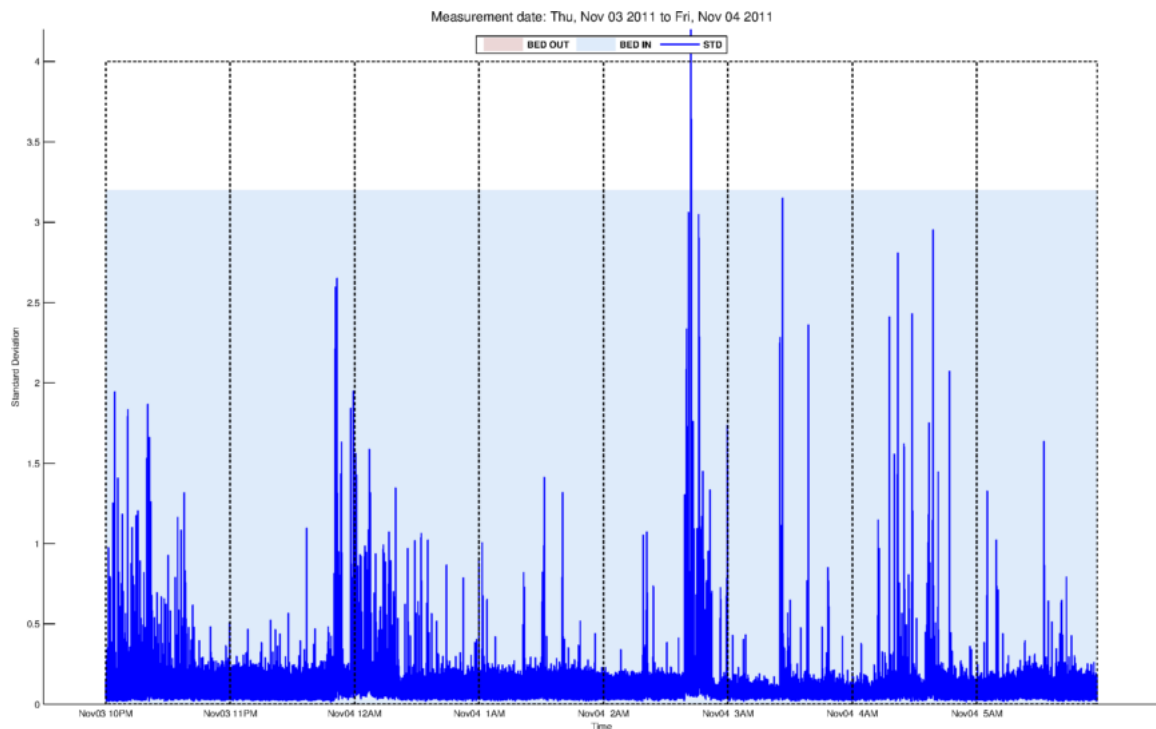


Figure 269: The moving standard deviation for the measured weight.

5.32 31st Night: from Nov 04 2011 to Nov 05 2011

Table 192 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 193 presents the duration of the estimated sleep related activities.

Table 192: Sleep related activities and sensor events measured between Nov 04 and Nov 05

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:57		22:54:11	22:01:57	22:43:34	00:22:16		22:31:44			00:22:16
2			23:49:26	22:54:50	23:44:04	03:19:33		22:36:01			00:25:07
3			00:00:52	00:01:03	23:49:26			22:49:44			03:19:32
4			00:15:15	00:15:19	00:03:08			22:54:11			03:21:14
5			00:22:48	00:22:51	00:15:25			23:14:29			03:47:00
6			01:40:43	01:40:53	01:29:30			23:18:24			
7			01:58:21	02:01:01	01:44:36			23:22:31			
8			02:09:36	02:10:05	02:03:11			23:37:15			
9			02:16:15	02:17:06	02:10:05			00:00:54			
10			02:25:36	02:28:58	02:18:47			00:09:08			
11			02:34:01	02:42:44	02:28:59			00:15:16			
12			02:39:29	03:01:41	02:34:02			00:22:31			
13			02:58:27	03:18:32	02:42:46			01:16:04			
14			03:17:14	03:53:48	03:12:11			01:31:17			
15			03:39:55	04:24:29	03:34:02			01:47:56			
16			03:53:45	04:40:19	03:39:56			01:53:24			
17			04:21:42	04:51:38	04:05:09			01:58:19			
18			04:40:16	05:07:45	04:30:07			02:01:02			
19			04:51:26	05:35:08	04:41:37			02:17:47			
20			05:07:40	05:46:36	04:54:57			02:21:57			
21			05:33:01		05:24:04			02:27:20			
22			05:44:43		05:37:51			02:42:43			
23			05:56:45		05:46:36			02:48:19			
24								03:01:44			
25								03:04:24			
26								03:51:19			
27								04:09:55			
28								04:14:19			
29								04:24:30			
30								04:29:57			
31								04:40:16			
32								04:46:22			
33								04:51:28			
34								04:54:22			
35								04:59:32			
36								05:07:41			
37								05:23:00			
38								05:27:06			
39								05:33:03			
40								05:39:00			
41								05:43:07			
42								05:52:38			

Figure 270 presents the measured sensor events and the computed bed entrances and exits.

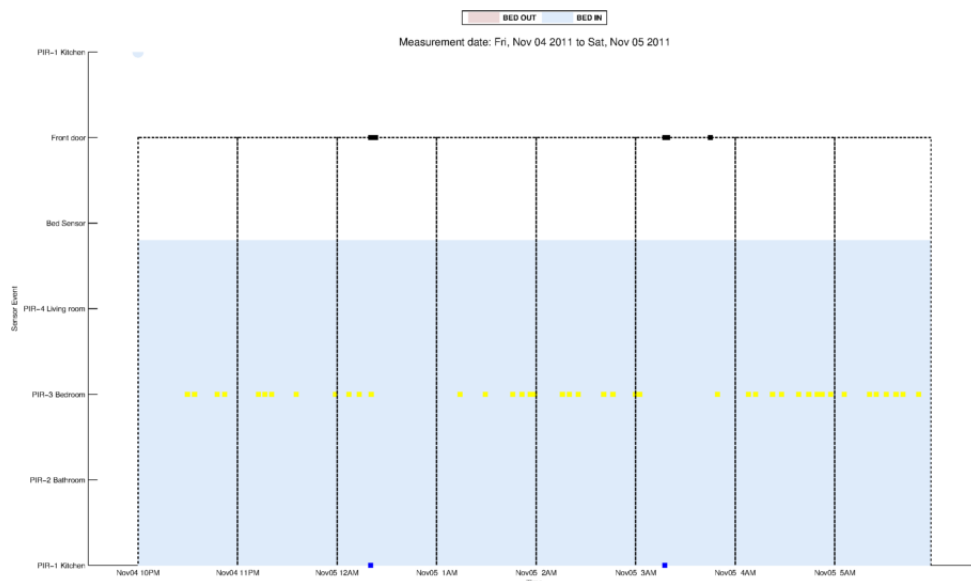


Figure 270: Sensor events and computed bed entrances and exists

Table 193: Duration of the sleep related activities presented in Table 192

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:22		00:00:39	00:41:44	00:10:38
2			00:00:00	00:49:21	00:05:23
3			00:00:11	00:02:05	00:11:28
4			00:00:03	00:00:06	00:12:09
5			00:00:03	01:06:50	00:07:24
6			00:00:10	00:03:43	00:11:14
7			00:02:40	00:02:10	00:13:47
8			00:00:29	00:00:00	00:06:26
9			00:00:51	00:01:41	00:06:10
10			00:03:23	00:00:01	00:06:50
11			00:00:00	00:00:02	00:05:02
12			00:03:15	00:10:31	00:05:28
13			00:03:14	00:15:33	00:15:44
14			00:01:18	00:11:22	00:05:04
15			00:00:00	00:05:38	00:05:54
16			00:00:03	00:01:18	00:13:51
17			00:02:48	00:03:19	00:16:36
18			00:00:03	00:16:21	00:10:10
19			00:00:12	00:02:43	00:09:51
20			00:00:05	00:00:00	00:12:46
21			00:02:08		00:08:58
22			00:01:53		00:06:53
23			00:03:14		00:10:10

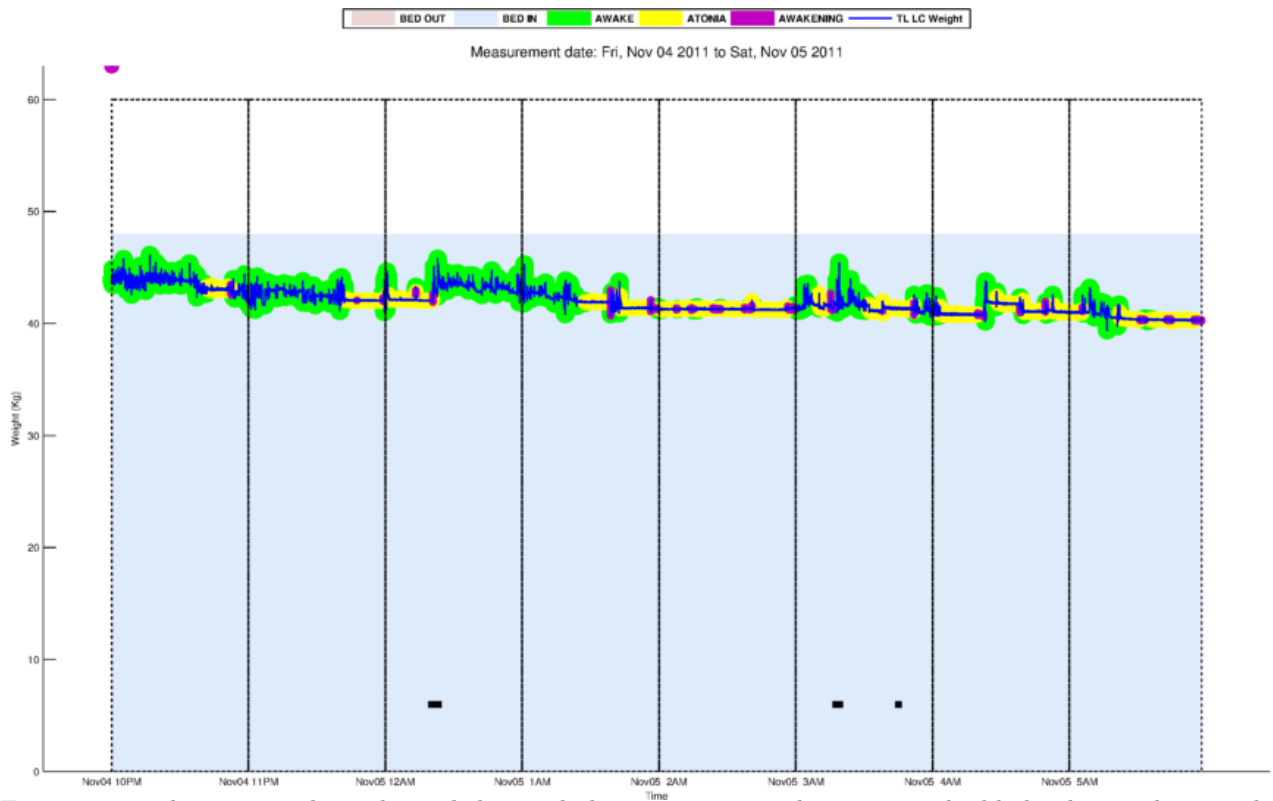


Figure 271: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 271 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 272 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 271).

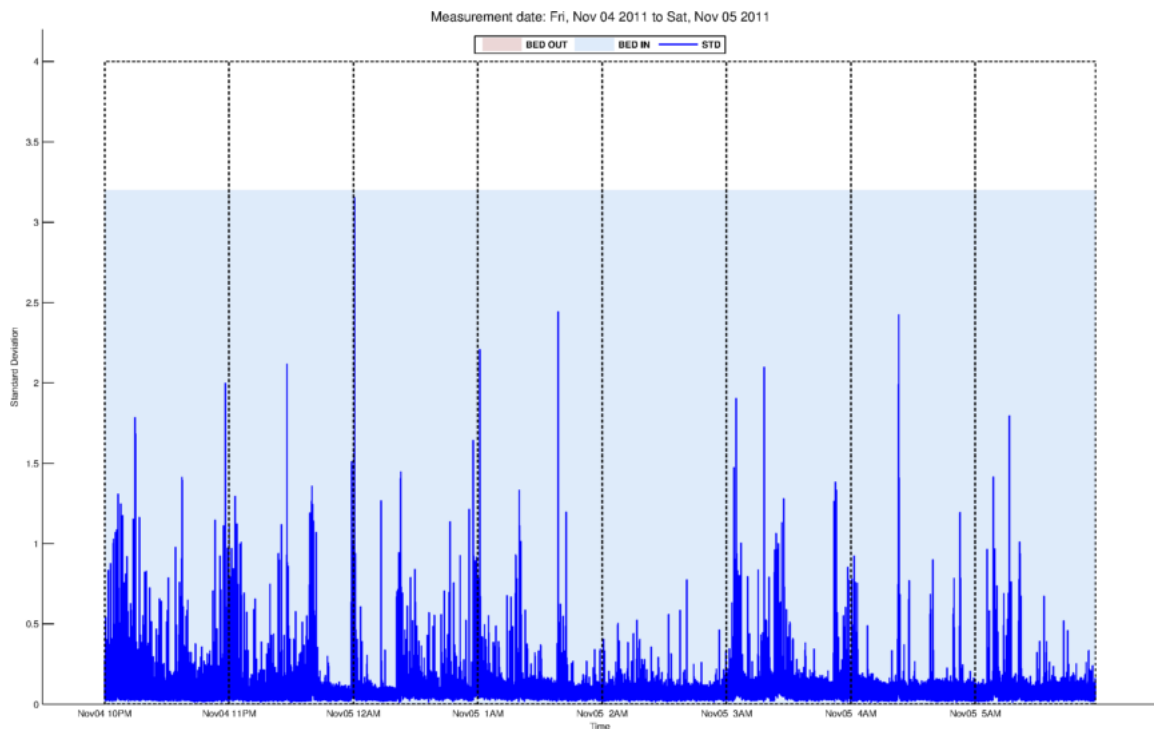


Figure 272: The moving standard deviation for the measured weight.

5.33 32nd Night: from Nov 05 2011 to Nov 06 2011

Table 194 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 195 presents the duration of the estimated sleep related activities.

Table 194: Sleep related activities and sensor events measured between Nov 05 and Nov 06

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:57		22:02:12	22:02:18	22:01:57	00:25:33		22:42:08			00:25:32
2			22:48:13	22:49:29	22:41:22	02:55:29		22:46:24			00:27:52
3			23:22:56	23:23:35	23:17:50			23:28:06			02:46:58
4			23:31:30	23:33:36	23:24:45			23:33:36			02:55:28
5			00:21:08	00:21:12	00:15:46			23:41:23			
6			00:48:16	00:48:23	00:35:00			23:56:14			
7			01:00:11	01:00:15	00:51:18			00:01:39			
8			01:21:14	01:25:17	01:10:51			00:10:01			
9			01:52:25	01:52:30	01:37:21			00:13:22			
10			02:09:57	02:10:00	02:01:17			00:21:09			
11			02:23:34	02:23:47	02:16:05			00:25:41			
12			02:42:42	02:44:40	02:36:58			00:31:09			
13			02:56:43	02:57:23	02:51:11			00:42:47			
14			03:10:05	03:10:09	03:03:28			00:48:18			
15			03:34:47	03:34:52	03:15:47			00:51:46			
16			03:41:45	03:52:05	03:34:52			00:57:52			
17			03:50:54	03:58:50	03:41:49			01:08:54			
18			03:58:45	04:08:46	03:52:08			01:42:10			
19			04:08:43	04:31:59	04:02:06			01:52:25			
20			04:31:56	04:43:22	04:24:29			02:01:15			
21			04:42:47	05:15:48	04:32:09			02:05:07			
22			05:15:43	05:33:21	04:50:03			02:09:58			
23			05:32:50		05:15:48			02:15:58			
24								02:42:42			
25								03:01:46			
26								03:19:41			
27								03:26:54			
28								03:34:49			
29								03:41:42			
30								03:49:34			
31								03:58:46			
32								04:08:45			
33								04:29:43			
34								04:38:11			
35								04:42:24			
36								04:57:13			
37								05:00:35			
38								05:06:48			
39								05:15:45			
40								05:18:23			
41								05:23:36			
42								05:29:10			
43								05:32:50			

Figure 273 presents the measured sensor events and the computed bed entrances and exits.

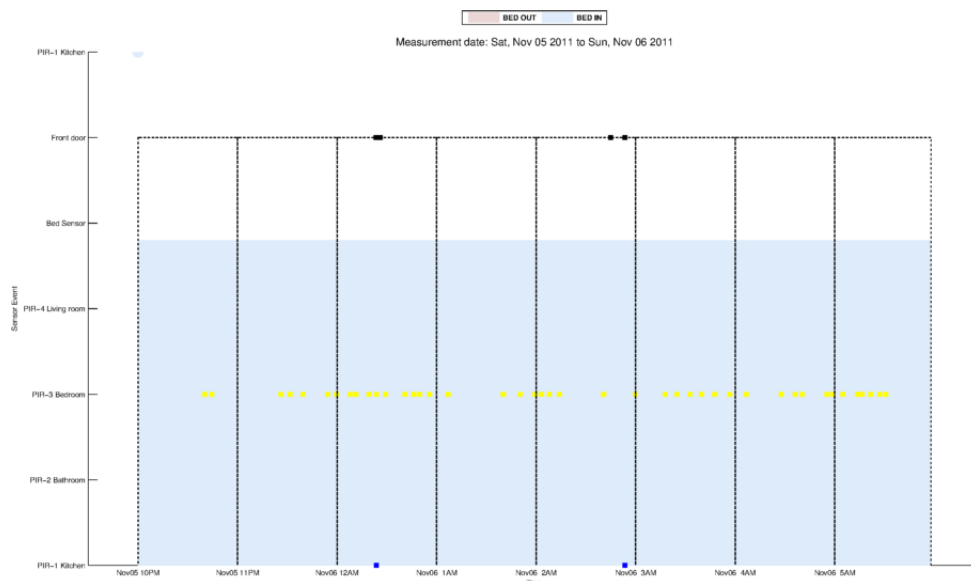


Figure 273: Sensor events and computed bed entrances and exists

Table 195: Duration of the sleep related activities presented in Table 194

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:21		00:00:06	00:39:10	00:00:15
2			00:01:16	00:28:26	00:06:51
3			00:00:39	00:01:09	00:05:07
4			00:02:05	00:42:17	00:06:47
5			00:00:04	00:13:50	00:05:23
6			00:00:07	00:02:55	00:13:18
7			00:00:03	00:10:37	00:08:54
8			00:04:03	00:12:06	00:10:25
9			00:00:05	00:08:49	00:15:06
10			00:00:03	00:06:06	00:08:40
11			00:00:13	00:13:13	00:07:30
12			00:01:58	00:06:31	00:05:44
13			00:00:41	00:06:05	00:05:33
14			00:00:03	00:05:39	00:06:38
15			00:00:05	00:00:00	00:19:03
16			00:00:03	00:00:03	00:06:54
17			00:01:11	00:03:17	00:09:07
18			00:00:04	00:15:45	00:06:38
19			00:00:03	00:00:10	00:06:38
20			00:00:03	00:06:42	00:07:28
21			00:00:35	00:00:00	00:10:39
22			00:00:04	00:26:42	00:25:44
23			00:00:31		00:17:04

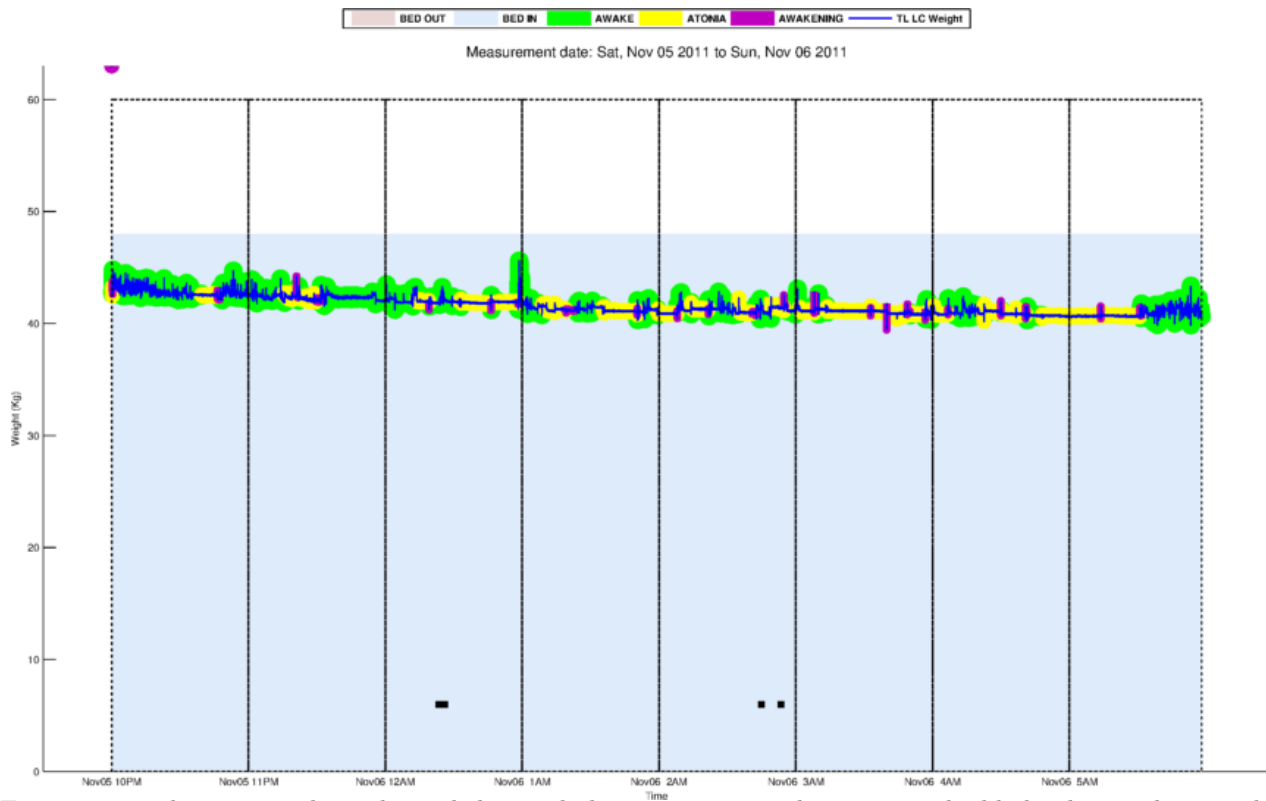


Figure 274: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 274 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 275 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 274).

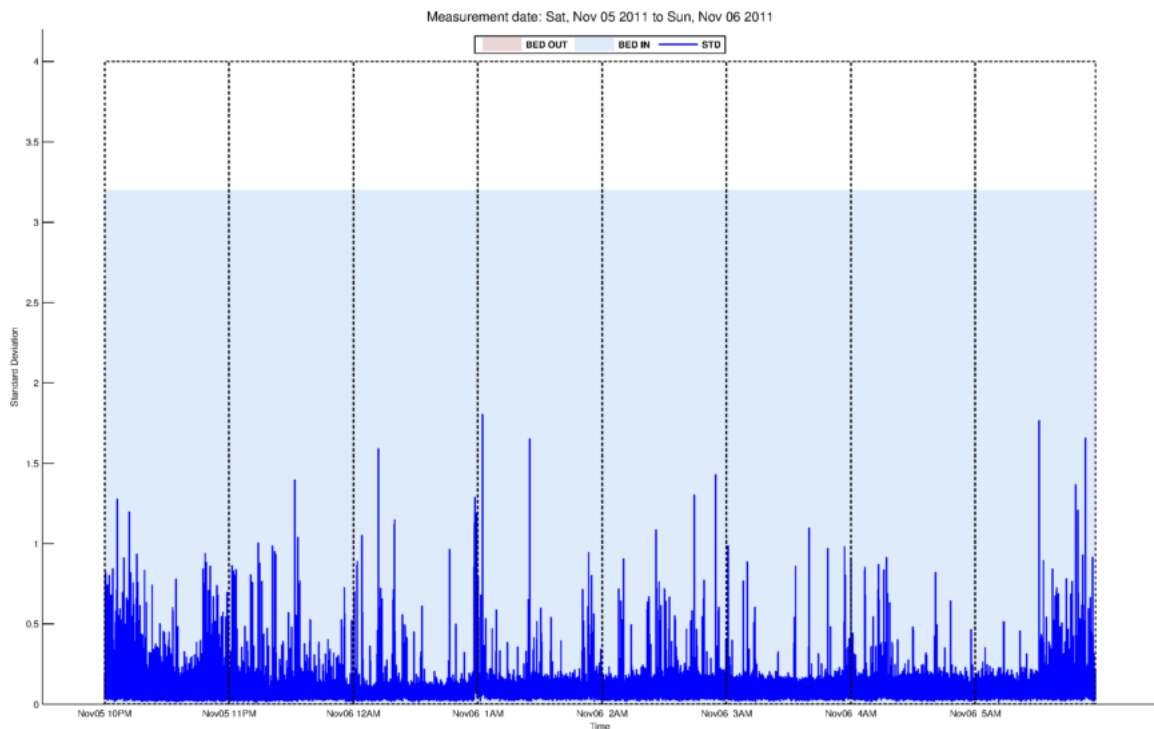


Figure 275: The moving standard deviation for the measured weight.

5.34 33rd Night: from Nov 06 2011 to Nov 07 2011

Table 196 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 197 presents the duration of the estimated sleep related activities.

Table 196: Sleep related activities and sensor events measured between Nov 06 and Nov 07

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:57		22:02:04	22:02:09	22:01:57	23:47:41	23:48:26	22:05:57	23:52:24	23:51:03	23:47:40
2			22:36:03	22:37:59	22:29:35	23:50:57		22:10:46			23:52:48
3			22:50:55	22:51:00	22:43:48	03:27:43		22:19:55			01:46:57
4			23:04:25	23:04:29	22:58:16	04:37:14		22:28:52			03:27:40
5			23:13:55	23:15:34	23:04:53	05:01:44		22:36:04			03:28:07
6			23:28:25	23:28:29	23:21:11	05:16:50		22:41:48			
7			23:40:55	23:41:01	23:35:36			22:50:55			
8			00:07:50	00:17:55	23:53:56			23:07:55			
9			00:16:22	00:34:27	00:07:51			23:13:56			
10			00:34:11	00:56:43	00:29:02			23:35:03			
11			00:53:01	01:03:48	00:38:43			00:34:12			
12			01:03:38	01:35:44	00:56:45			00:37:45			
13			01:35:39	01:47:32	01:20:19			01:18:26			
14			01:42:38	02:00:42	01:35:58			01:35:36			
15			02:00:27	02:14:55	01:52:01			02:12:10			
16			02:14:51	02:31:15	02:00:45			02:14:54			
17			02:31:11	02:43:13	02:20:54			02:20:39			
18			02:43:03	03:00:19	02:34:51			02:24:05			
19			03:00:04	03:08:50	02:43:27			02:34:50			
20			03:08:17	03:32:09	03:01:21			02:39:35			
21			03:15:34	03:41:34	03:08:52			02:43:03			
22			03:32:02	04:10:11	03:15:35			02:51:39			
23			03:38:58	04:22:38	03:32:11			02:57:43			
24			04:01:28	04:33:52	03:45:20			03:06:54			
25			04:09:58	04:58:19	04:01:29			03:11:22			
26			04:22:33	05:05:27	04:10:13			03:15:33			
27			04:33:47	05:28:26	04:23:49			03:24:26			
28			04:58:14	05:54:29	04:34:50			03:28:30			
29			05:05:24		04:58:56			03:32:03			
30			05:28:23		05:05:32			03:41:35			
31			05:45:47		05:40:26			03:44:51			
32			05:53:13		05:45:49			03:56:34			
33								04:09:36			
34								04:13:10			
35								04:22:18			
36								04:33:48			
37								04:58:18			
38								05:05:26			
39								05:16:09			
40								05:25:01			
41								05:28:24			
42								05:40:24			
43								05:45:49			
44								05:53:16			

Figure 276 presents the measured sensor events and the computed bed entrances and exits.

Table 197: Duration of the sleep related activities presented in Table 196

	Bed Entrances	Bed Exits	Awakening	Awake	Atonia
1	07:59:24		00:00:05	00:27:30	00:00:07
2			00:01:56	00:05:50	00:06:29
3			00:00:05	00:07:16	00:07:08
4			00:00:04	00:00:24	00:06:10
5			00:01:38	00:05:38	00:09:04
6			00:00:03	00:07:08	00:07:16
7			00:00:06	00:12:57	00:05:20
8			00:00:01	00:11:09	00:13:57
9			00:01:33	00:04:17	00:08:32
10			00:00:15	00:00:01	00:05:10
11			00:03:43	00:16:34	00:14:20
12			00:00:10	00:00:13	00:06:54
13			00:00:05	00:04:29	00:15:22
14			00:04:54	00:00:03	00:06:41
15			00:00:15	00:06:00	00:08:27
16			00:00:03	00:03:37	00:14:09
17			00:00:03	00:00:13	00:10:19
18			00:00:10	00:01:03	00:08:13
19			00:00:14	00:00:02	00:16:40
20			00:00:33	00:00:01	00:06:57
21			00:00:01	00:03:47	00:06:43
22			00:00:07	00:00:02	00:16:29
23			00:02:36	00:01:11	00:06:48
24			00:00:00	00:00:58	00:16:11
25			00:00:12	00:00:36	00:08:31
26			00:00:05	00:00:04	00:12:22
27			00:00:05	00:12:02	00:09:59
28			00:00:05	00:05:30	00:23:28
29			00:00:03		00:06:29
30			00:00:03		00:22:54
31			00:00:01		00:05:22
32			00:01:16		00:07:25

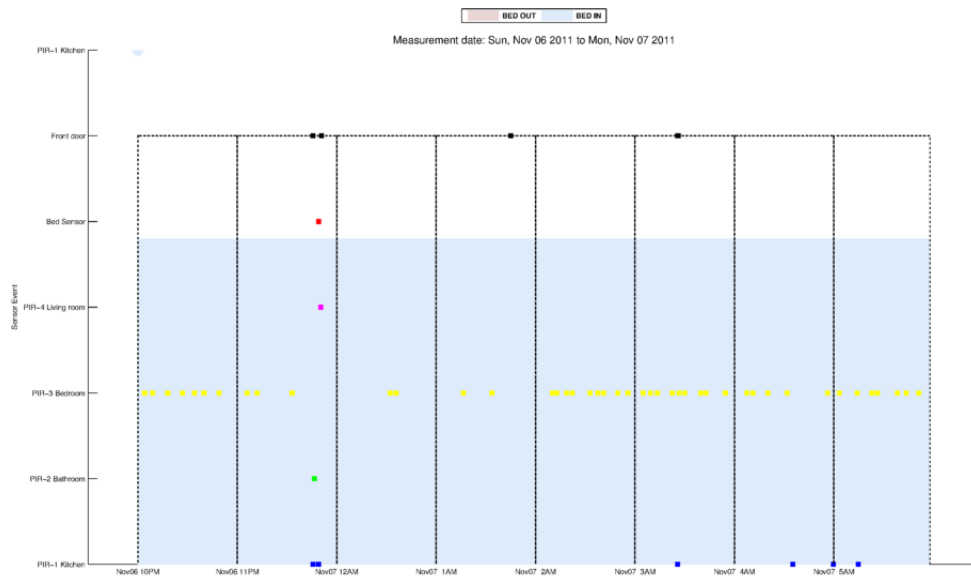


Figure 276: Sensor events and computed bed entrances and exists

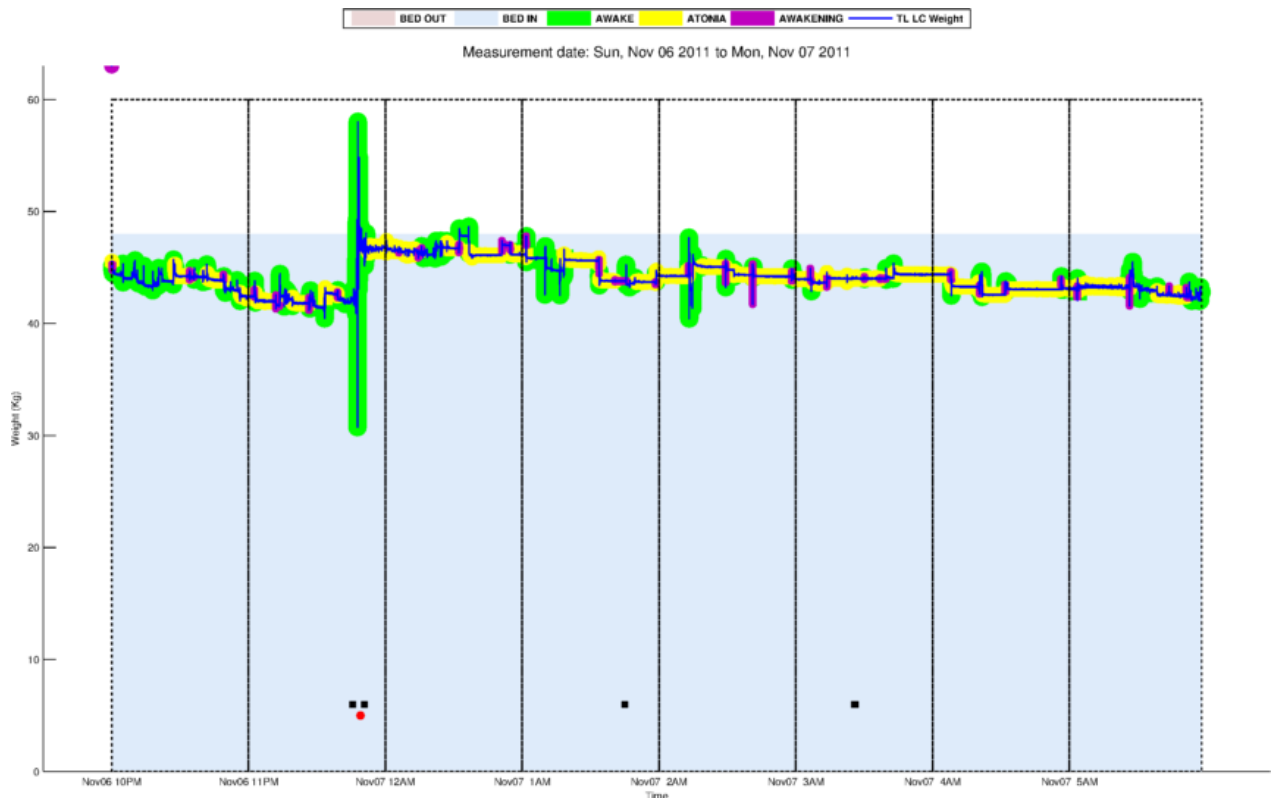


Figure 277: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 277 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 278 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 277).

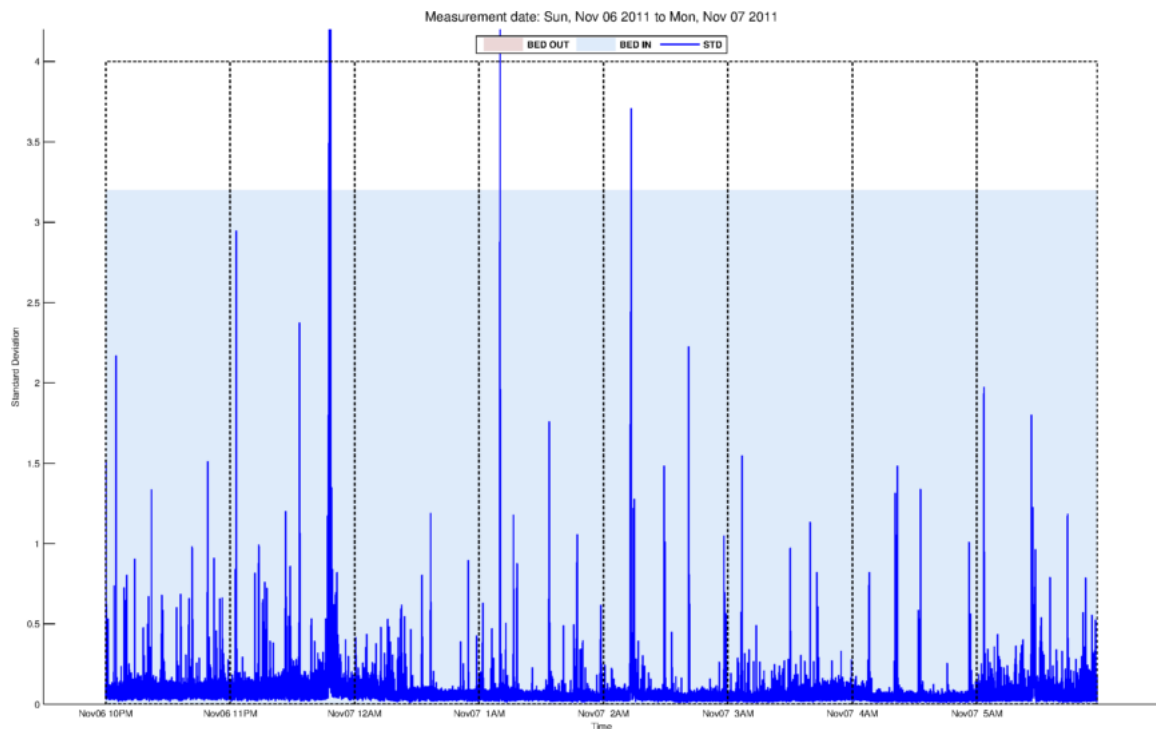


Figure 278: The moving standard deviation for the measured weight.

5.35 34th Night: from Nov 07 2011 to Nov 08 2011

Table 198 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 199 presents the duration of the estimated sleep related activities.

Table 198: Sleep related activities and sensor events measured between Nov 07 and Nov 08

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Bedroom	PIR-4 Living room	Bed Sensor	Front door
1	22:01:58		22:02:16	22:03:00	22:01:58	00:33:40		23:33:20			00:33:38
2			00:09:55	00:12:10	00:01:26	03:12:27		23:47:42			00:38:05
3			00:27:39	00:55:17	00:21:48			00:05:29			00:46:56
4			00:45:18	01:11:00	00:27:39			00:25:19			03:12:24
5			00:54:55	01:19:41	00:45:21			00:28:32			03:18:45
6			01:10:57	01:26:22	01:00:46			00:32:33			
7			01:19:38	01:43:31	01:12:59			00:36:47			
8			01:43:27	02:34:56	01:20:47			00:40:09			
9			02:31:04	03:03:54	01:38:25			00:45:21			
10			02:56:43	03:10:38	02:21:58			00:54:55			
11			03:03:51	04:38:58	02:46:57			01:10:55			
12			03:09:59	05:10:54	02:56:43			01:19:41			
13			03:57:52	05:25:00	03:04:47			01:26:26			
14			04:15:28		03:50:19			01:48:20			
15			04:29:26		03:57:53			01:52:33			
16			04:38:52		04:15:29			02:26:54			
17			05:10:30		04:29:26			02:34:57			
18			05:17:49		04:48:00			02:57:10			
19			05:24:56		05:11:13			03:03:53			
20					05:17:49			03:10:00			
21								03:58:30			
22								04:04:41			
23								04:12:56			
24								04:16:05			
25								04:29:38			
26								04:38:53			
27								04:46:28			
28								04:55:22			
29								05:00:23			
30								05:04:00			
31								05:08:25			
32								05:19:00			
33								05:24:55			
34								05:36:16			
35								05:47:53			

Table 199: Duration of the sleep related activities presented in Table 198

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:59:18		00:00:43	01:58:46	00:00:18
2			00:02:15	00:09:39	00:08:30
3			00:00:00	00:05:30	00:05:52
4			00:00:03	00:01:59	00:17:41
5			00:00:22	00:01:05	00:09:35
6			00:00:03	00:12:04	00:10:12
7			00:00:03	00:38:33	00:06:39
8			00:00:04	00:12:02	00:05:36
9			00:03:52	00:00:52	00:05:03
10			00:00:00	00:39:48	00:09:07
11			00:00:03	00:09:03	00:09:47
12			00:00:39	00:00:19	00:07:09
13			00:00:00	00:35:04	00:05:13
14			00:00:00		00:07:34
15			00:00:00		00:17:38
16			00:00:06		00:13:59
17			00:00:24		00:09:27
18			00:00:00		00:22:33
19			00:00:03		00:06:37
20					00:07:08

Figure 279 presents the measured sensor events and the computed bed entrances and exits.

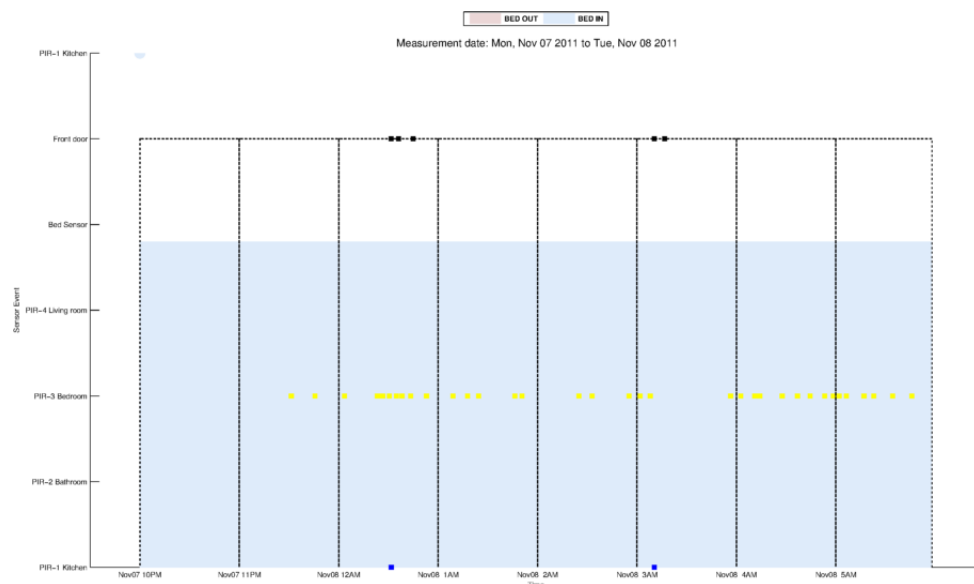


Figure 279: Sensor events and computed bed entrances and exists

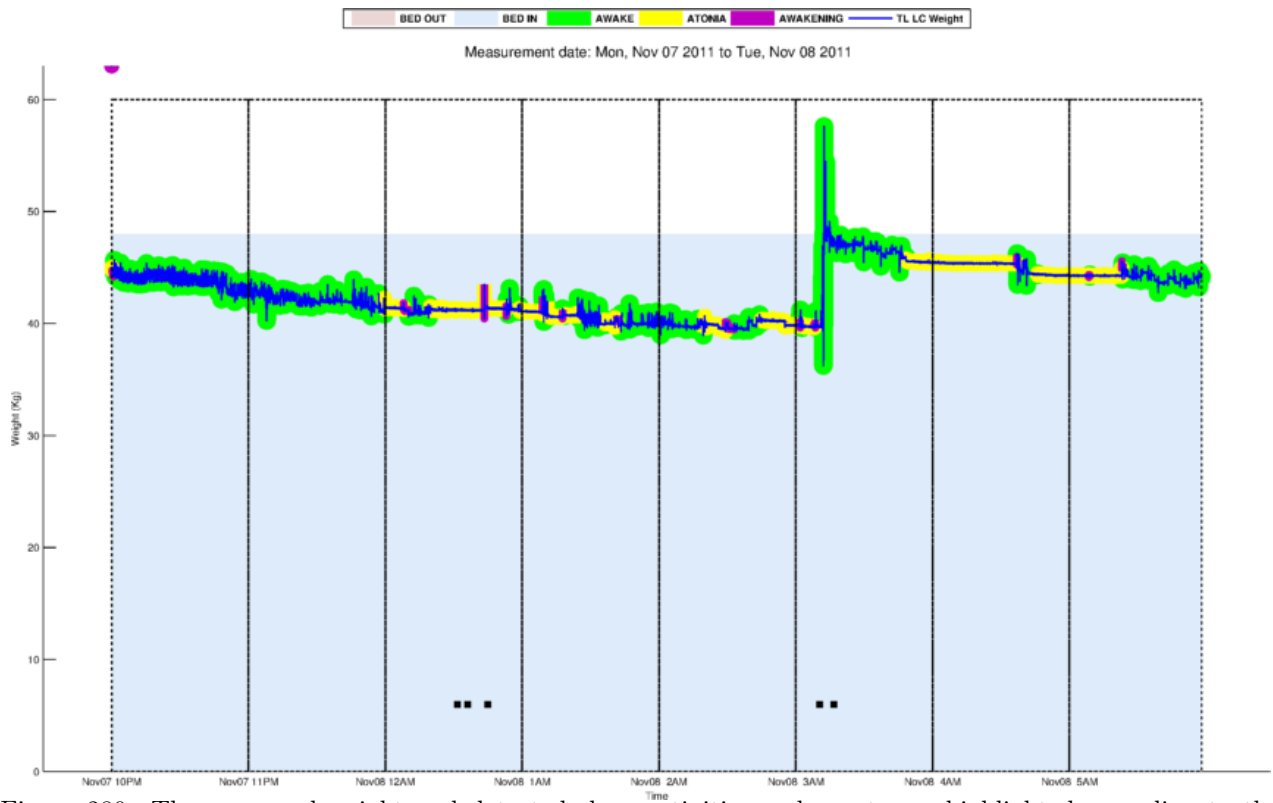


Figure 280: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 280 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 281 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 280).

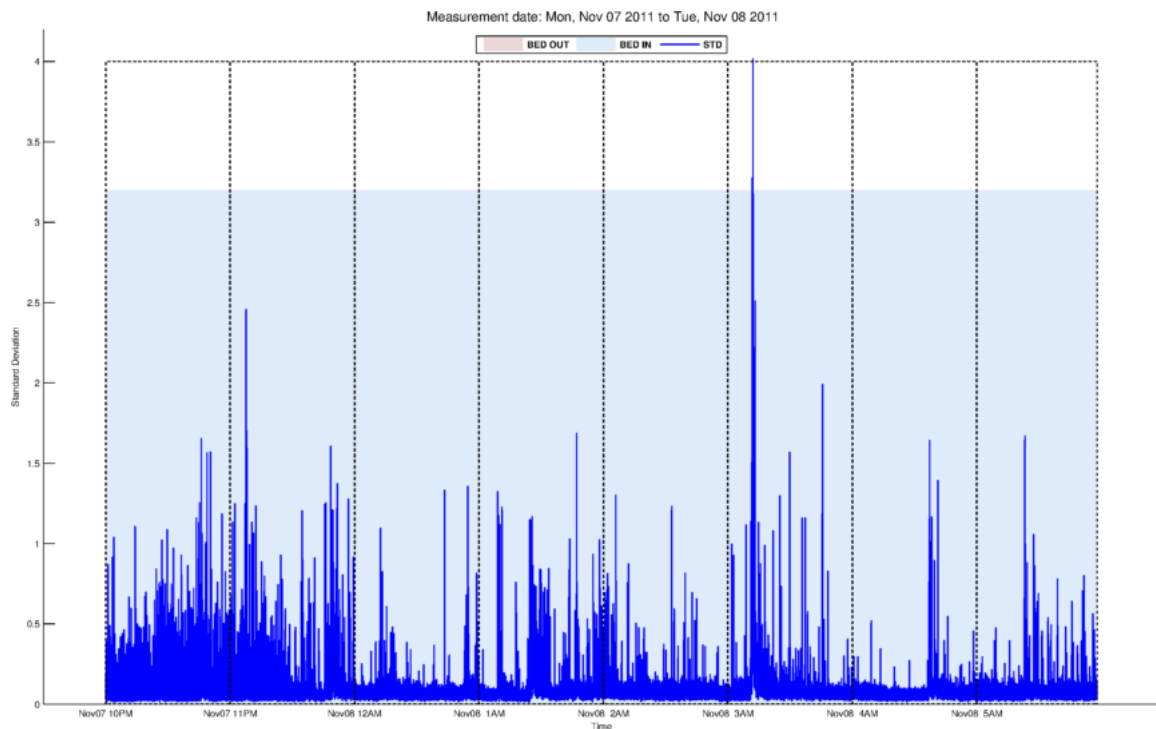


Figure 281: The moving standard deviation for the measured weight.

6 Participant 5: *PersonX*

6.1 Summary

Start of data collection: May 10 2011.

End of data collection: May 25 2011.

Total Number of nights: 14.

A summary of estimated sleep activities and measured sensor events for each night are presented in Table 200.

Table 200: A summary of detected activities and sensor events. **Sleep efficiency** is the ratio of the estimated time asleep (**Time in Atonia**) to the estimated **Time in Bed**

Date	Bed Exits	Bed Entrances	Awake	Atonia	Awanening	Bed Sensor	Visits	Time in Bed	Time in Atonia	Sleep Efficiency
May 10-May 11	3	3	22	21	21	0	0	06:58:23	05:09:11	74%
May 11-May 12	3	3	21	24	23	2	3	07:03:51	04:55:48	70%
May 12-May 13	3	3	14	17	16	1	2	06:48:33	05:21:16	79%
May 13-May 14	3	3	8	7	6	1	2	06:13:59	04:44:26	76%
May 14-May 15	3	2	6	5	5	2	7	04:13:17	03:21:52	80%
May 15-May 16	3	3	6	4	3	0	5	07:03:19	06:13:14	88%
May 16-May 17	1	1	11	17	16	0	1	07:09:48	06:12:23	87%
May 17-May 18	3	3	17	16	16	1	2	06:55:23	05:28:05	79%
May 19-May 20	5	5	8	7	6	1	2	05:07:37	03:45:59	73%
May 20-May 21	3	3	16	17	16	1	4	06:28:01	04:12:49	65%
May 21-May 22	3	3	9	10	8	0	4	04:45:07	03:39:41	77%
May 22-May 23	1	1	11	17	16	0	2	07:02:39	05:41:57	81%
May 23-May 24	1	1	17	22	21	0	2	07:14:02	05:56:11	82%
May 24-May 25	4	4	20	18	17	0	2	06:28:43	04:41:19	72%

6.2 1st Night: from May 10 2011 to May 11 2011

Table 201 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 202 presents the duration of the estimated sleep related activities.

Table 201: Sleep related activities and sensor events measured between May 10 and May 11

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Living room	Bed Sensor	Front door
1	22:32:43	22:02:07	23:22:36	22:32:47	23:06:10						
2	04:43:24	04:43:22	23:56:05	23:25:32	23:40:26						
3	05:07:17	04:43:25	00:11:20	23:56:43	00:01:47						
4			00:39:24	00:15:16	00:25:31						
5			00:52:52	00:39:29	00:42:41						
6			01:17:15	00:53:56	01:04:15						
7			01:31:18	01:17:20	01:19:50						
8			02:05:29	02:05:32	01:32:21						
9			02:35:12	02:35:15	02:05:51						
10			02:43:15	02:43:18	02:35:25						
11			03:03:48	03:03:51	02:44:21						
12			03:22:01	03:25:32	03:03:52						
13			03:33:41	03:33:44	03:25:33						
14			03:39:31	03:39:35	03:33:48						
15			03:59:30	03:59:33	03:39:38						
16			04:12:22	04:12:30	03:59:47						
17			04:26:32	04:37:35	04:15:48						
18			04:37:29	04:43:24	04:26:35						
19			05:18:28	05:07:52	05:09:59						
20			05:35:36	05:18:32	05:18:35						
21			05:56:35	05:35:40	05:37:44						
22				05:59:30							

Table 202: Duration of the sleep related activities presented in Table 201

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	06:06:40	00:30:08	00:02:56	00:32:17	00:16:28
2	00:00:01	00:00:01	00:00:38	00:14:20	00:15:41
3	00:51:41	00:23:54	00:03:57	00:05:04	00:09:34
4			00:00:05	00:09:40	00:13:54
5			00:01:04	00:02:37	00:09:36
6			00:00:05	00:10:20	00:13:01
7			00:01:03	00:02:30	00:11:29
8			00:00:03	00:00:19	00:33:11
9			00:00:03	00:00:10	00:28:48
10			00:00:03	00:00:27	00:07:50
11			00:00:03	00:00:01	00:19:29
12			00:03:32	00:00:00	00:18:10
13			00:00:03	00:00:04	00:08:09
14			00:00:03	00:00:03	00:05:44
15			00:00:03	00:00:14	00:19:54
16			00:00:08	00:03:18	00:12:36
17			00:00:03	00:05:48	00:10:45
18			00:00:06	00:00:01	00:10:55
19			00:00:03	00:02:07	00:07:55
20			00:00:03	00:00:03	00:17:03
21			00:02:55	00:02:04	00:18:54
22				00:00:28	

Figure 282 presents the measured sensor events and the computed bed entrances and exits.

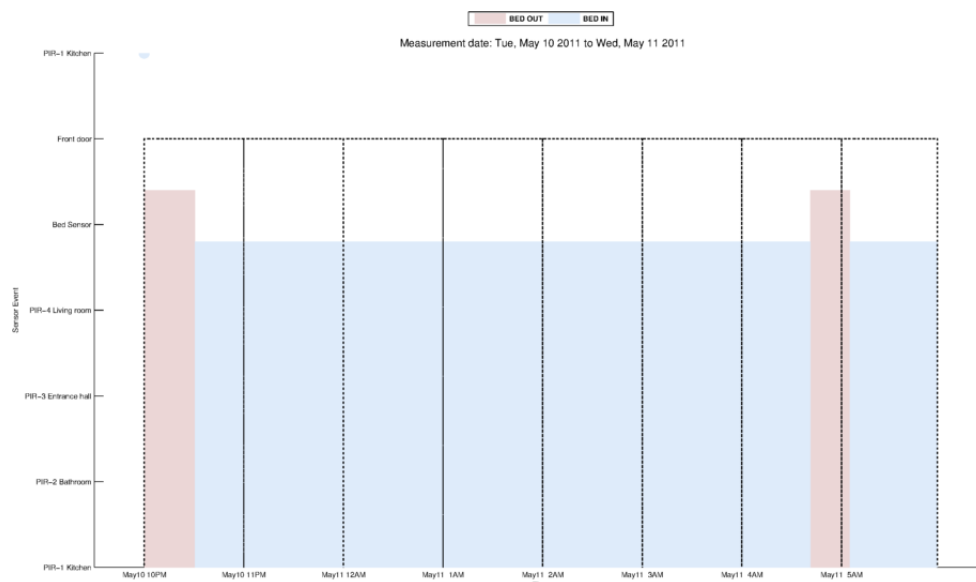


Figure 282: Sensor events and computed bed entrances and exists

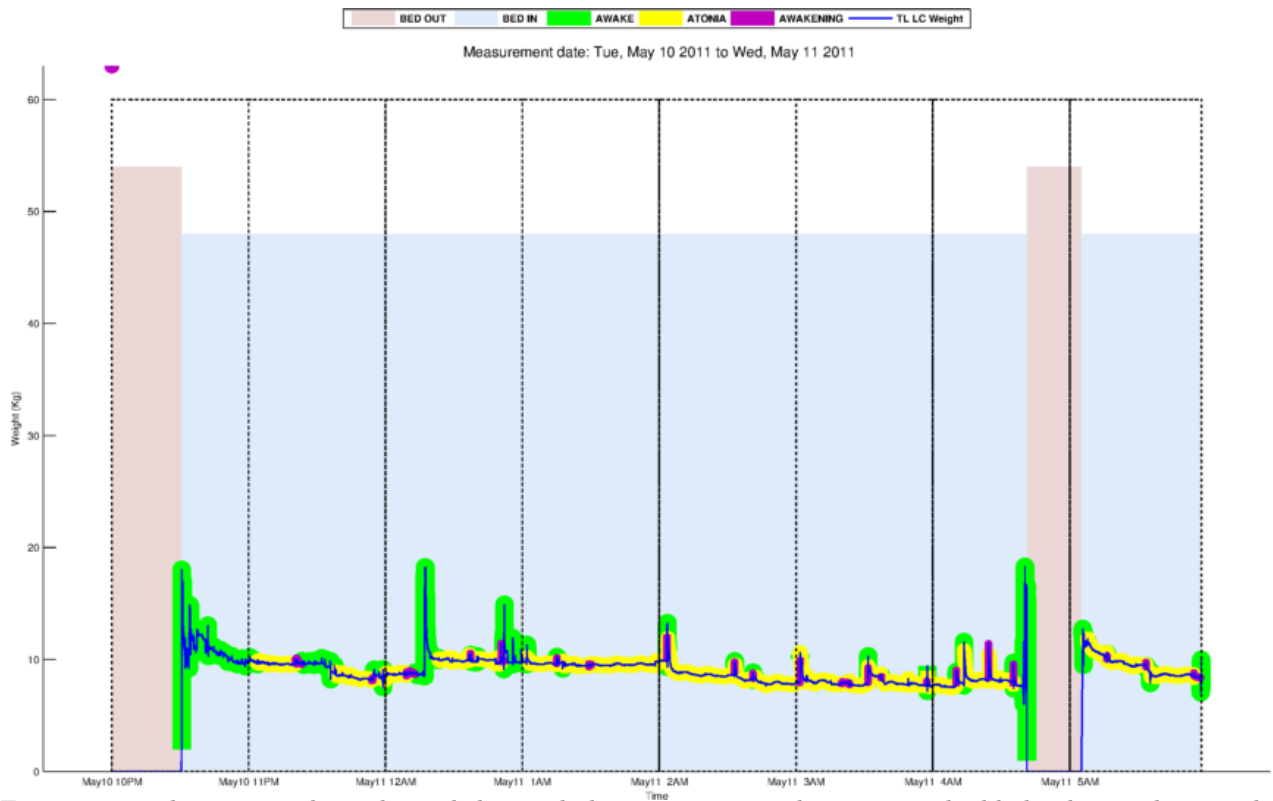


Figure 283: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 283 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 284 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 283).

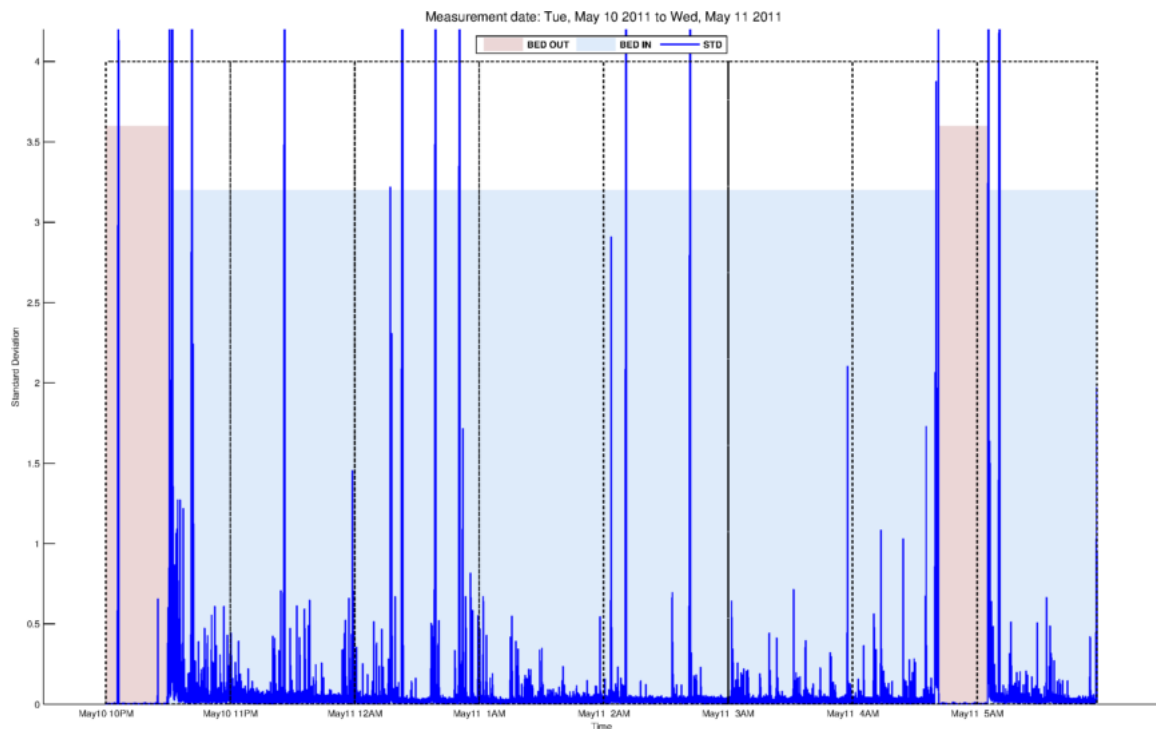


Figure 284: The moving standard deviation for the measured weight.

6.3 2nd Night: from May 11 2011 to May 12 2011

Table 203 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 204 presents the duration of the estimated sleep related activities.

Table 203: Sleep related activities and sensor events measured between May 11 and May 12

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Living room	Bed Sensor	Front door
1	22:32:16	22:00:58	23:23:43	22:32:20	23:09:55	00:31:13	00:11:59	22:34:11	22:34:02	00:04:50	22:34:14
2	00:16:44	00:04:41	23:28:57	23:29:01	23:23:44		00:31:11	00:30:57		03:07:48	22:34:39
3	03:18:56	03:07:34	23:37:28	23:39:23	23:32:09		03:11:38				22:58:37
4			23:45:46	23:46:38	23:39:55						
5			00:00:21	00:00:26	23:50:24						
6			00:31:20	00:16:48	00:23:01						
7			00:49:22	00:31:39	00:40:35						
8			01:06:27	00:52:48	00:59:56						
9			01:41:24	01:09:24	01:23:16						
10			01:51:09	02:20:42	01:41:25						
11			02:20:39	02:53:40	01:51:12						
12			02:50:32	03:05:22	02:23:39						
13			03:05:18	03:18:56	02:53:49						
14			03:51:56	03:52:00	03:31:30						
15			04:05:51	04:05:55	03:54:16						
16			04:13:40	04:32:00	04:05:57						
17			04:31:57	04:51:35	04:13:41						
18			04:51:32	04:57:11	04:34:19						
19			04:57:08	05:11:16	04:51:49						
20			05:11:12	05:31:17	04:59:29						
21			05:31:13	05:42:01	05:11:24						
22			05:41:57		05:31:18						
23			05:53:37		05:46:13						
24					05:53:38						

Table 204: Duration of the sleep related activities presented in Table 203

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	01:32:01	00:31:22	00:00:01	00:37:04	00:13:49
2	02:50:27	00:12:04	00:00:03	00:03:09	00:05:14
3	02:41:23	00:11:23	00:01:55	00:00:32	00:05:19
4			00:00:52	00:03:46	00:05:52
5			00:00:05	00:04:15	00:09:58
6			00:00:18	00:06:13	00:08:20
7			00:03:27	00:08:58	00:08:47
8			00:02:57	00:07:08	00:06:32
9			00:00:01	00:13:53	00:18:11
10			00:00:02	00:02:57	00:09:45
11			00:00:03	00:00:09	00:29:30
12			00:03:08	00:02:13	00:26:12
13			00:00:04	00:12:35	00:11:30
14			00:00:03	00:02:17	00:20:29
15			00:00:03	00:00:02	00:11:36
16			00:00:01	00:02:19	00:07:44
17			00:00:03	00:00:13	00:18:17
18			00:00:03	00:02:17	00:17:15
19			00:00:03	00:00:08	00:05:20
20			00:00:03	00:00:01	00:11:45
21			00:00:03	00:04:13	00:19:52
22			00:00:03		00:10:41
23			00:00:01		00:07:24
24					00:06:22

Figure 285 presents the measured sensor events and the computed bed entrances and exits.

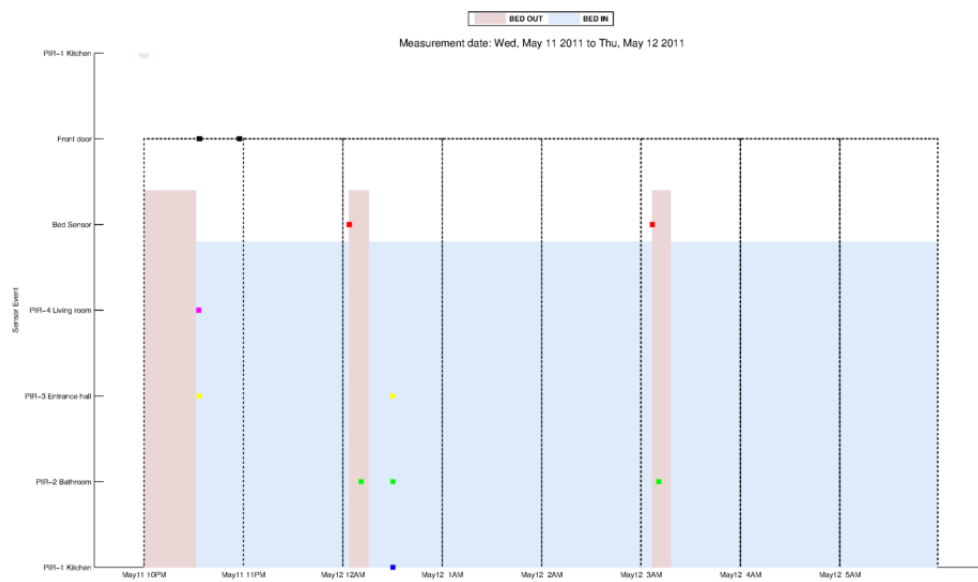


Figure 285: Sensor events and computed bed entrances and exists



Figure 286: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 286 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 287 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 286).

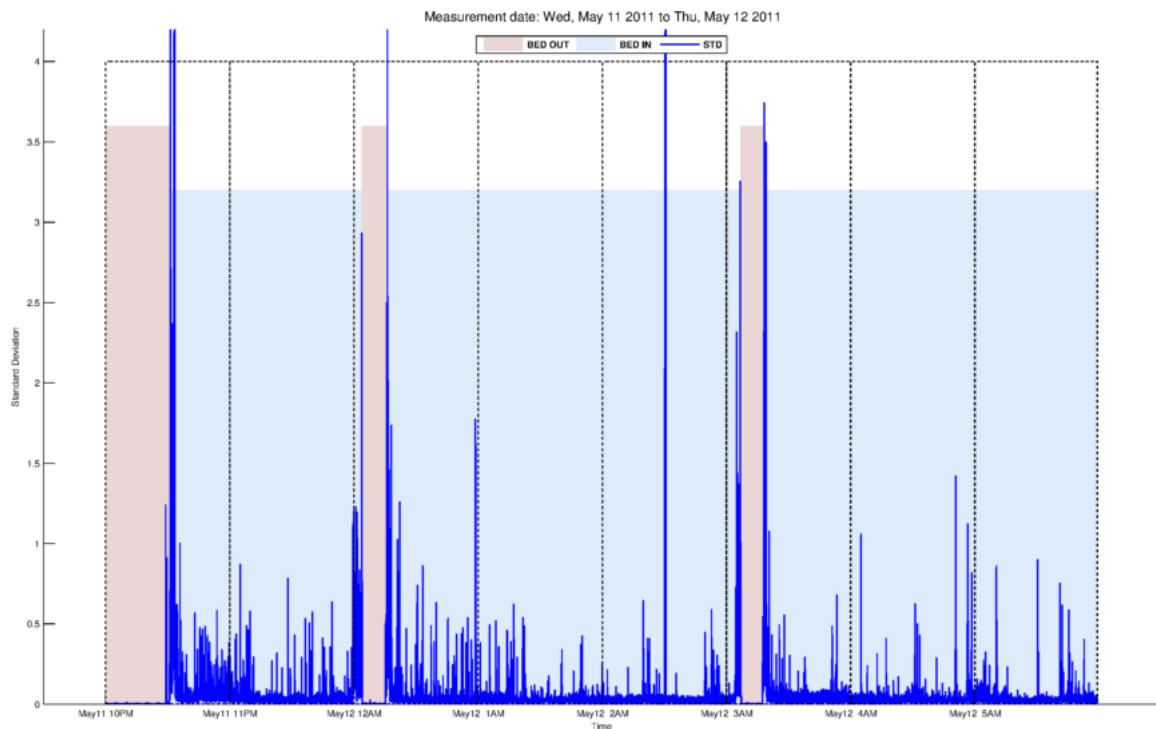


Figure 287: The moving standard deviation for the measured weight.

6.4 3rd Night: from May 12 2011 to May 13 2011

Table 205 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 206 presents the duration of the estimated sleep related activities.

Table 205: Sleep related activities and sensor events measured between May 12 and May 13

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Living room	Bed Sensor	Front door
1	23:02:49	22:03:25	23:49:48	23:02:54	23:06:36	22:03:59	22:24:01	22:36:07	22:03:34	05:00:34	22:36:05
2	00:20:06	00:20:04	23:57:56	23:58:03	23:49:49	22:11:39	05:01:11	23:04:32	22:31:52		23:04:36
3	05:08:31	05:00:15	00:42:37	00:20:06	00:37:21	22:31:57			22:36:17		
4			01:06:47	00:42:45	00:47:13	22:53:51					
5			02:46:07	01:06:51	01:08:44	22:59:12					
6			03:18:27	02:46:31	02:49:20						
7			03:31:52	03:22:42	03:22:52						
8			04:01:30	04:13:58	03:31:55						
9			04:13:54	04:33:59	04:01:30						
10			04:31:00	04:47:06	04:25:49						
11			04:47:03	04:59:08	04:41:22						
12			04:58:53	05:08:31	04:47:10						
13			05:31:03	05:37:39	05:09:19						
14			05:36:43	05:53:24	05:31:05						
15			05:43:13		05:37:41						
16			05:49:08		05:43:14						
17					05:53:48						

Table 206: Duration of the sleep related activities presented in Table 205

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	01:16:13	00:59:32	00:00:01	00:03:07	00:42:41
2	04:40:45	00:00:01	00:00:07	00:22:03	00:08:08
3	00:51:35	00:08:17	00:00:08	00:17:17	00:05:17
4			00:00:03	00:04:29	00:19:36
5			00:00:23	00:01:54	01:37:35
6			00:04:16	00:02:50	00:29:10
7			00:00:03	00:00:10	00:09:00
8			00:00:00	00:11:52	00:29:38
9			00:00:03	00:07:24	00:12:26
10			00:02:59	00:00:04	00:05:11
11			00:00:03	00:01:06	00:05:41
12			00:00:15	00:00:48	00:11:44
13			00:00:01	00:00:01	00:21:47
14			00:00:56	00:00:24	00:05:39
15			00:00:00		00:05:33
16			00:04:16		00:05:55
17					00:06:12

Figure 288 presents the measured sensor events and the computed bed entrances and exits.

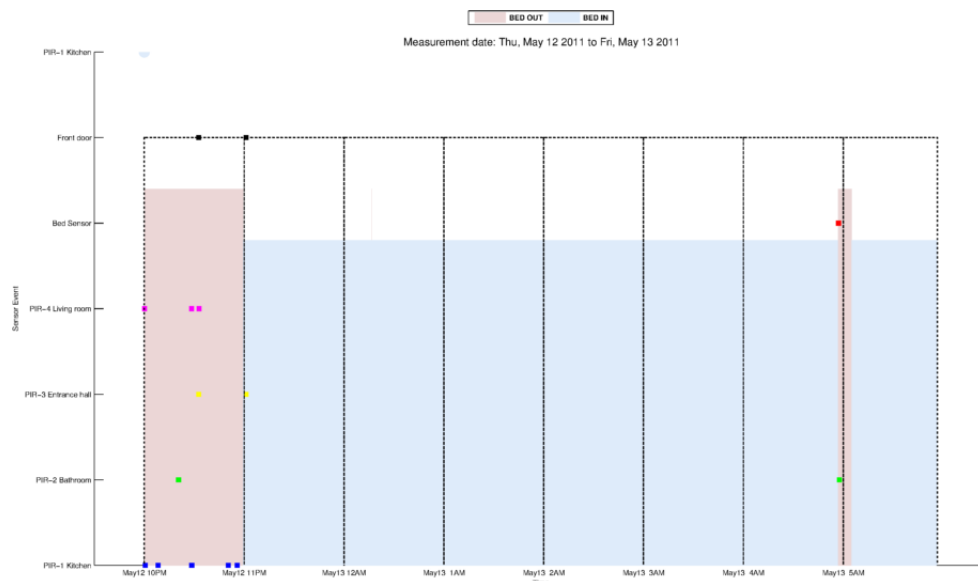


Figure 288: Sensor events and computed bed entrances and exists

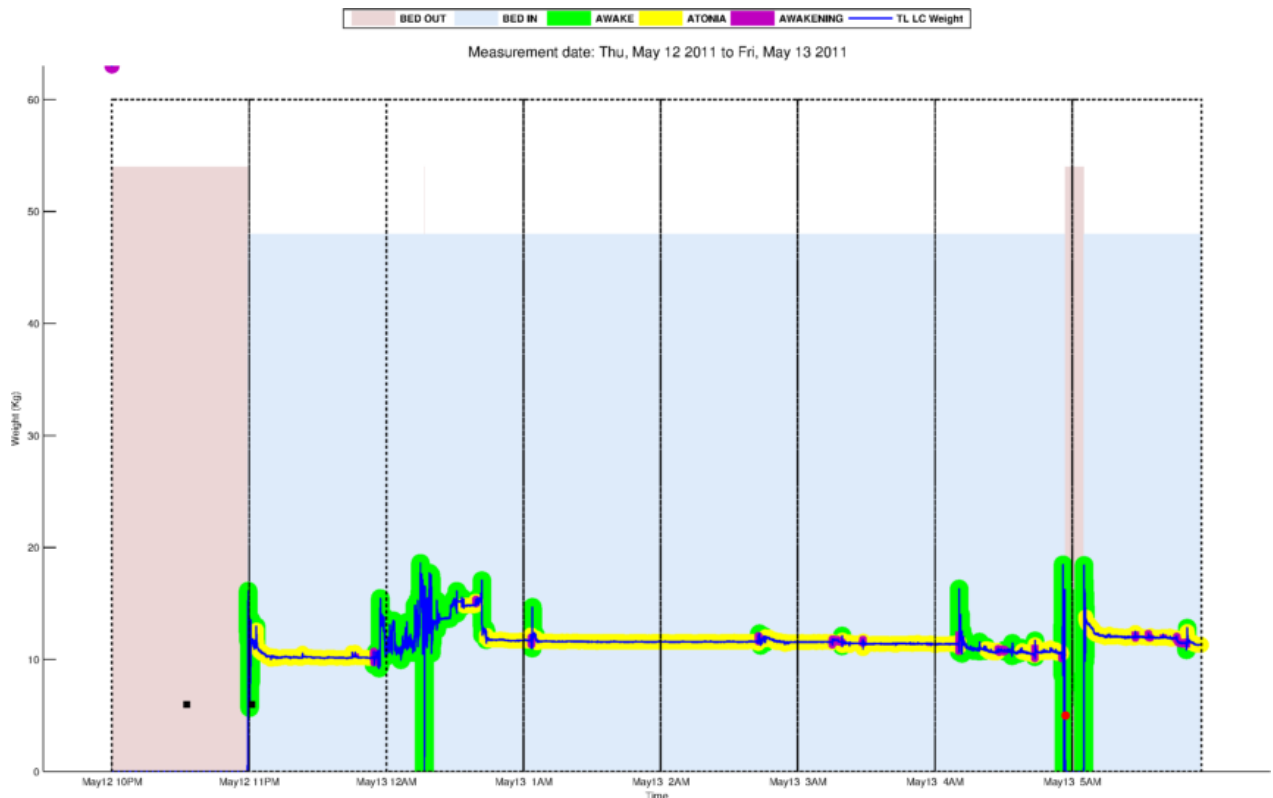


Figure 289: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 289 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 290 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 289).

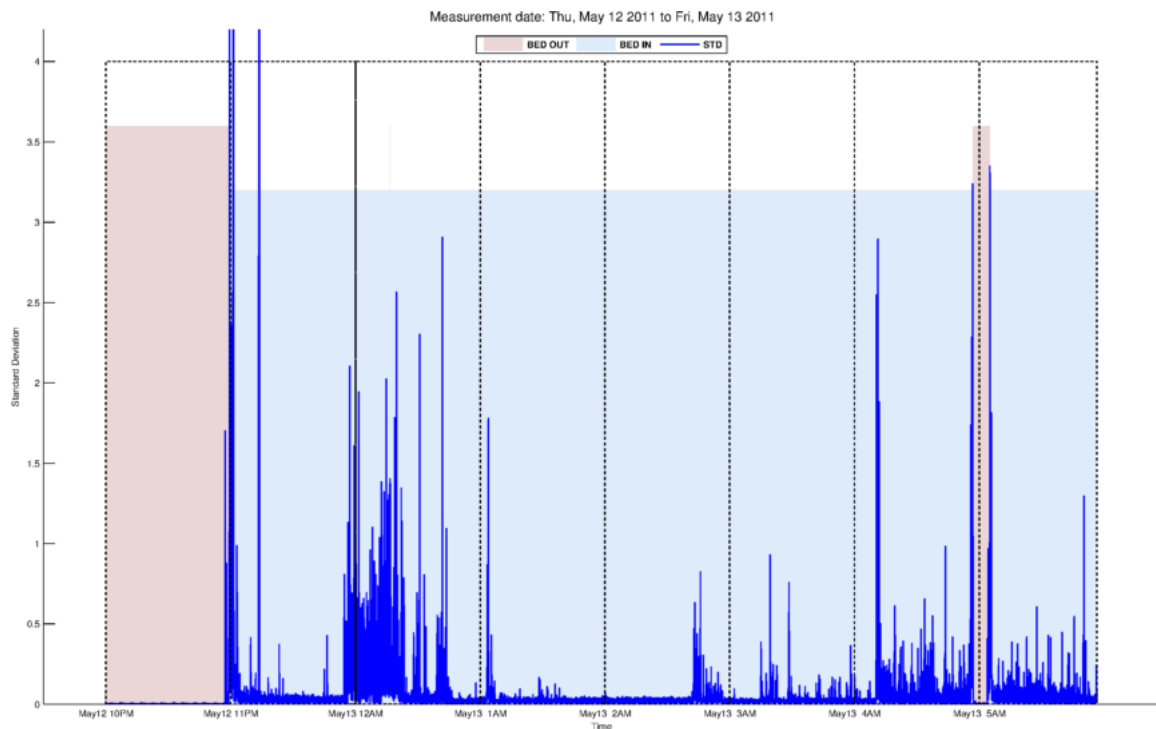


Figure 290: The moving standard deviation for the measured weight.

6.5 4th Night: from May 13 2011 to May 14 2011

Table 207 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 208 presents the duration of the estimated sleep related activities.

Table 207: Sleep related activities and sensor events measured between May 13 and May 14

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Living room	Bed Sensor	Front door
1	22:44:25	22:03:30	23:32:57	22:44:29	23:25:31	22:00:26	22:04:04	22:39:23	22:12:37	01:13:42	22:39:21
2	23:14:40	23:14:39	23:52:34	23:14:40	23:32:58	22:13:01	22:15:45	22:47:16	22:24:53		22:47:25
3	02:14:32	01:13:32	00:58:40	23:56:14	23:59:08	22:18:43	22:39:55		22:30:02		
4			04:22:54	00:58:44	02:26:04	22:33:57	01:17:43		22:44:26		
5			05:01:29	02:14:37	04:32:08	22:44:26	01:28:51		01:47:06		
6			05:40:29	04:22:57	05:08:10	01:56:56	01:33:09		01:56:48		
7				05:01:33	05:40:37		01:46:38		02:02:22		
8				05:40:35			02:02:18				

Table 208: Duration of the sleep related activities presented in Table 207

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:30:17	00:40:25	00:00:00	00:30:14	00:07:27
2	01:57:47	00:00:01	00:03:40	00:10:52	00:19:03
3	03:45:54	01:01:07	00:00:04	00:02:54	00:59:39
4			00:00:03	00:14:06	01:57:04
5			00:00:03	00:11:28	00:29:25
6			00:00:05	00:09:12	00:32:23
7				00:06:38	00:19:24
8				00:00:02	

Figure 291 presents the measured sensor events and the computed bed entrances and exits.

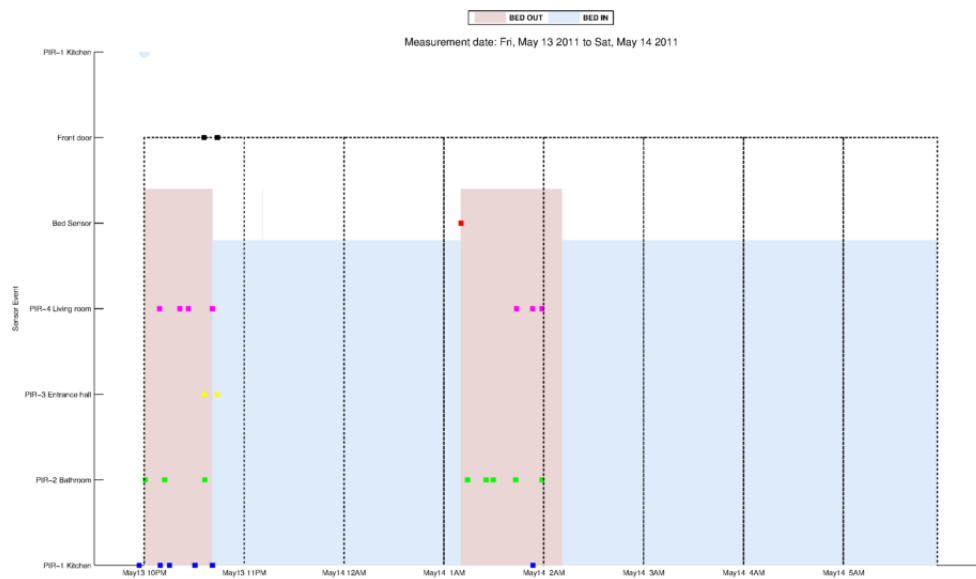


Figure 291: Sensor events and computed bed entrances and exists

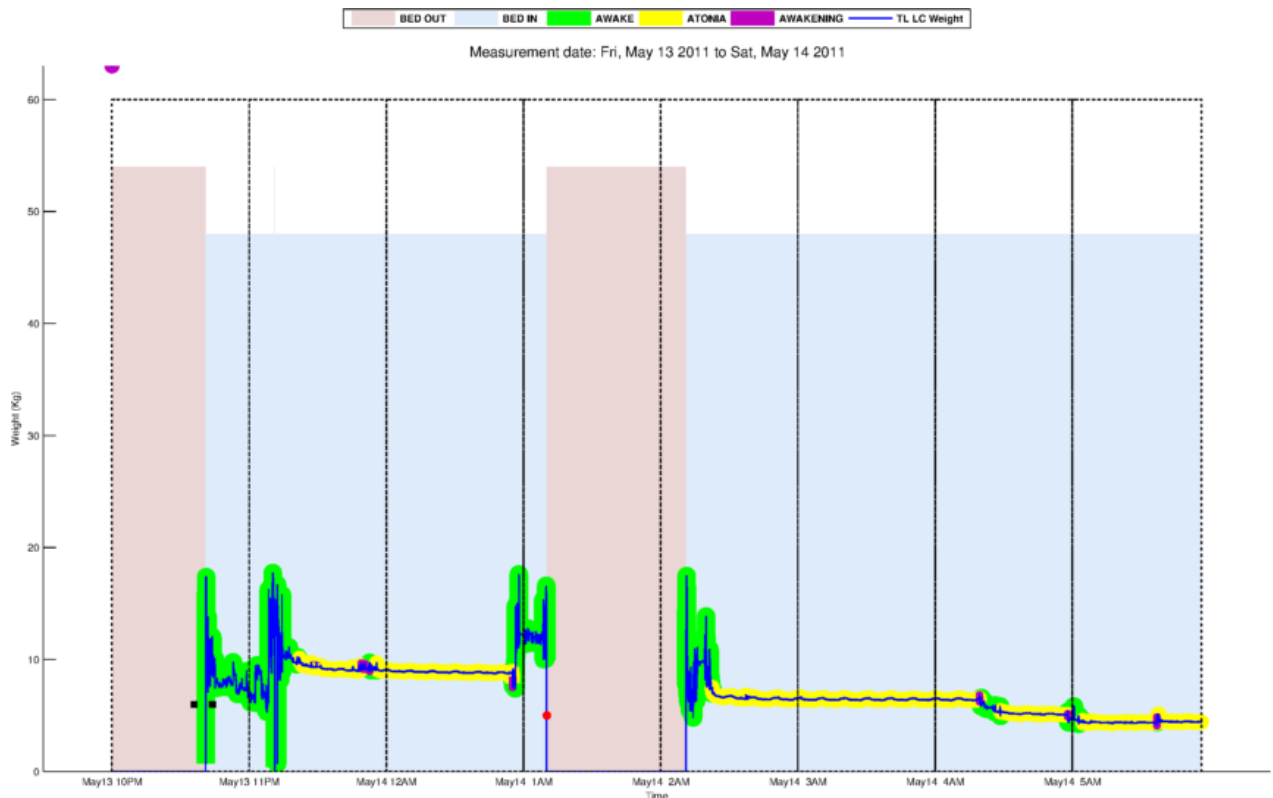


Figure 292: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 292 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 293 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 292).

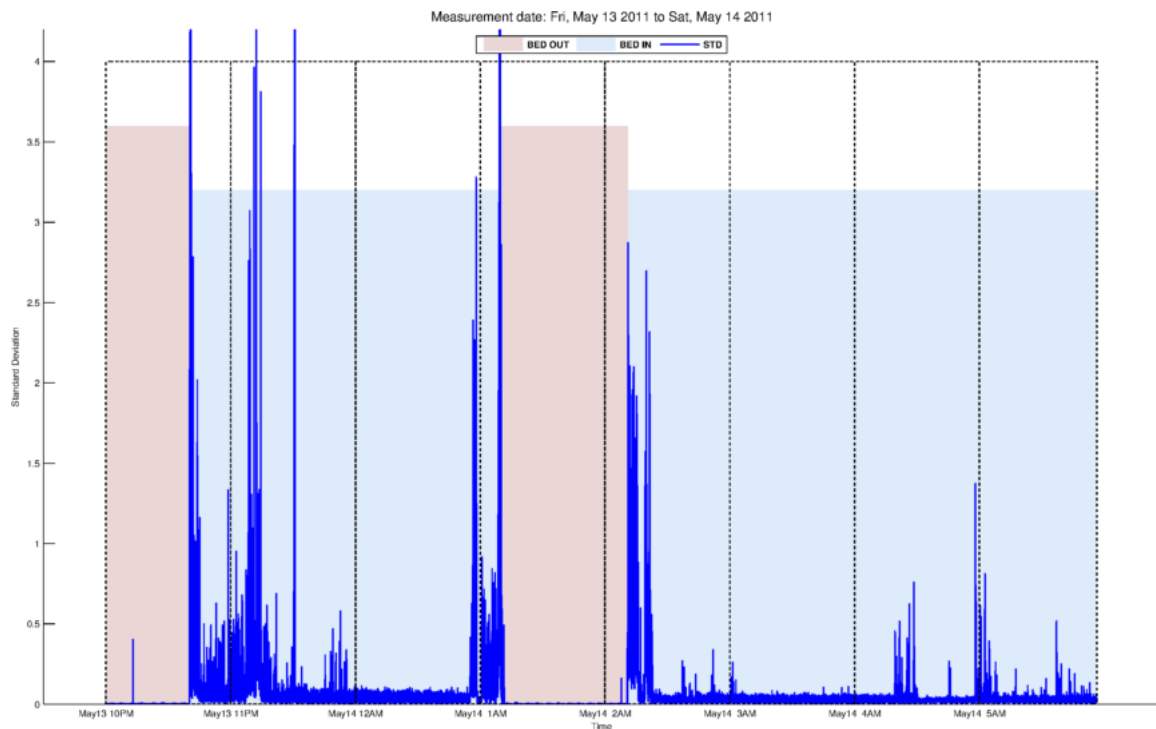


Figure 293: The moving standard deviation for the measured weight.

6.6 5th Night: from May 14 2011 to May 15 2011

Table 209 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 210 presents the duration of the estimated sleep related activities.

Table 209: Sleep related activities and sensor events measured between May 14 and May 15

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Living room	Bed Sensor	Front door
1	00:53:45	22:04:02	01:36:50	00:53:49	00:59:36	22:01:14	22:48:35	22:37:21	23:26:36	01:56:13	22:37:19
2	02:22:53	01:56:06	01:43:31	01:43:34	01:36:51	22:14:13	23:22:03	00:50:06	05:58:30	05:33:29	22:38:46
3		05:33:18	03:05:58	02:22:53	02:24:14	22:37:34	00:16:02	00:55:14			22:38:56
4			04:22:17	03:06:01	03:06:12	23:46:45	00:44:14	02:19:31			00:50:04
5			05:12:40	04:22:21	04:32:56	00:48:36	00:48:06	02:23:23			00:55:19
6				05:13:02		02:20:12	02:04:19				02:19:28
7							02:19:44				02:23:25
8							05:58:07				

Table 210: Duration of the sleep related activities presented in Table 209

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	01:02:28	02:48:19	00:00:01	00:05:48	00:37:18
2	03:10:48	00:25:04	00:00:03	00:12:33	00:06:41
3		00:26:44	00:00:03	00:01:20	00:41:49
4			00:00:03	00:00:10	01:16:15
5			00:00:22	00:10:37	00:39:48
6				00:20:18	

Figure 294 presents the measured sensor events and the computed bed entrances and exits.

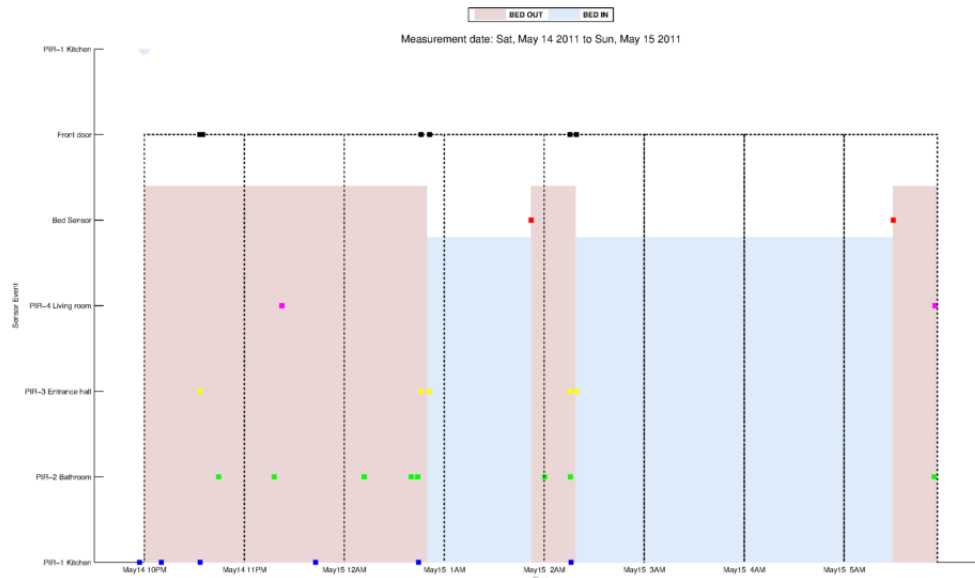


Figure 294: Sensor events and computed bed entrances and exists

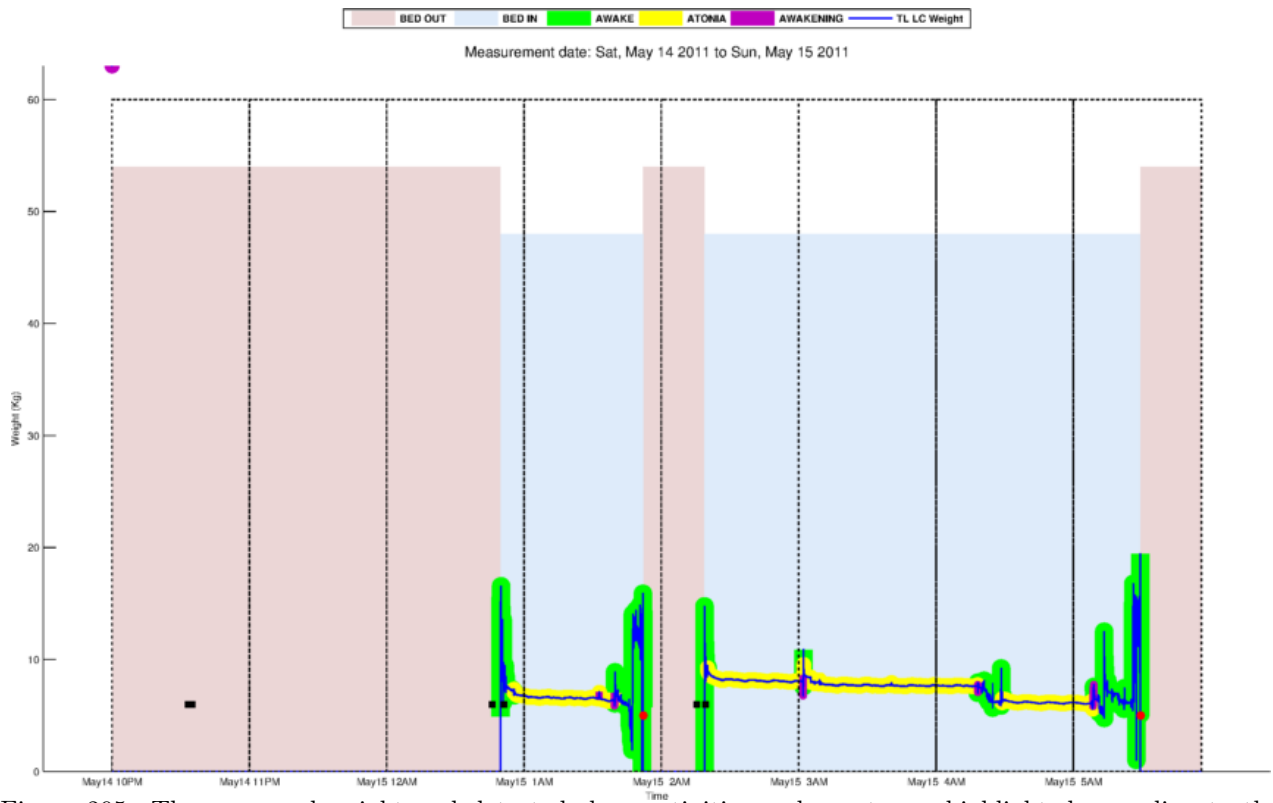


Figure 295: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 295 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 296 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 295).

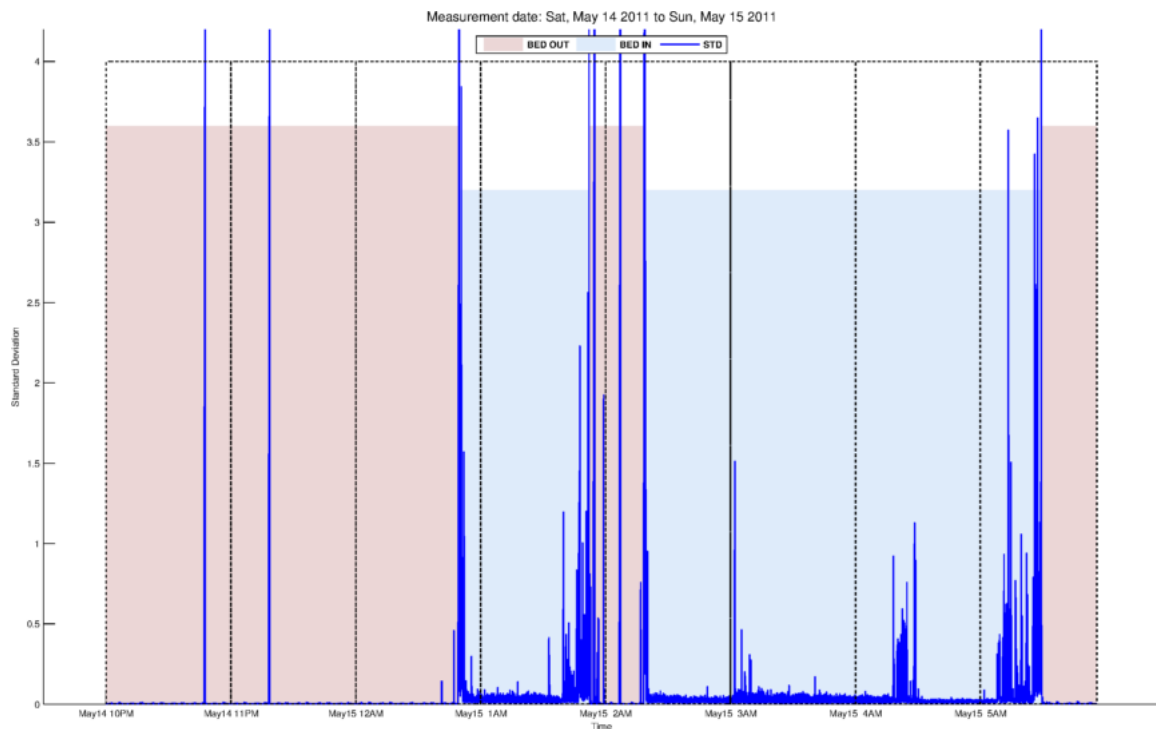


Figure 296: The moving standard deviation for the measured weight.

6.7 6th Night: from May 15 2011 to May 16 2011

Table 211 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 212 presents the duration of the estimated sleep related activities.

Table 211: Sleep related activities and sensor events measured between May 15 and May 16

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Living room	Bed Sensor	Front door
1	22:39:19	22:01:31	02:21:45	22:39:23	22:42:43	22:10:27	22:16:30	22:35:07	03:02:08		22:35:05
2	02:51:48	02:51:42	05:23:49	02:21:51	03:15:51	22:22:22	22:28:21	22:41:54	03:11:24		22:42:24
3	03:10:07	02:52:01	05:49:24	02:51:53	05:30:51	22:31:39	22:36:04	03:02:50			03:02:47
4				03:10:07	05:53:03	22:40:50	03:03:03	03:11:47			03:12:05
5				05:23:58		02:59:12					03:13:18
6				05:49:28		03:04:56					
7						03:11:34					

Table 212: Duration of the sleep related activities presented in Table 211

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	04:12:54	00:37:54	00:00:05	00:03:21	03:39:29
2	00:00:13	00:00:06	00:00:09	00:29:54	02:08:13
3	02:50:12	00:18:08	00:00:03	00:00:08	00:18:35
4				00:05:44	00:06:56
5				00:06:54	
6				00:03:36	

Figure 297 presents the measured sensor events and the computed bed entrances and exits.

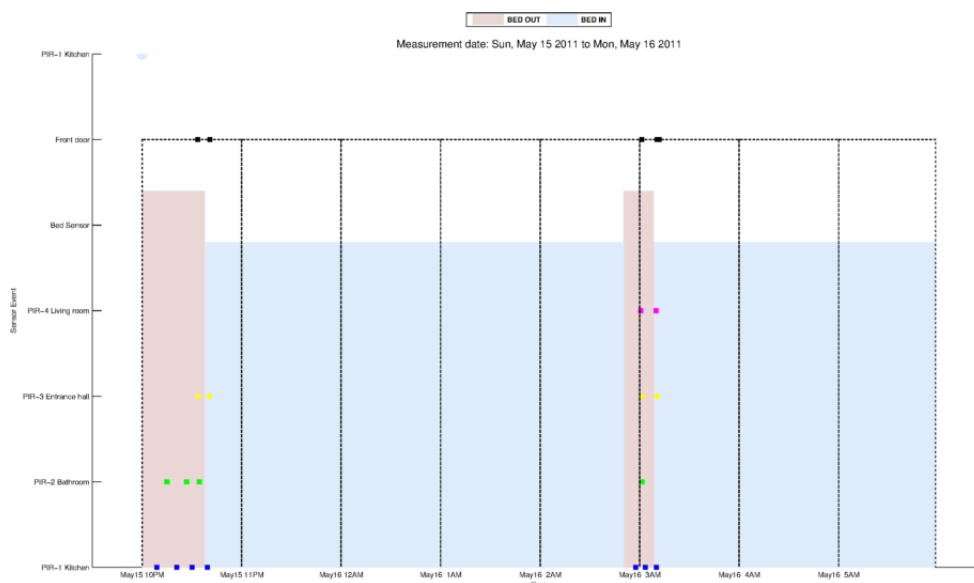


Figure 297: Sensor events and computed bed entrances and exists

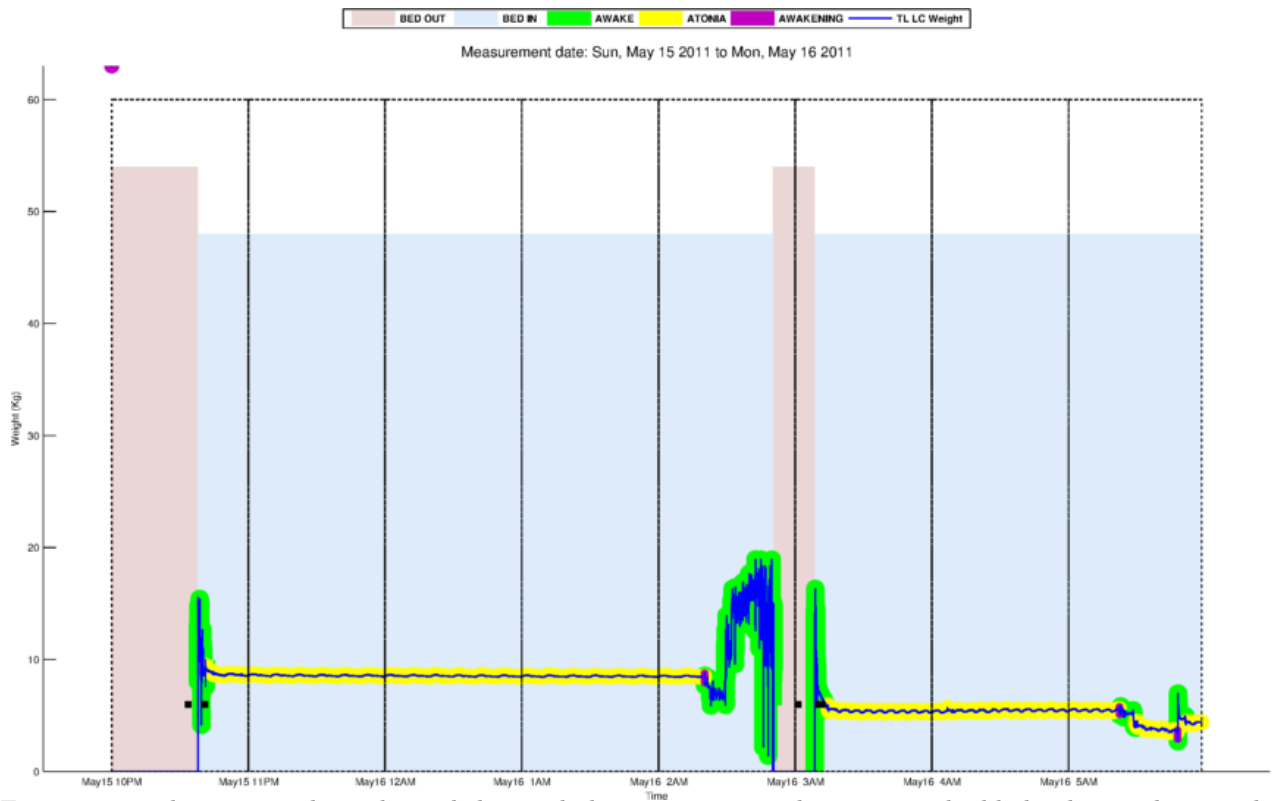


Figure 298: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 298 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 299 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 298).

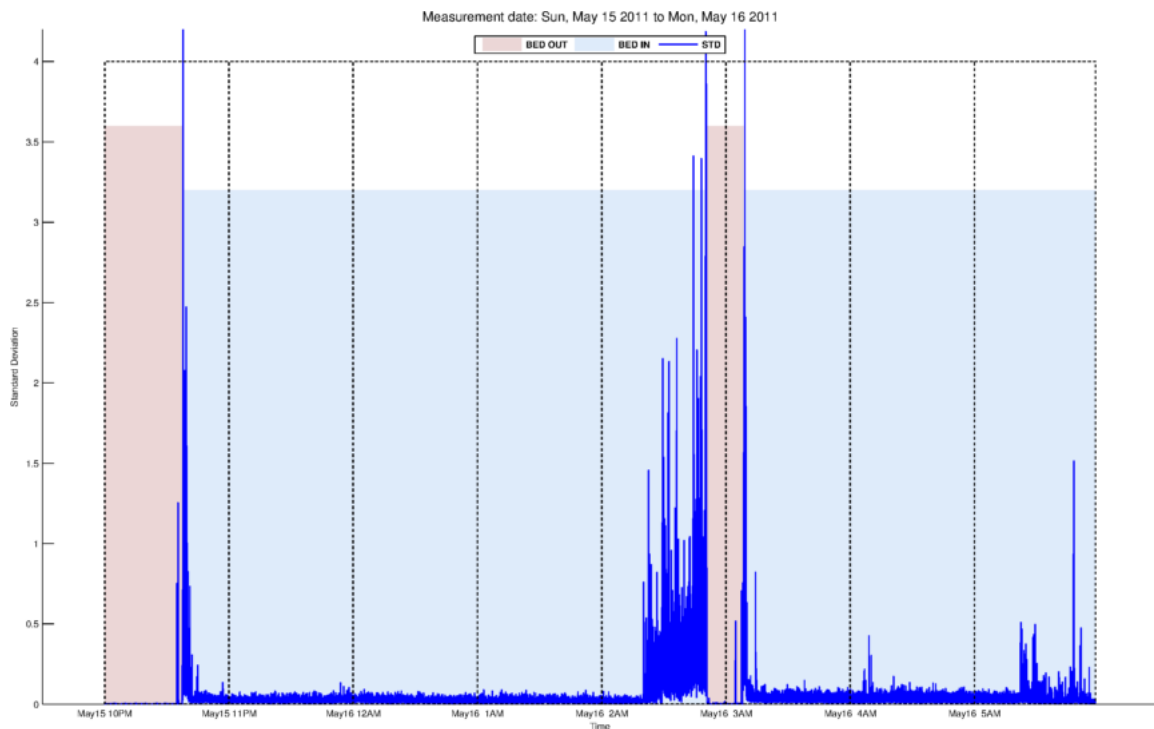


Figure 299: The moving standard deviation for the measured weight.

6.8 7th Night: from May 16 2011 to May 17 2011

Table 213 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 214 presents the duration of the estimated sleep related activities.

Table 213: Sleep related activities and sensor events measured between May 16 and May 17

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Living room	Bed Sensor	Front door
1	22:48:45	22:09:45	23:12:00	22:48:49	23:04:01	22:06:12	22:13:48	22:50:34	22:24:22		22:41:55
2			00:40:03	23:12:11	23:24:38	22:12:34	22:41:18		22:48:36		
3			00:52:16	00:40:15	00:47:04	22:28:08					
4			01:11:25	01:11:29	00:52:17	22:38:36					
5			02:30:46	02:30:54	01:11:29						
6			02:45:00	02:45:03	02:39:07						
7			03:03:57	03:04:03	02:50:55						
8			03:28:00	03:28:49	03:10:07						
9			03:42:56	03:42:59	03:28:52						
10			03:50:14	05:20:57	03:43:05						
11			04:03:07	05:52:55	03:50:14						
12			04:14:59		04:03:07						
13			05:06:46		04:15:00						
14			05:20:53		05:06:47						
15			05:41:39		05:20:58						
16			05:52:52		05:41:39						
17					05:53:32						

Table 214: Duration of the sleep related activities presented in Table 213

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:09:48	00:39:05	00:00:11	00:15:14	00:08:00
2			00:00:12	00:12:28	01:14:59
3			00:00:01	00:06:49	00:05:13
4			00:00:03	00:00:00	00:19:10
5			00:00:08	00:08:14	01:18:16
6			00:00:03	00:05:53	00:05:53
7			00:00:06	00:06:05	00:13:03
8			00:00:49	00:00:03	00:17:54
9			00:00:03	00:00:06	00:14:05
10			00:00:00	00:00:01	00:07:09
11			00:00:00	00:00:36	00:12:54
12			00:00:00		00:11:53
13			00:00:01		00:51:53
14			00:00:04		00:13:32
15			00:00:00		00:20:43
16			00:00:03		00:11:14
17					00:06:28

Figure 300 presents the measured sensor events and the computed bed entrances and exits.

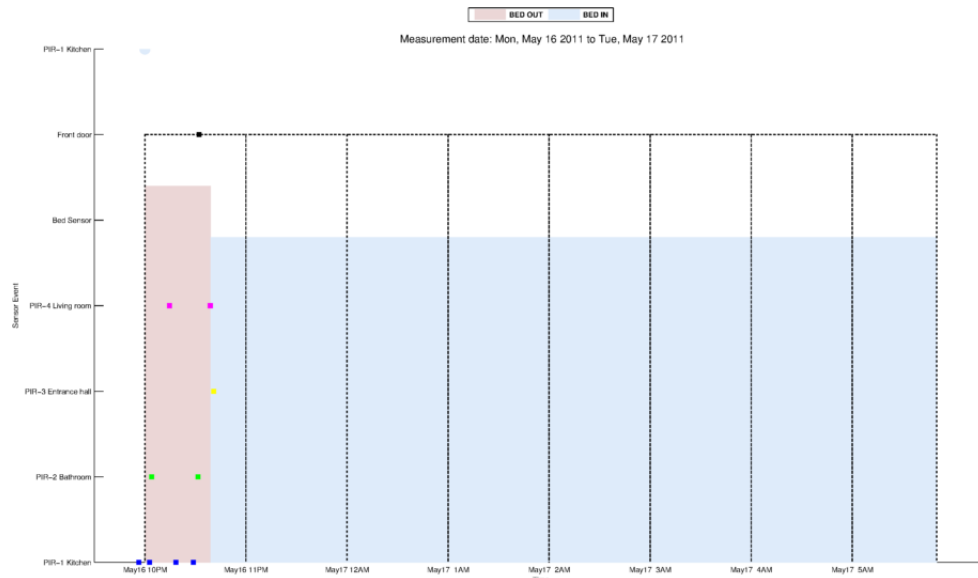


Figure 300: Sensor events and computed bed entrances and exists

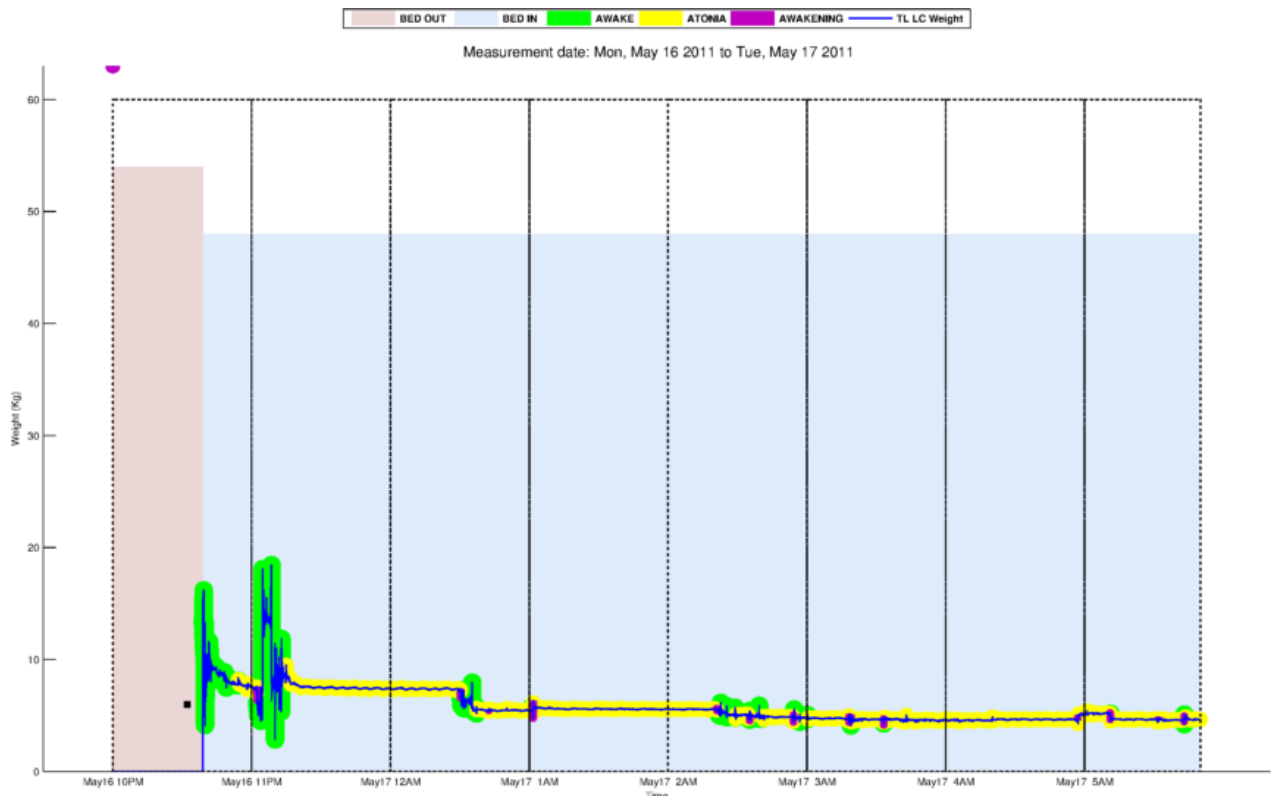


Figure 301: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 301 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 302 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 301).

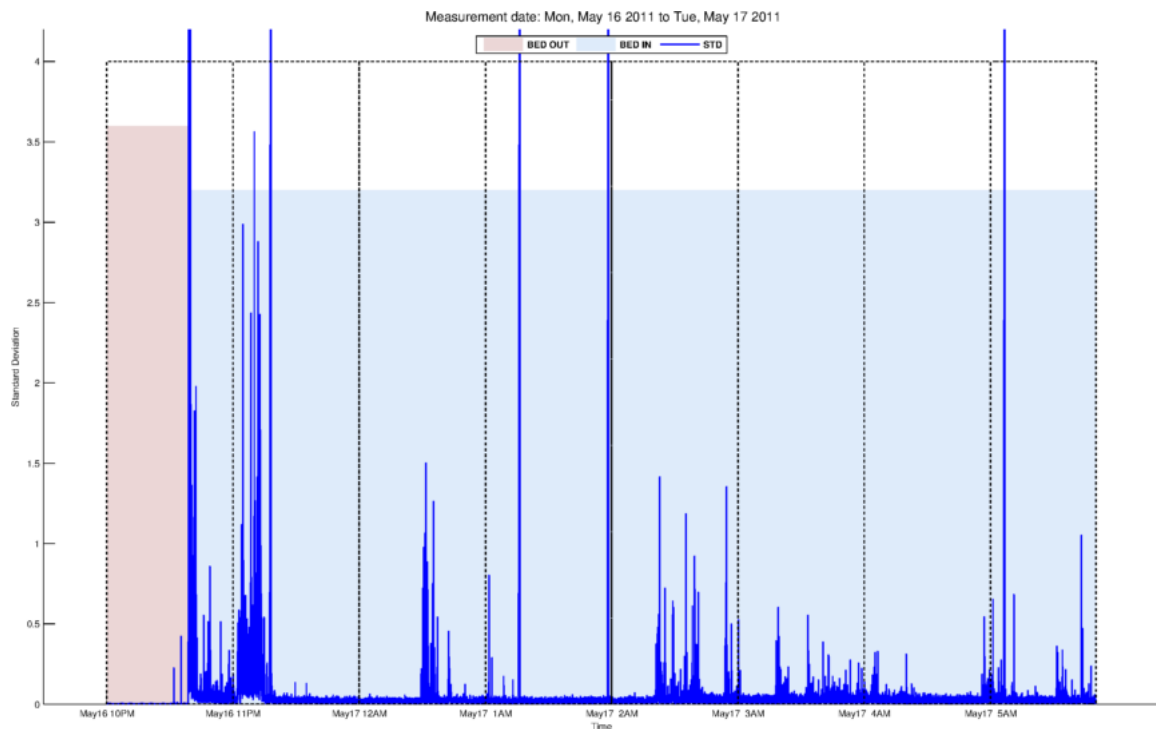


Figure 302: The moving standard deviation for the measured weight.

6.9 8th Night: from May 17 2011 to May 18 2011

Table 215 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 216 presents the duration of the estimated sleep related activities.

Table 215: Sleep related activities and sensor events measured between May 17 and May 18

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Living room	Bed Sensor	Front door
1	22:56:18	22:03:24	23:52:22	22:56:21	23:28:24	22:04:03	22:18:04	22:51:10	22:20:40	02:10:57	22:51:07
2	02:09:47	02:09:46	23:59:25	00:00:00	23:52:22	22:16:48	22:51:43	22:58:16	22:25:36		22:58:17
3	02:18:01	02:10:40	00:14:44	00:14:55	00:05:28	22:20:44	02:13:13		22:41:09		
4			01:24:38	01:25:12	00:23:23	22:25:55			22:55:07		
5			02:07:32	02:07:37	01:40:45	22:51:24					
6			03:15:14	02:09:47	02:21:08	22:55:08					
7			03:22:47	02:18:01	03:16:47	22:58:02					
8			04:04:27	03:15:17	03:24:16						
9			04:21:22	03:22:51	04:05:04						
10			04:40:05	04:05:04	04:24:48						
11			04:50:50	04:21:25	04:40:12						
12			05:05:28	04:40:09	04:54:07						
13			05:17:21	04:50:55	05:06:19						
14			05:31:13	05:05:36	05:22:16						
15			05:39:41	05:17:27	05:32:13						
16			05:59:01	05:32:13	05:40:02						
17				05:39:45							

Table 216: Duration of the sleep related activities presented in Table 215

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	03:12:40	00:53:00	00:00:00	00:31:31	00:24:01
2	00:00:53	00:00:01	00:00:35	00:05:29	00:07:03
3	03:41:50	00:07:22	00:00:11	00:08:28	00:08:41
4			00:00:34	00:15:34	01:01:22
5			00:00:05	00:02:09	00:26:50
6			00:00:03	00:00:53	00:53:37
7			00:00:03	00:03:07	00:06:01
8			00:00:36	00:01:30	00:40:16
9			00:00:03	00:01:25	00:16:19
10			00:00:03	00:00:00	00:15:19
11			00:00:04	00:03:22	00:10:40
12			00:00:08	00:00:03	00:11:22
13			00:00:06	00:03:12	00:11:03
14			00:01:00	00:00:43	00:08:58
15			00:00:04	00:04:49	00:07:28
16			00:00:58	00:00:00	00:19:01
17				00:00:17	

Figure 303 presents the measured sensor events and the computed bed entrances and exits.

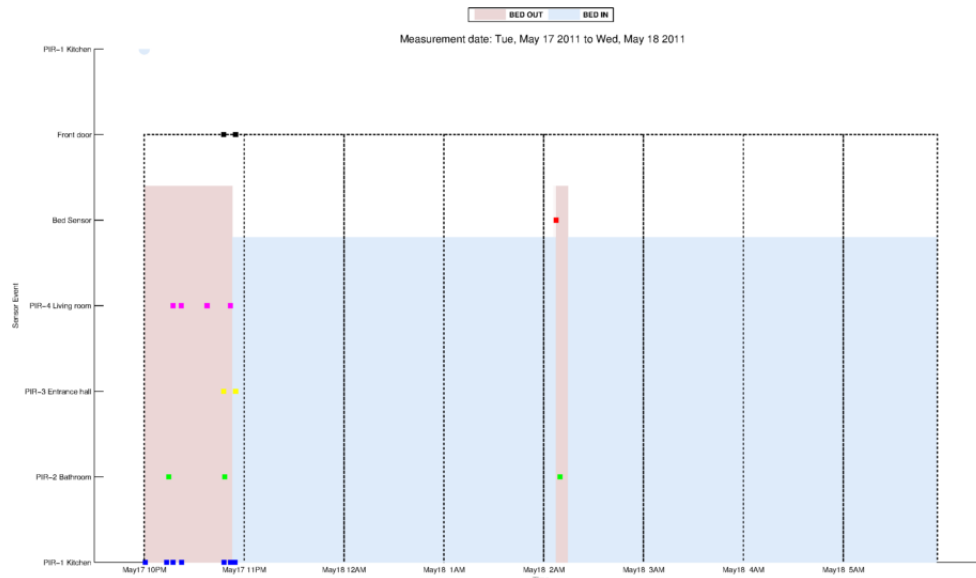


Figure 303: Sensor events and computed bed entrances and exists

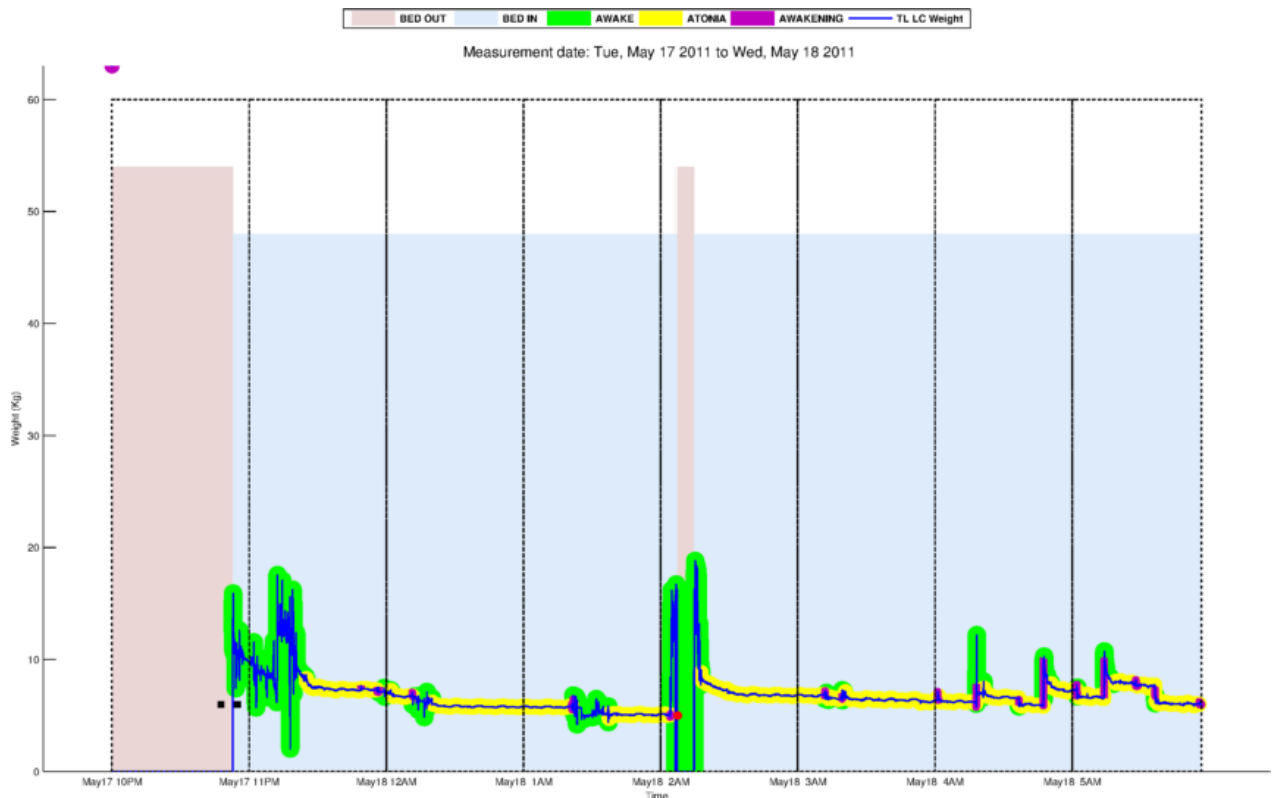


Figure 304: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 304 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 305 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 304).

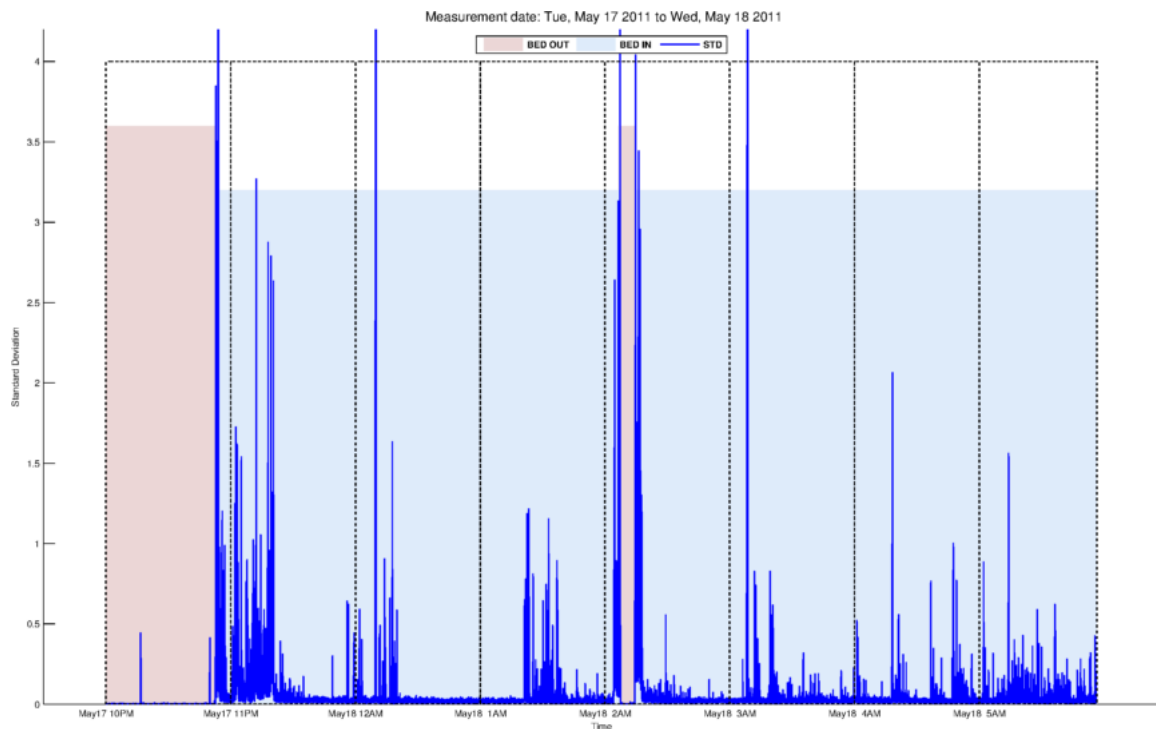


Figure 305: The moving standard deviation for the measured weight.

6.10 10th Night: from May 19 2011 to May 20 2011

Table 217 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 218 presents the duration of the estimated sleep related activities.

Table 217: Sleep related activities and sensor events measured between May 19 and May 20

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Living room	Bed Sensor	Front door
1	22:41:57	22:03:21	23:15:20	22:42:00	22:59:39	22:10:07	22:13:53	22:37:05	22:09:07	02:29:56	22:37:04
2	01:01:11	01:01:06	00:30:44	00:30:55	23:15:20	22:21:18	22:37:34	22:45:26	22:21:13		22:45:28
3	01:06:57	01:06:54	02:16:03	01:01:14	01:19:02	22:29:29	04:18:26		22:31:02		
4	02:27:11	02:27:05	04:47:21	01:07:01	04:39:35	22:36:52	04:21:48		22:41:51		
5	04:37:38	02:29:35	05:41:53	02:16:28	04:47:28	22:43:59			04:18:55		
6			05:47:23	02:27:14	05:41:55						
7				04:37:42	05:47:26						
8				04:47:25							

Table 218: Duration of the sleep related activities presented in Table 217

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	02:18:43	00:36:45	00:00:00	00:17:40	00:15:43
2	00:05:44	00:00:04	00:00:11	00:30:15	01:14:50
3	01:18:58	00:00:03	00:00:25	00:05:40	00:55:49
4	00:02:25	00:00:05	00:00:03	00:12:02	00:07:47
5	01:21:47	02:07:43	00:00:02	00:10:38	00:54:31
6			00:00:03	00:02:21	00:05:29
7				00:01:54	00:11:50
8				00:00:03	

Figure 306 presents the measured sensor events and the computed bed entrances and exits.

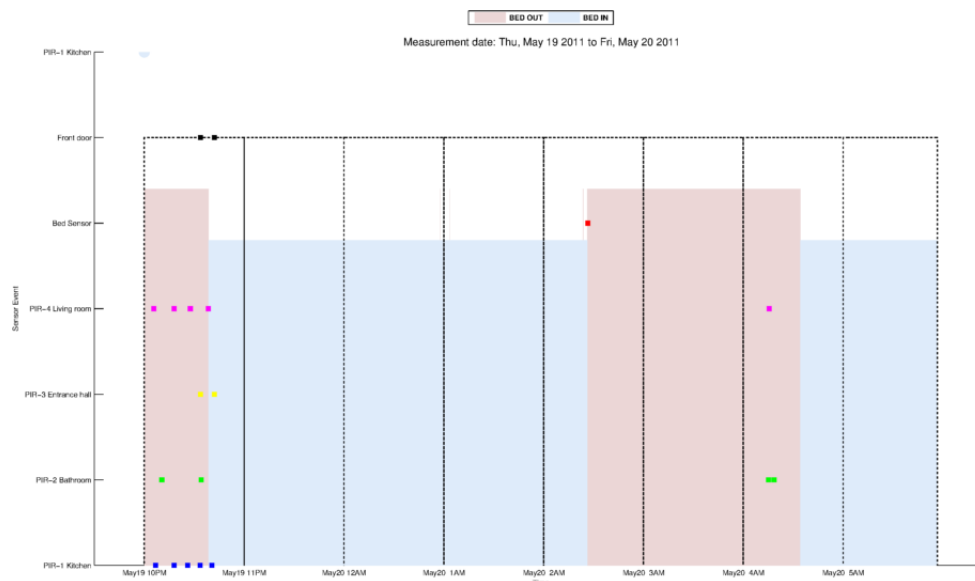


Figure 306: Sensor events and computed bed entrances and exists

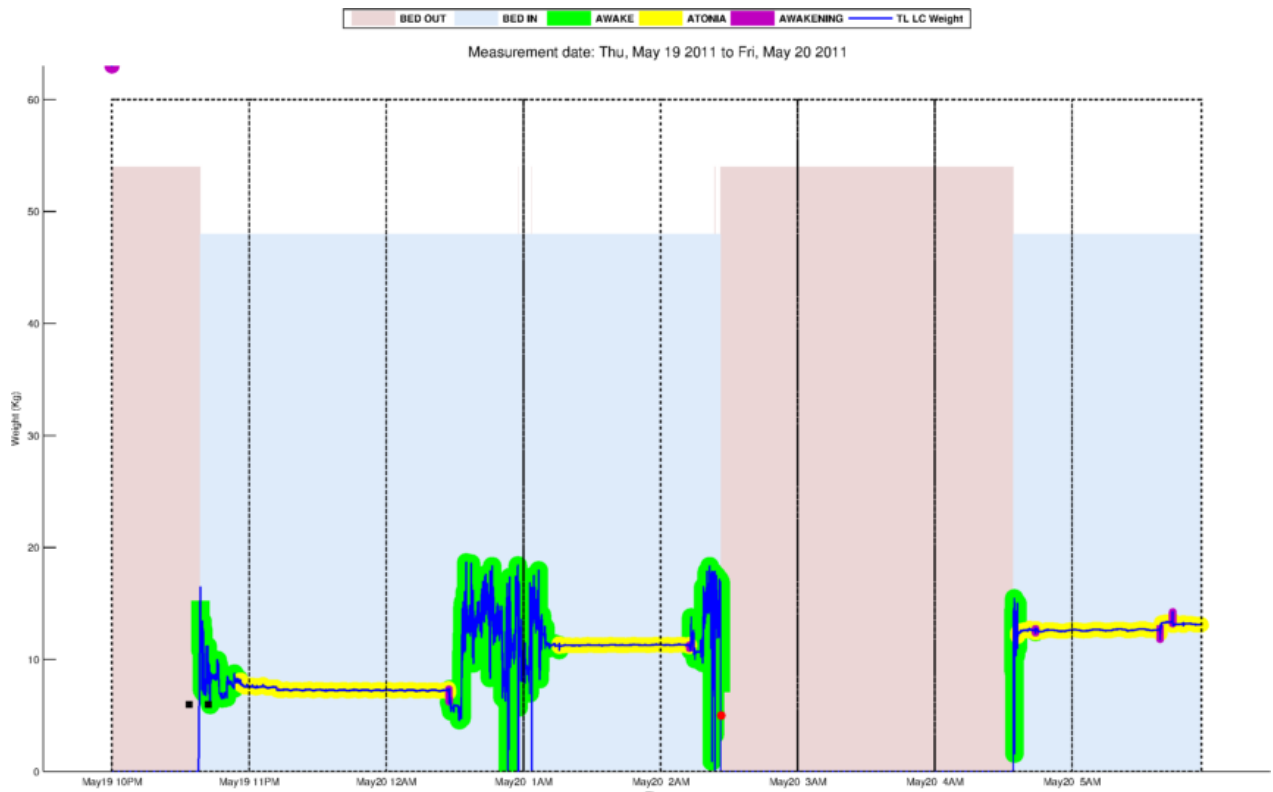


Figure 307: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 307 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 308 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 307).

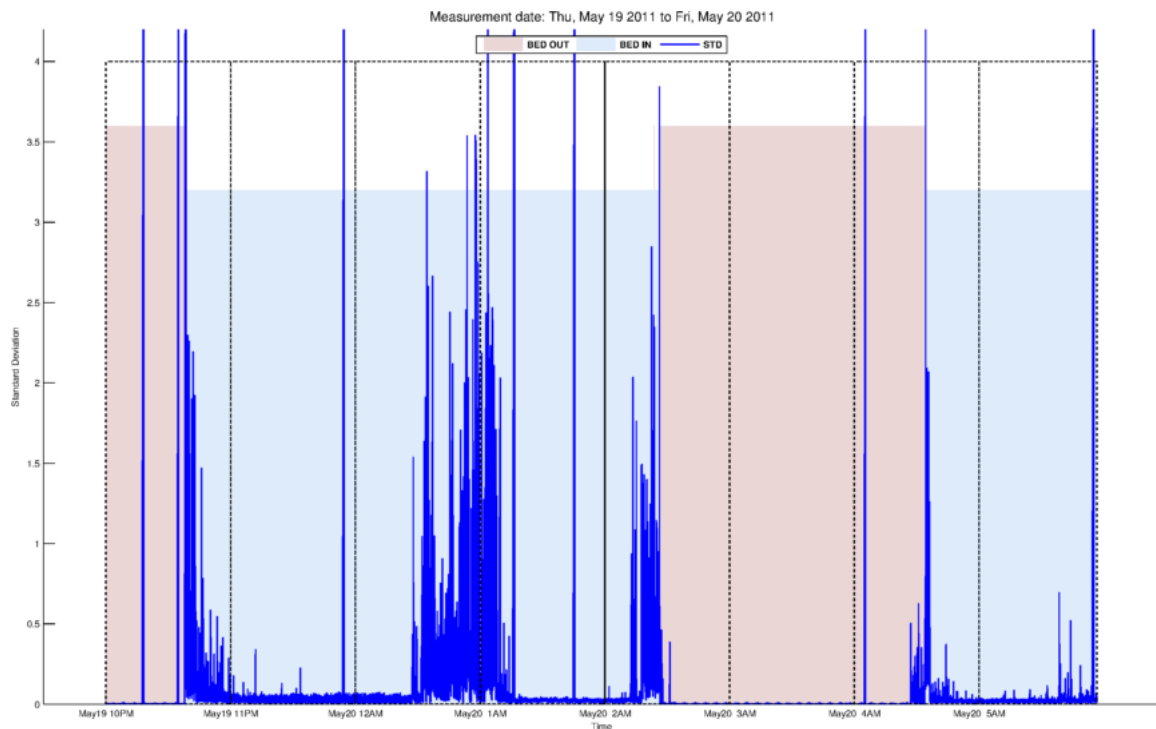


Figure 308: The moving standard deviation for the measured weight.

6.11 11th Night: from May 20 2011 to May 21 2011

Table 219 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 220 presents the duration of the estimated sleep related activities.

Table 219: Sleep related activities and sensor events measured between May 20 and May 21

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Living room	Bed Sensor	Front door
1	22:58:30	22:07:07	23:17:32	22:58:33	23:08:53	22:08:07	23:02:35	22:48:22	22:16:20	02:14:39	22:48:20
2	02:41:43	02:14:25	00:29:11	23:17:36	00:23:59	22:16:23	02:22:23	23:03:15	22:27:07		23:03:16
3	02:49:26	02:45:31	00:45:04	00:29:51	00:36:16	22:27:10	02:31:31	03:28:19	23:02:55		03:28:17
4			00:55:08	00:47:18	00:47:19	22:31:22	02:37:55		02:23:32		03:30:04
5			01:04:35	01:04:38	00:55:09	22:38:38	02:47:34		02:27:31		
6			01:20:39	01:28:48	01:04:39	22:48:35	03:28:30		02:35:28		
7			01:27:11	02:08:24	01:20:40	23:02:57			02:47:49		
8			02:07:41	02:41:43	01:43:16	02:27:37			03:28:31		
9			03:09:07	02:49:30	02:56:06	02:35:59					
10			03:28:53	03:09:11	03:09:19						
11			03:46:45	03:29:04	03:35:34						
12			04:05:29	04:05:32	03:46:46						
13			04:31:23	04:31:27	04:06:53						
14			05:17:41	05:22:04	04:31:31						
15			05:39:00	05:39:03	05:27:28						
16			05:49:32	05:49:36	05:39:08						
17					05:49:40						

Table 220: Duration of the sleep related activities presented in Table 219

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	03:14:25	00:50:58	00:00:03	00:09:46	00:08:40
2	00:03:48	00:26:46	00:00:39	01:05:56	00:05:13
3	03:09:47	00:03:55	00:02:14	00:05:42	00:08:49
4			00:00:00	00:00:00	00:07:50
5			00:00:03	00:00:00	00:09:27
6			00:00:00	00:14:30	00:16:02
7			00:01:36	00:06:01	00:06:32
8			00:00:43	00:03:48	00:24:28
9			00:00:03	00:06:37	00:13:02
10			00:00:11	00:00:08	00:19:36
11			00:00:00	00:05:20	00:11:12
12			00:00:03	00:01:21	00:18:45
13			00:00:03	00:00:04	00:24:33
14			00:04:23	00:05:25	00:46:17
15			00:00:03	00:00:04	00:11:33
16			00:00:03	00:00:04	00:10:26
17					00:10:20

Figure 309 presents the measured sensor events and the computed bed entrances and exits.

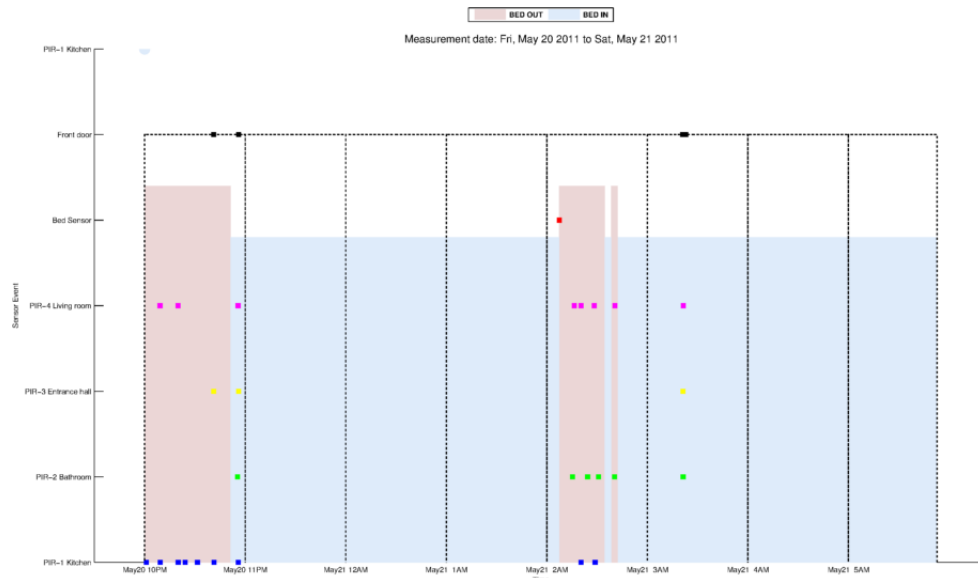


Figure 309: Sensor events and computed bed entrances and exists

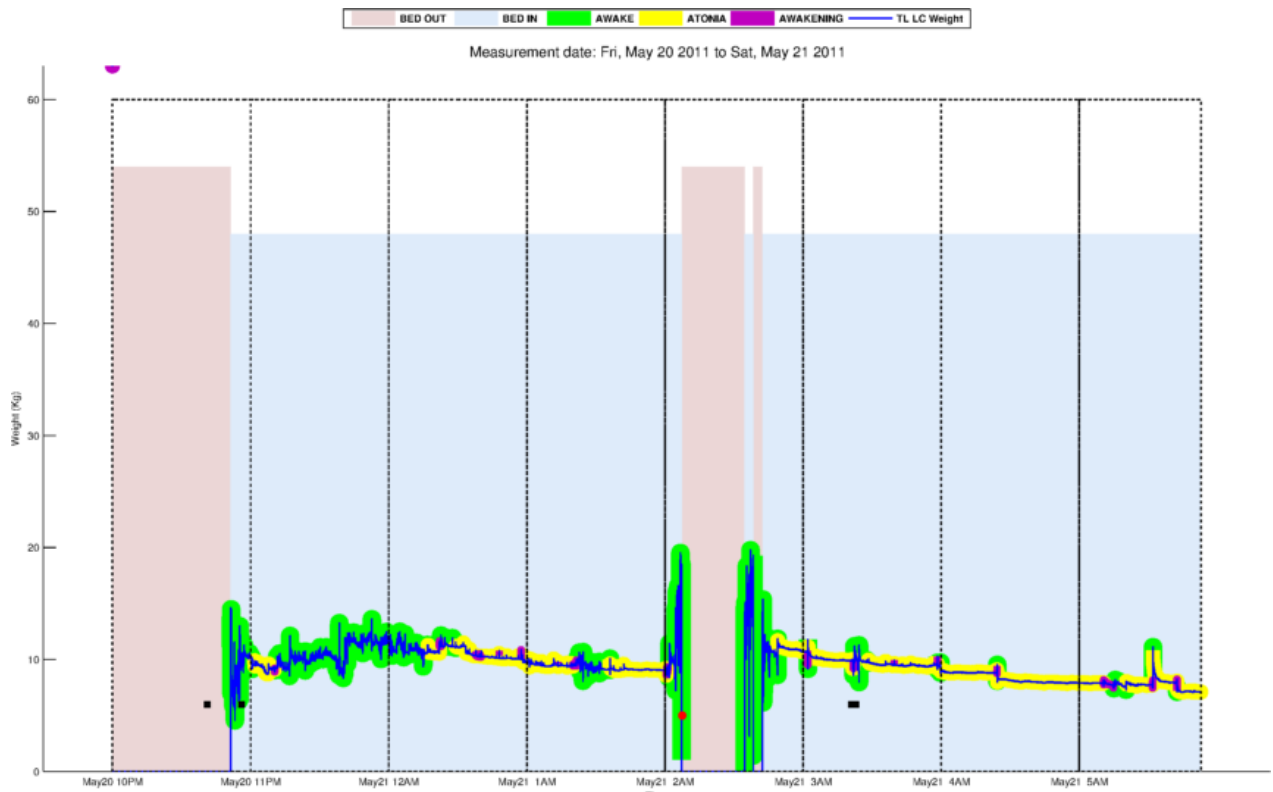


Figure 310: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 310 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 311 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 310).

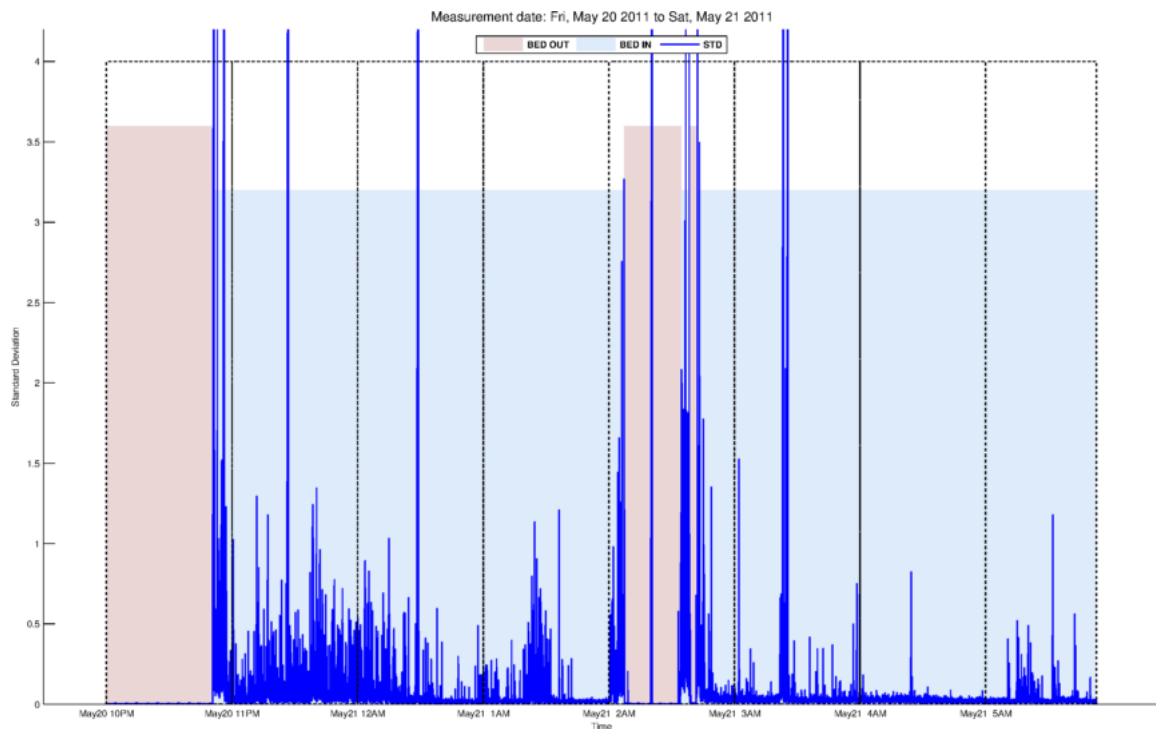


Figure 311: The moving standard deviation for the measured weight.

6.12 12th Night: from May 21 2011 to May 22 2011

Table 221 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 222 presents the duration of the estimated sleep related activities.

Table 221: Sleep related activities and sensor events measured between May 21 and May 22

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Living room	Bed Sensor	Front door
1	22:57:32	22:02:56	00:22:55	23:00:04	23:37:00	22:01:56	22:56:36	22:46:17	03:50:45		22:46:16
2	23:00:01	22:57:33	00:41:51	00:23:00	00:36:09	22:24:51	23:02:14	23:02:31	04:05:02		23:02:36
3	04:07:05	01:51:37	01:44:14	00:42:10	00:42:16	22:37:00	03:50:15	04:04:54			04:04:52
4			05:05:58	00:56:16	00:58:30	04:07:31		04:08:00			04:08:13
5			05:20:08	01:44:20	04:07:35						
6			05:27:33	04:07:05	05:10:18						
7			05:37:13	05:06:01	05:20:12						
8			05:51:56	05:20:11	05:27:34						
9				05:51:59	05:37:14						
10					05:52:02						

Table 222: Duration of the sleep related activities presented in Table 221

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:01	00:53:59	00:00:04	00:37:01	00:46:00
2	02:51:58	00:01:52	00:00:18	00:13:10	00:05:43
3	01:53:08	02:15:44	00:00:06	00:00:06	00:14:02
4			00:00:03	00:02:13	00:45:50
5			00:00:03	00:07:18	00:58:30
6			00:00:00	00:00:30	00:09:50
7			00:00:01	00:04:17	00:07:22
8			00:00:03	00:00:00	00:09:40
9				00:00:02	00:14:43
10					00:07:58

Figure 312 presents the measured sensor events and the computed bed entrances and exits.

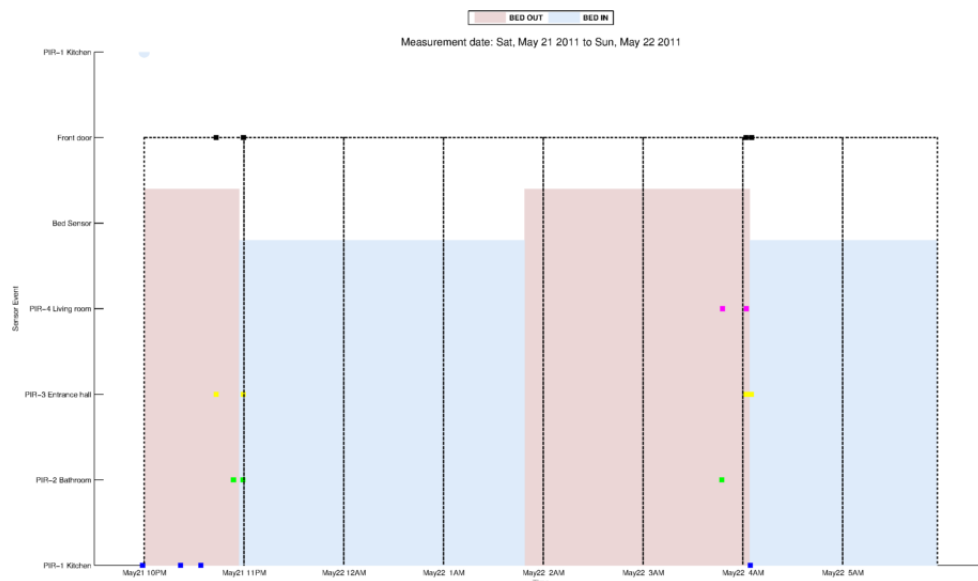


Figure 312: Sensor events and computed bed entrances and exists

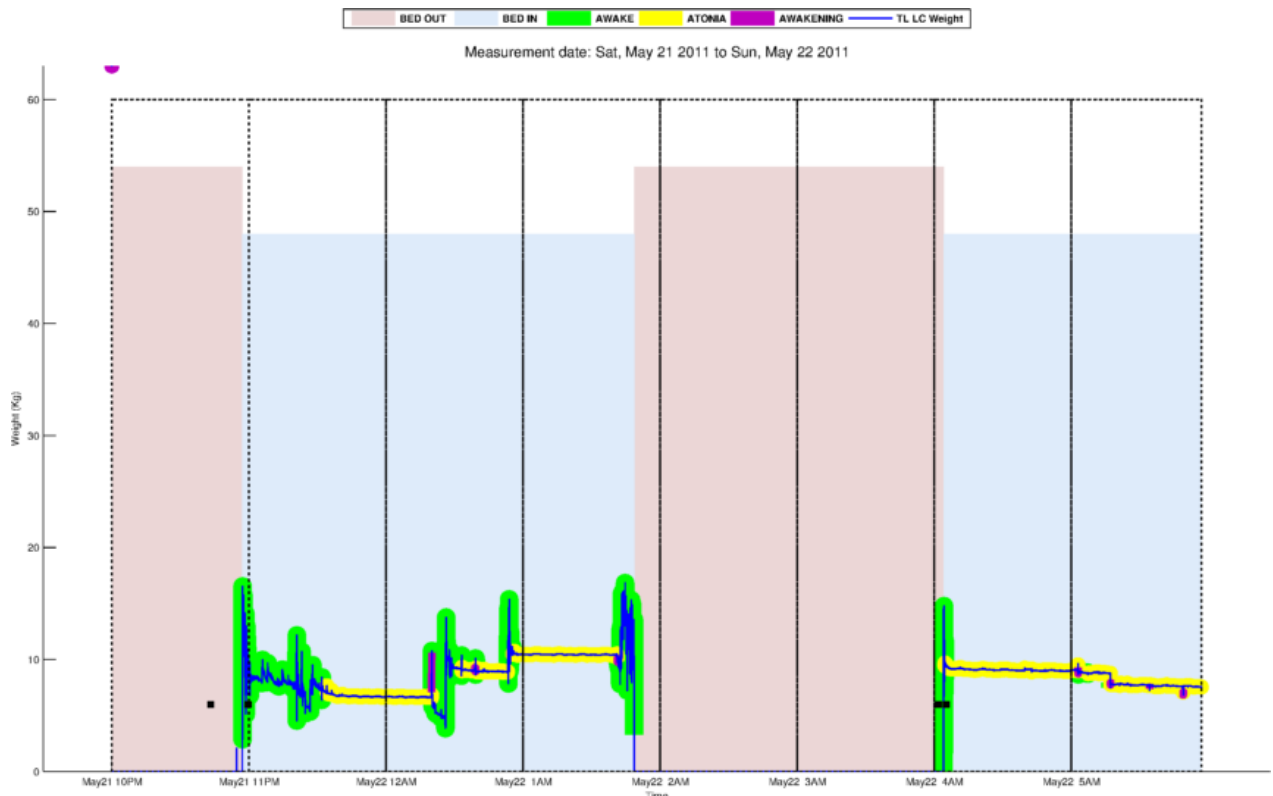


Figure 313: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 313 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 314 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 313).

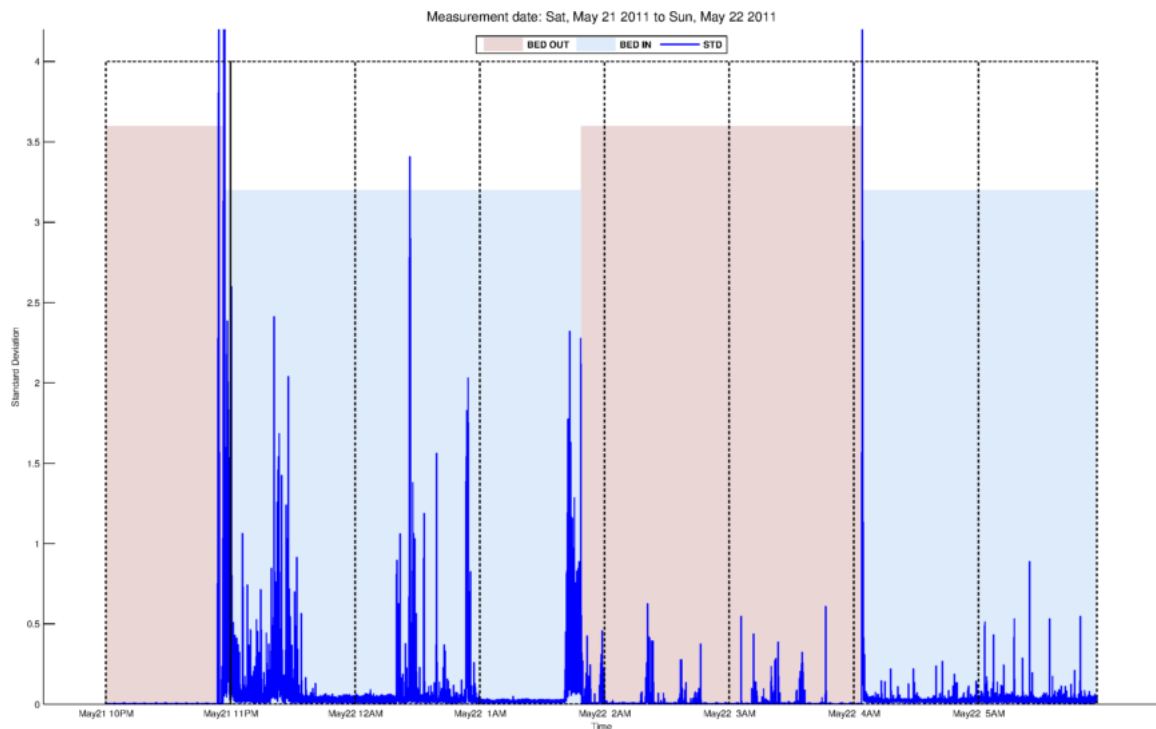


Figure 314: The moving standard deviation for the measured weight.

6.13 13th Night: from May 22 2011 to May 23 2011

Table 223 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 224 presents the duration of the estimated sleep related activities.

Table 223: Sleep related activities and sensor events measured between May 22 and May 23

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Living room	Bed Sensor	Front door
1	22:54:57	22:03:28	23:19:27	22:55:01	23:07:51	22:06:02	22:34:01	22:48:34	22:37:11		22:48:30
2			23:43:05	23:21:38	23:21:38	22:22:14	22:54:08		22:54:02		23:01:22
3			01:00:17	23:44:06	00:23:48	22:28:05	22:58:44		22:58:49		
4			01:52:53	01:00:21	01:00:23	22:33:36					
5			02:32:45	01:52:57	02:16:35	22:37:16					
6			02:43:10	02:32:59	02:32:59	22:45:45					
7			02:56:15	02:43:13	02:43:18	22:48:47					
8			03:57:57	03:58:03	02:56:16	22:58:52					
9			04:25:22	05:11:02	03:58:04						
10			04:31:49	05:31:26	04:25:23						
11			04:44:59	05:54:45	04:31:50						
12			04:50:42		04:45:01						
13			05:10:56		04:50:42						
14			05:31:20		05:11:02						
15			05:48:28		05:32:14						
16			05:54:39		05:48:28						
17					05:54:46						

Table 224: Duration of the sleep related activities presented in Table 223

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:02:39	00:51:36	00:02:11	00:12:08	00:11:37
2			00:01:00	00:00:00	00:21:30
3			00:00:03	00:39:46	00:35:14
4			00:00:03	00:00:02	00:52:01
5			00:00:14	00:23:40	00:16:12
6			00:00:03	00:00:00	00:10:11
7			00:00:00	00:00:05	00:12:59
8			00:00:06	00:00:01	01:01:13
9			00:00:00	00:00:00	00:27:21
10			00:00:00	00:00:48	00:06:27
11			00:00:01	00:00:00	00:13:11
12			00:00:00		00:05:41
13			00:00:06		00:20:16
14			00:00:05		00:20:20
15			00:00:00		00:16:15
16			00:00:06		00:06:11
17					00:05:13

Figure 315 presents the measured sensor events and the computed bed entrances and exits.

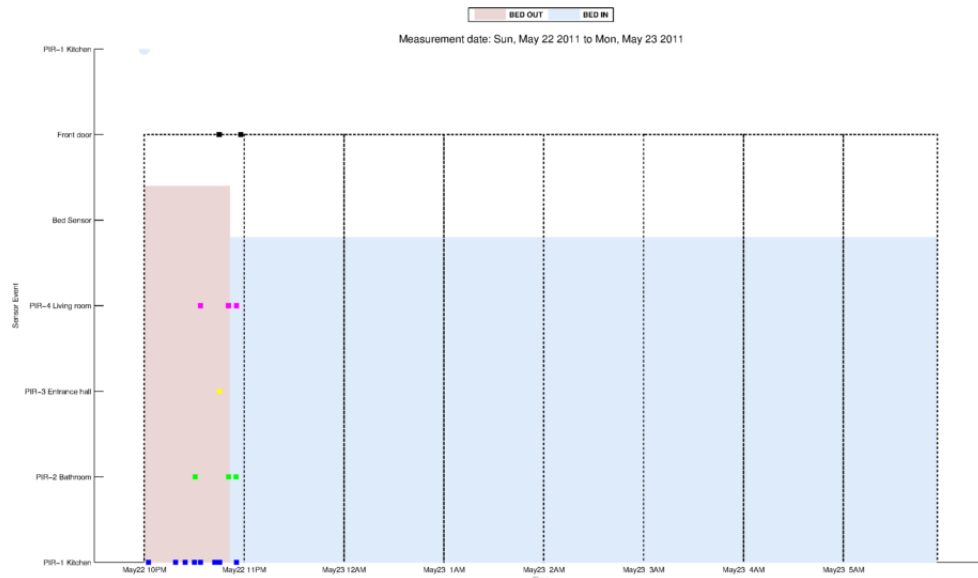


Figure 315: Sensor events and computed bed entrances and exists

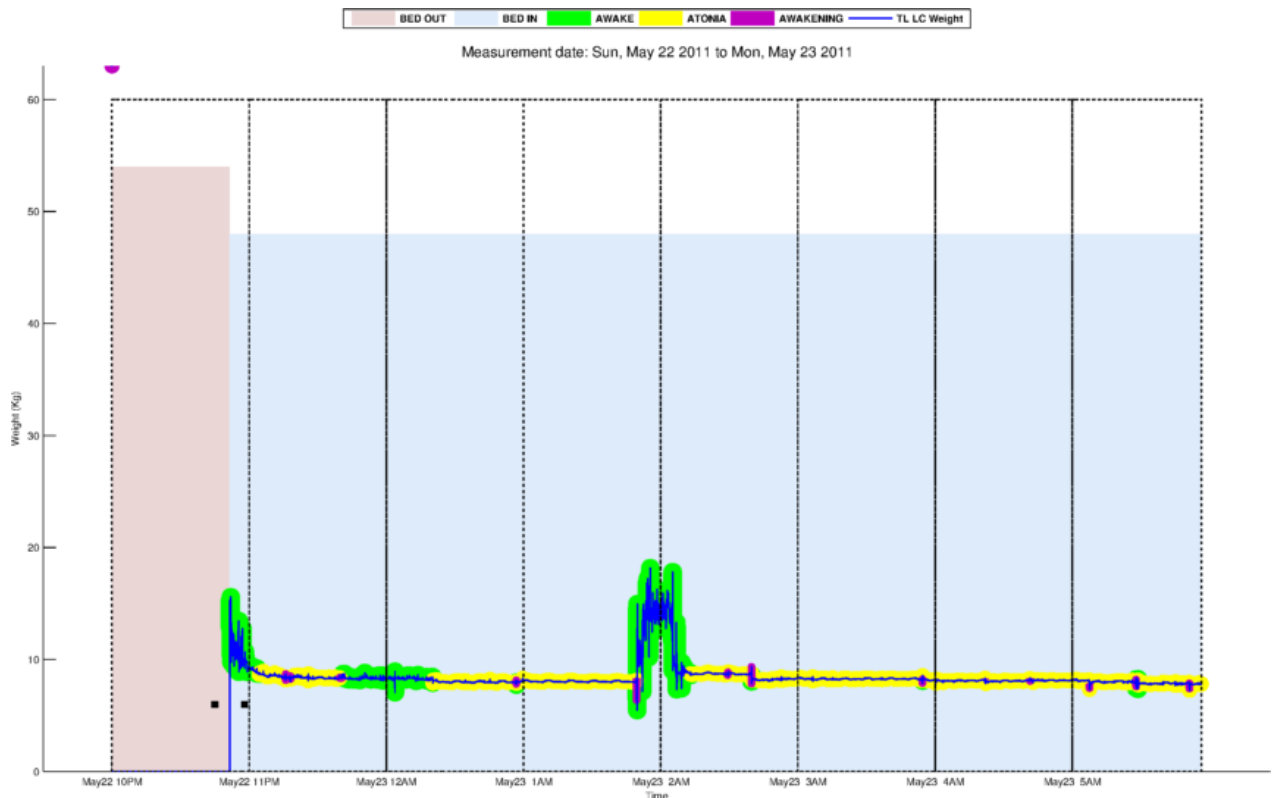


Figure 316: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 316 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 317 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 316).

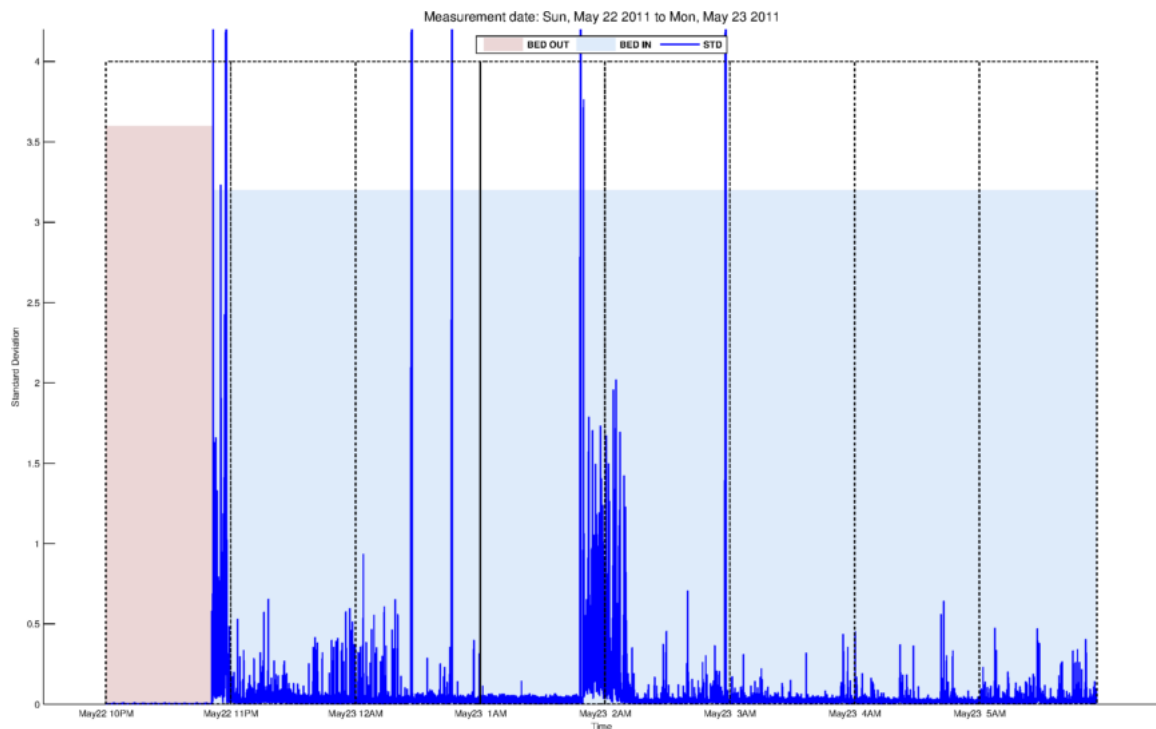


Figure 317: The moving standard deviation for the measured weight.

6.14 14th Night: from May 23 2011 to May 24 2011

Table 225 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 226 presents the duration of the estimated sleep related activities.

Table 225: Sleep related activities and sensor events measured between May 23 and May 24

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Living room	Bed Sensor	Front door
1	22:43:10	22:06:09	22:58:53	22:43:13	22:48:21	22:07:45	22:19:21	22:29:37	22:24:00		22:29:36
2			23:18:00	22:59:22	23:05:41	22:14:55	22:37:32	22:45:24	22:29:33		22:45:39
3			23:39:54	23:18:13	23:18:44	22:24:05			22:45:22		
4			23:53:53	23:40:02	23:47:50	22:37:34					
5			00:16:41	23:53:57	00:10:03	22:45:32					
6			00:35:29	00:16:50	00:25:50						
7			00:42:15	00:35:39	00:36:11						
8			01:06:53	00:43:27	01:00:29						
9			01:26:12	01:29:03	01:06:54						
10			01:44:33	02:08:01	01:29:11						
11			02:07:54	02:37:10	01:44:34						
12			02:37:05	03:42:43	02:08:02						
13			03:23:10	04:05:59	02:37:11						
14			03:42:39	04:20:12	03:23:12						
15			04:05:51	04:46:48	03:47:48						
16			04:20:05	05:22:11	04:06:00						
17			04:36:15	05:39:58	04:21:59						
18			04:46:44		04:36:15						
19			05:06:34		04:46:51						
20			05:22:07		05:06:34						
21			05:39:55		05:25:32						
22					05:39:59						

Table 226: Duration of the sleep related activities presented in Table 225

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:14:02	00:36:34	00:00:29	00:05:08	00:10:33
2			00:00:13	00:05:43	00:12:20
3			00:00:08	00:00:31	00:20:37
4			00:00:04	00:07:48	00:06:04
5			00:00:08	00:15:23	00:06:39
6			00:00:10	00:09:01	00:09:40
7			00:01:12	00:00:31	00:06:05
8			00:00:00	00:17:04	00:05:50
9			00:02:52	00:00:08	00:18:44
10			00:00:01	00:00:01	00:15:23
11			00:00:07	00:00:01	00:23:22
12			00:00:05	00:05:06	00:29:06
13			00:00:02	00:00:01	00:46:04
14			00:00:03	00:01:48	00:19:30
15			00:00:08	00:00:02	00:18:05
16			00:00:07	00:03:21	00:13:30
17			00:00:00	00:00:01	00:14:17
18			00:00:04		00:10:30
19			00:00:00		00:19:45
20			00:00:03		00:15:35
21			00:00:03		00:14:25
22					00:20:02

Figure 318 presents the measured sensor events and the computed bed entrances and exits.

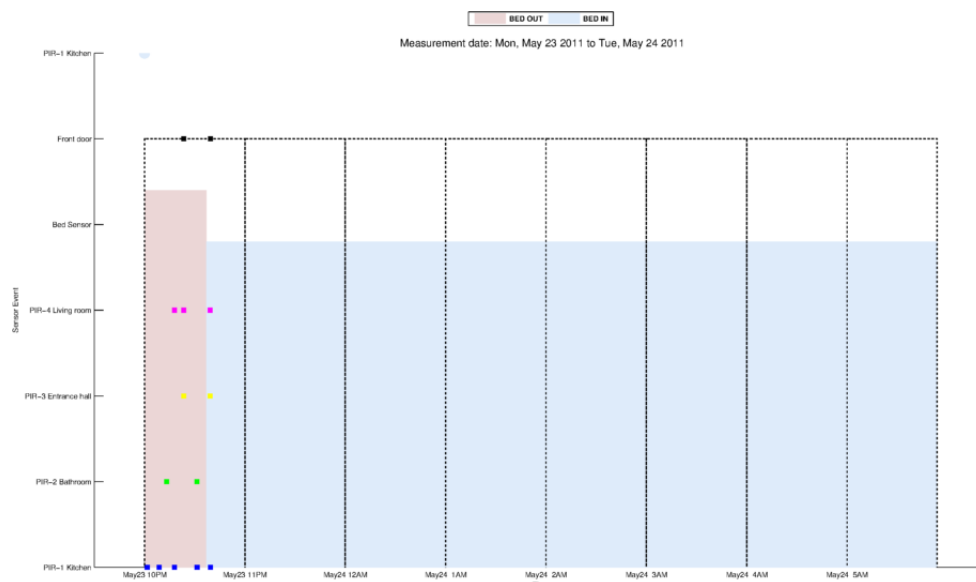


Figure 318: Sensor events and computed bed entrances and exists

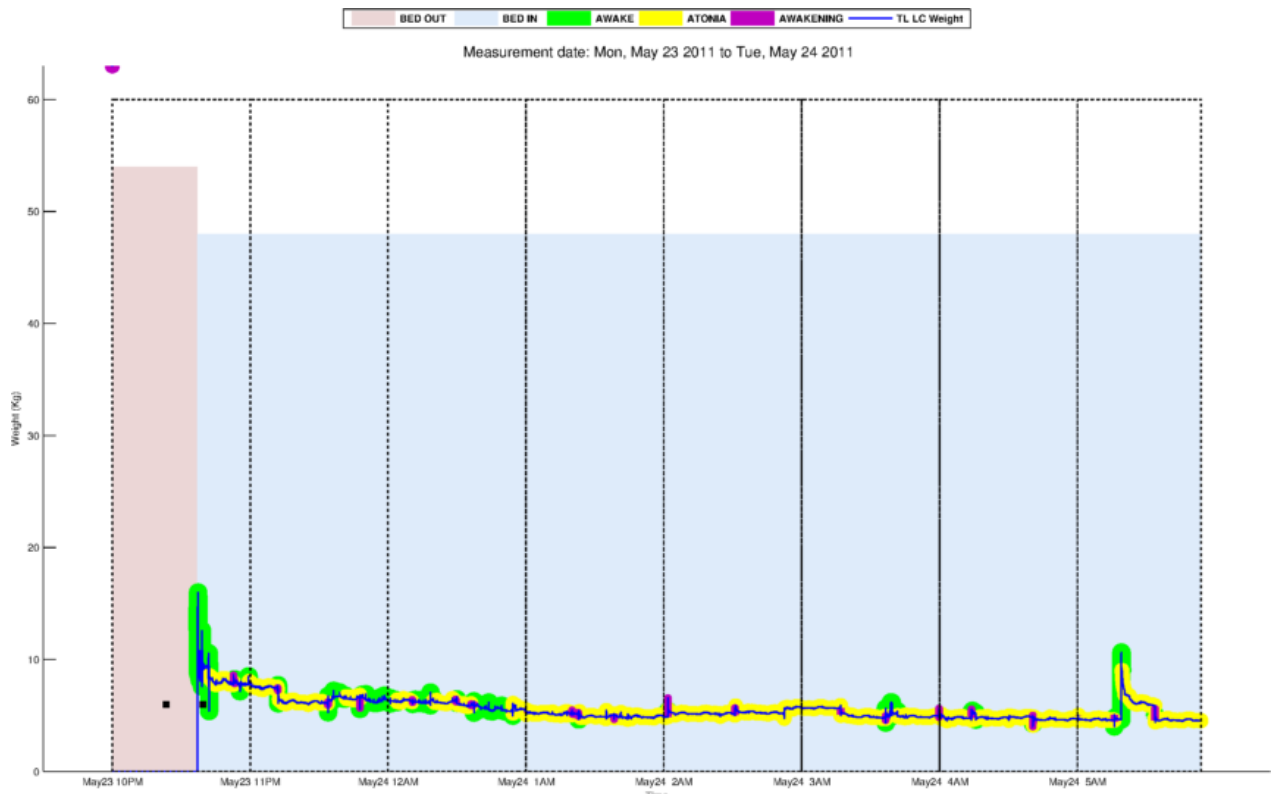


Figure 319: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 319 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 320 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 319).

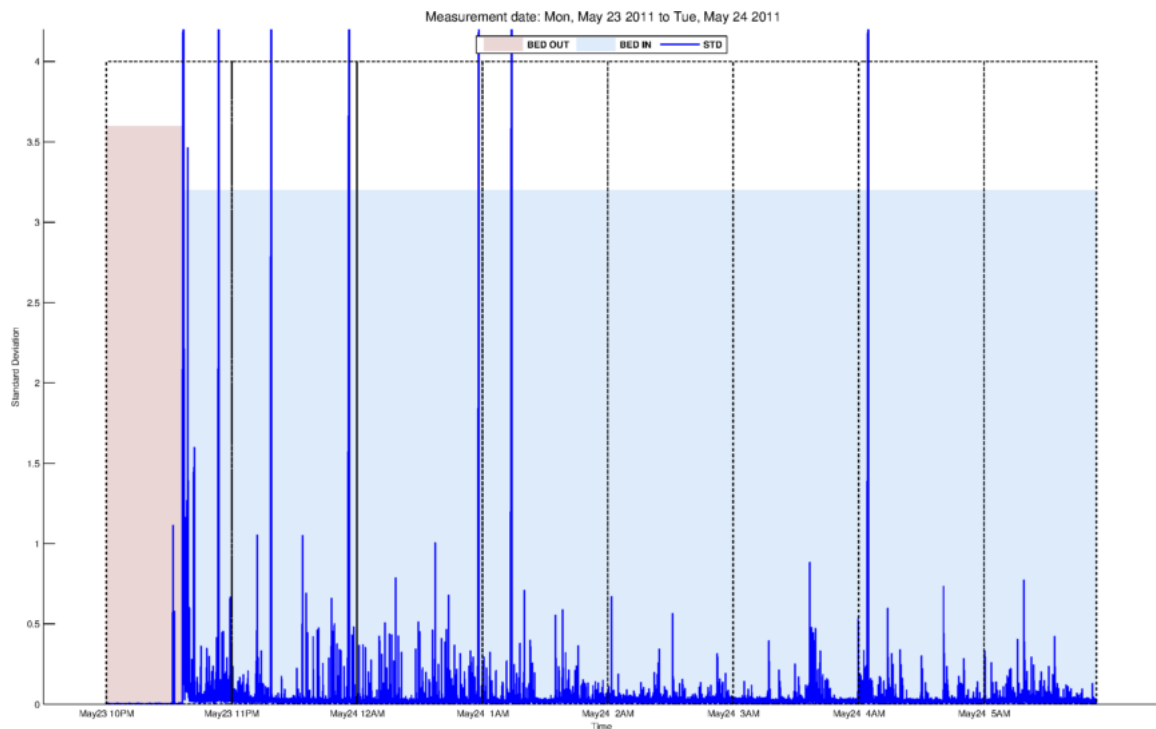


Figure 320: The moving standard deviation for the measured weight.

6.15 15th Night: from May 24 2011 to May 25 2011

Table 227 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 228 presents the duration of the estimated sleep related activities.

Table 227: Sleep related activities and sensor events measured between May 24 and May 25

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Kitchen	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Living room	Bed Sensor	Front door
1	23:18:25	22:05:11	23:46:41	23:18:28	23:39:50	22:09:54	22:23:04	23:39:55	22:14:58		23:36:36
2	01:47:16	01:47:15	23:53:52	23:46:44	23:48:16	22:18:21	22:52:26	02:53:25	22:27:09		23:40:04
3	02:00:40	01:52:06	00:09:30	23:57:13	23:58:47	22:22:58	22:57:53	02:58:55	22:40:50		
4	02:58:04	02:54:46	00:38:46	00:09:34	00:09:41	22:28:39	23:02:33		22:45:38		
5			00:50:05	00:38:50	00:42:42	22:36:02	23:12:33		22:58:00		
6			01:26:26	00:50:08	01:08:18	22:58:12	23:36:56		23:05:27		
7			01:35:55	01:28:05	01:28:14	23:02:22	02:53:34		23:36:53		
8			02:27:13	01:35:58	02:05:32	23:05:33			02:53:29		
9			02:53:31	01:47:16	02:42:07	23:38:30					
10			03:06:56	02:00:40	02:59:05	02:53:38					
11			03:26:09	02:27:16	03:10:37						
12			03:38:06	02:53:35	03:26:17						
13			03:44:52	02:58:08	03:38:14						
14			04:47:41	03:09:47	03:44:53						
15			05:05:56	03:26:13	04:47:46						
16			05:37:54	03:38:10	05:19:08						
17			05:53:02	04:47:45	05:37:58						
18				05:09:53	05:53:15						
19				05:37:57							
20				05:53:06							

Table 228: Duration of the sleep related activities presented in Table 227

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	02:28:33	01:12:48	00:00:03	00:21:24	00:06:51
2	00:04:50	00:00:01	00:03:21	00:01:32	00:05:37
3	00:53:02	00:08:35	00:00:03	00:01:33	00:10:09
4	03:02:17	00:02:43	00:00:03	00:00:07	00:29:09
5			00:00:03	00:03:53	00:07:23
6			00:01:39	00:18:12	00:18:10
7			00:00:03	00:00:09	00:07:41
8			00:00:03	00:11:18	00:21:08
9			00:00:04	00:04:50	00:11:26
10			00:02:50	00:04:16	00:07:52
11			00:00:04	00:14:52	00:15:33
12			00:00:03	00:01:11	00:11:51
13			00:00:00	00:00:57	00:06:39
14			00:00:04	00:00:50	01:02:56
15			00:03:58	00:00:04	00:18:12
16			00:00:03	00:00:04	00:18:48
17			00:00:03	00:00:01	00:15:06
18				00:09:16	00:06:44
19				00:00:00	
20				00:00:09	

Figure 321 presents the measured sensor events and the computed bed entrances and exits.

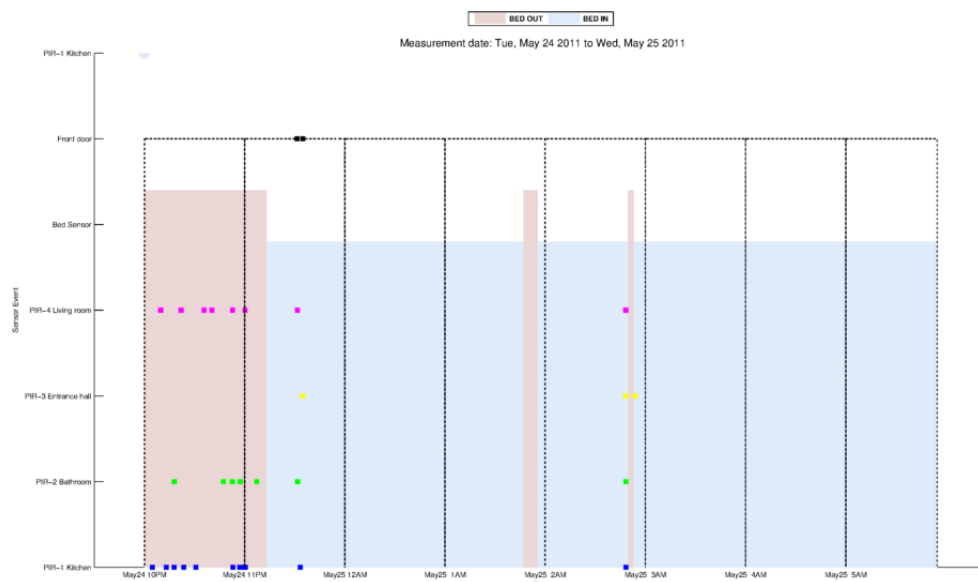


Figure 321: Sensor events and computed bed entrances and exists

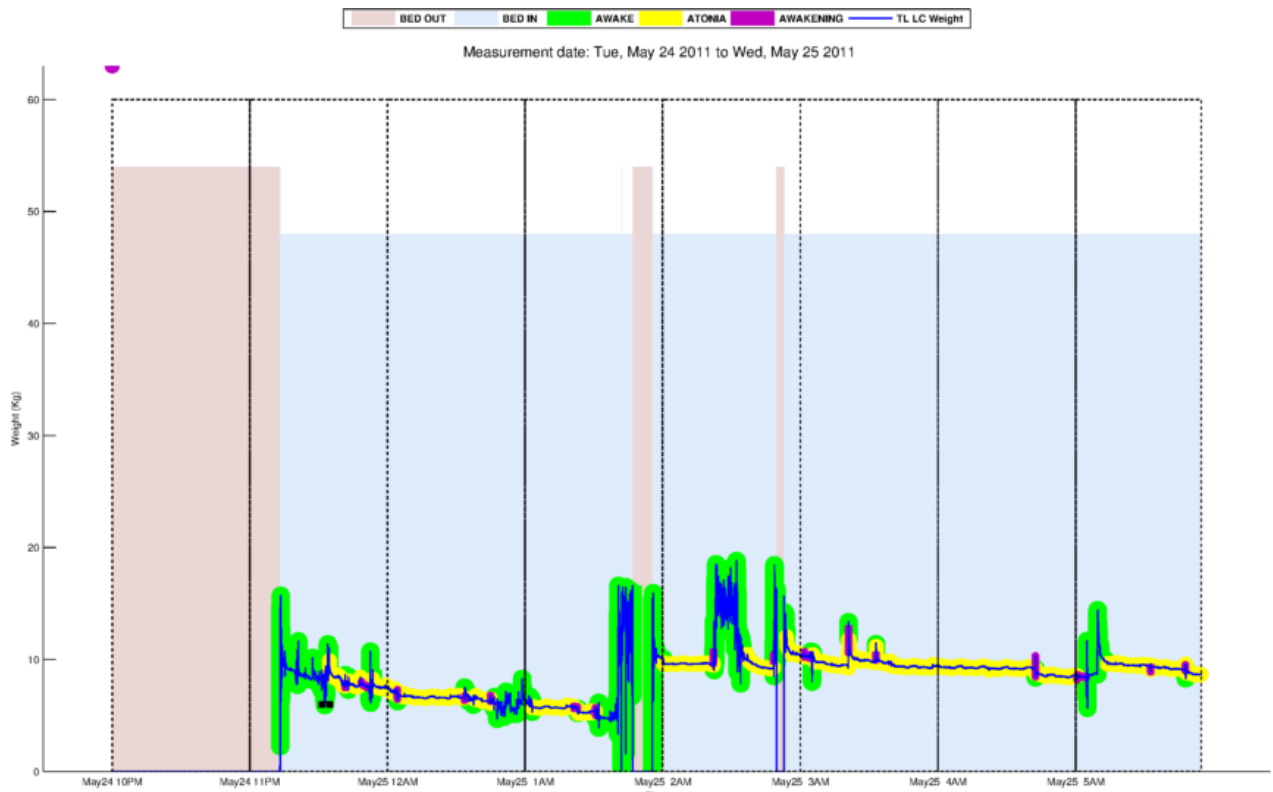


Figure 322: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 322 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 323 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 322).

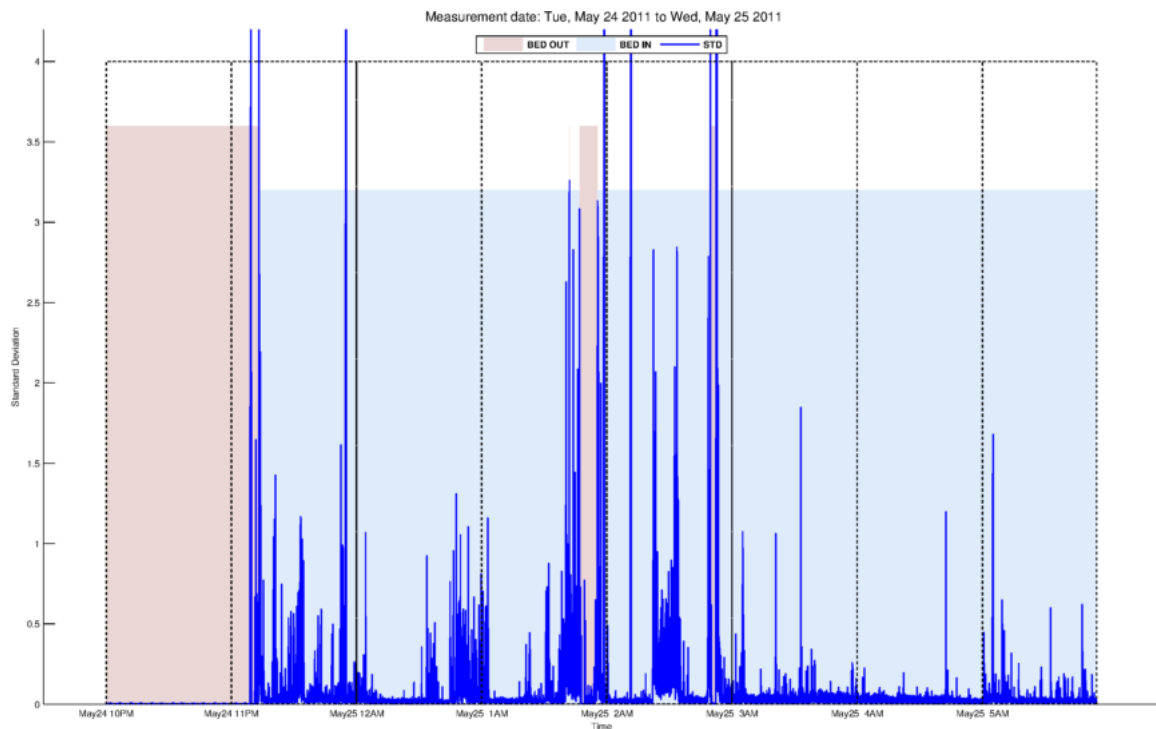


Figure 323: The moving standard deviation for the measured weight.

7 Participant 6: *PersonY*

7.1 Summary

Start of data collection: Jun 01 2011.

End of data collection: Jun 28 2011.

Total Number of nights: 26.

A summary of estimated sleep activities and measured sensor events for each night are presented in Table 229.

Table 229: A summary of detected activities and sensor events. **Sleep efficiency** is the ratio of the estimated time asleep (**Time in Atonia**) to the estimated **Time in Bed**

Date	Bed Exits	Bed Entrances	Awake	Atonia	Awanening	Bed Sensor	Visits	Time in Bed	Time in Atonia	Sleep Efficiency
Jun 01-Jun 02	0	1	14	18	17	0	2	07:55:50	07:20:36	93%
Jun 02-Jun 03	2	3	20	26	25	1	2	07:54:30	06:37:51	84%
Jun 03-Jun 04	1	2	18	21	20	1	2	07:53:37	07:00:15	89%
Jun 04-Jun 05	1	2	19	26	26	6	2	07:50:53	07:06:50	91%
Jun 05-Jun 06	2	3	20	25	25	1	4	07:53:56	06:14:05	79%
Jun 06-Jun 07	1	2	16	21	20	1	4	07:52:33	06:51:23	87%
Jun 07-Jun 08	1	2	17	23	22	2	3	07:50:33	06:45:53	86%
Jun 08-Jun 09	2	3	21	22	22	2	3	07:51:36	06:40:41	85%
Jun 09-Jun 10	1	2	15	22	20	1	4	07:53:06	06:21:53	81%
Jun 10-Jun 11	4	5	14	18	18	2	2	07:51:55	06:59:27	89%
Jun 11-Jun 12	3	4	20	28	27	1	3	07:52:47	06:57:48	88%
Jun 12-Jun 13	3	4	17	24	24	1	3	07:52:14	06:23:56	81%
Jun 13-Jun 14	1	2	22	25	24	1	1	07:52:22	06:42:51	85%
Jun 14-Jun 15	1	2	17	23	23	1	2	07:50:50	06:48:51	87%
Jun 15-Jun 16	3	4	20	20	18	1	2	07:52:25	06:24:41	81%
Jun 16-Jun 17	1	2	14	20	20	4	2	07:51:50	06:58:10	89%
Jun 17-Jun 18	3	4	14	21	21	1	2	07:52:57	07:09:09	91%
Jun 18-Jun 19	1	2	21	24	23	1	2	07:54:22	07:06:41	90%
Jun 19-Jun 20	1	2	22	27	26	3	2	07:52:37	06:43:06	85%
Jun 20-Jun 21	1	2	18	17	17	1	2	07:52:24	07:02:14	89%
Jun 21-Jun 22	1	2	14	17	16	1	1	07:53:49	06:51:57	87%
Jun 22-Jun 23	2	3	21	24	24	1	2	07:54:27	06:53:55	87%
Jun 23-Jun 24	2	3	14	17	17	2	2	07:54:27	07:27:35	94%
Jun 24-Jun 25	1	2	18	21	20	1	2	07:53:07	06:52:44	87%
Jun 25-Jun 26	0	1	15	18	18	0	2	07:55:57	06:42:30	85%
Jun 26-Jun 27	2	3	15	20	19	1	3	07:54:16	06:58:43	88%
Jun 27-Jun 28	2	3	19	26	25	2	2	07:54:29	07:02:26	89%

7.2 1st Night: from Jun 01 2011 to Jun 02 2011

Table 230 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 231 presents the duration of the estimated sleep related activities.

Table 230: Sleep related activities and sensor events measured between Jun 01 and Jun 02

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:17		22:42:33	22:44:56	22:04:17			03:26:02	03:26:21		03:26:00
2			22:59:45	23:26:29	22:49:21						03:26:59
3			23:13:02	23:47:21	22:59:46						
4			23:25:16	00:32:07	23:13:02						
5			23:45:54	00:49:29	23:27:55						
6			00:32:03	01:03:45	23:47:37						
7			00:48:33	01:20:47	00:32:16						
8			01:03:38	01:44:13	00:49:29						
9			01:17:48	02:49:08	01:06:52						
10			01:44:10	03:30:39	01:20:47						
11			01:50:15	04:06:16	01:44:15						
12			02:49:05	04:50:17	01:50:17						
13			03:26:44	05:10:30	02:49:13						
14			04:04:32	05:19:40	03:32:40						
15			04:50:09		04:09:50						
16			05:10:27		04:50:53						
17			05:19:37		05:10:53						
18					05:23:36						

Table 231: Duration of the sleep related activities presented in Table 230

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:55:50		00:02:23	00:04:25	00:38:16
2			00:00:01	00:01:26	00:10:24
3			00:00:00	00:00:16	00:13:16
4			00:01:13	00:00:09	00:12:13
5			00:01:26	00:00:00	00:18:00
6			00:00:03	00:03:07	00:44:26
7			00:00:55	00:00:00	00:16:18
8			00:00:07	00:00:01	00:14:09
9			00:02:59	00:00:05	00:10:56
10			00:00:03	00:02:01	00:23:23
11			00:00:02	00:03:34	00:06:00
12			00:00:03	00:00:36	00:58:48
13			00:03:55	00:00:23	00:37:31
14			00:01:44	00:03:55	00:31:52
15			00:00:07		00:40:19
16			00:00:03		00:19:34
17			00:00:03		00:08:43
18					00:36:24

Figure 324 presents the measured sensor events and the computed bed entrances and exits.

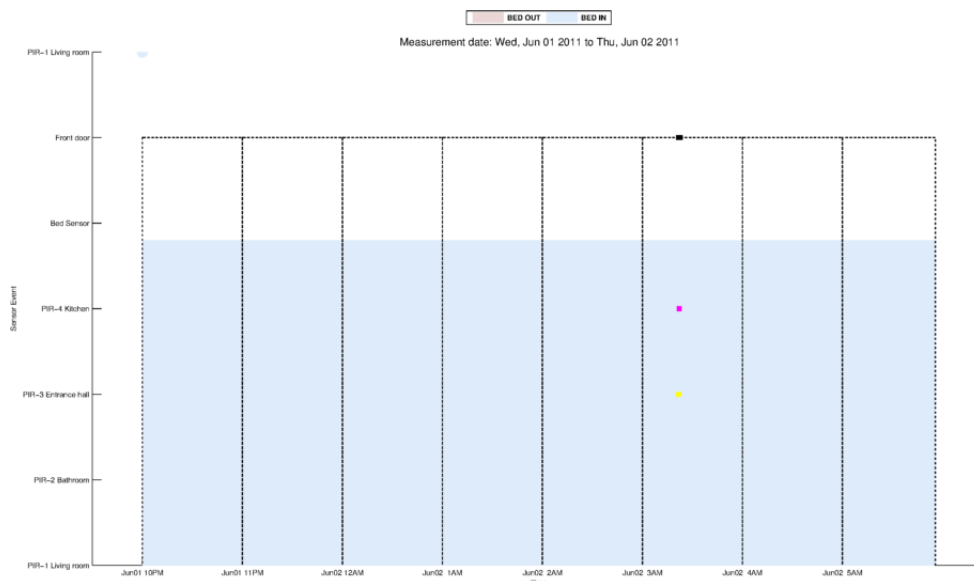


Figure 324: Sensor events and computed bed entrances and exists

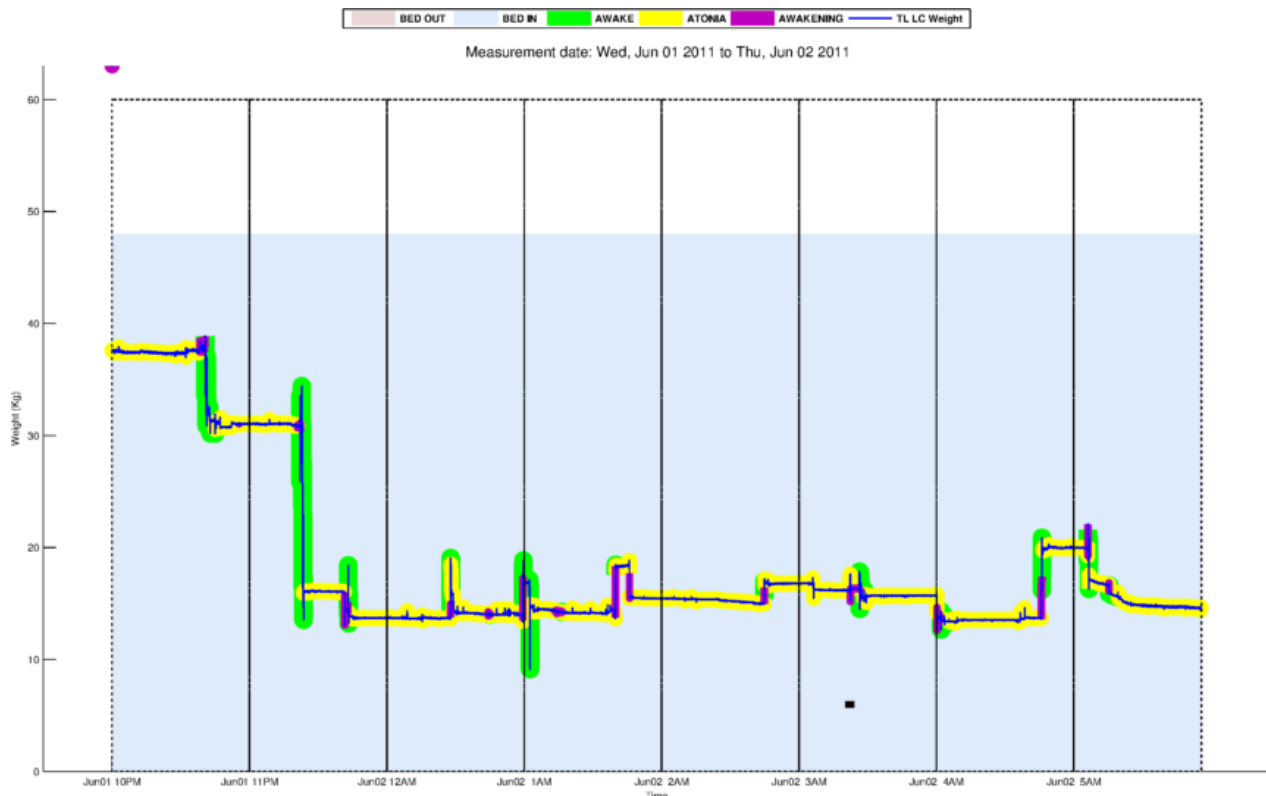


Figure 325: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 325 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 326 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 325).

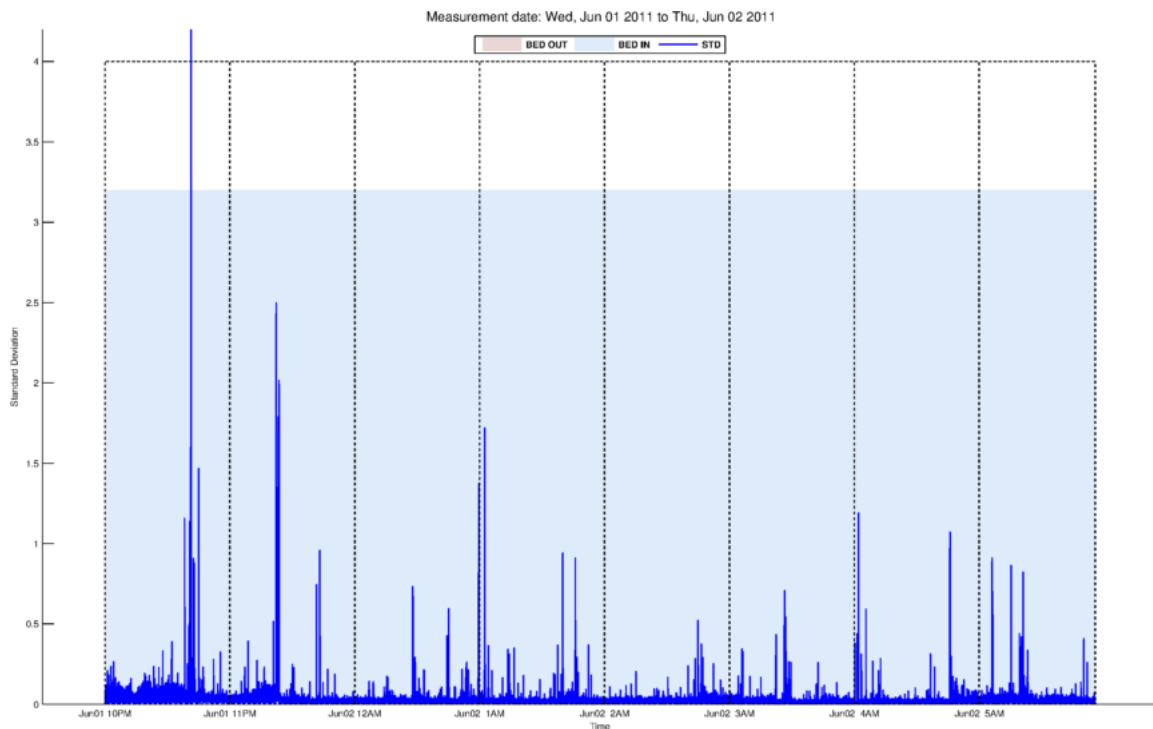


Figure 326: The moving standard deviation for the measured weight.

7.3 2nd Night: from Jun 02 2011 to Jun 03 2011

Table 232 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 233 presents the duration of the estimated sleep related activities.

Table 232: Sleep related activities and sensor events measured between Jun 02 and Jun 03

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:18	04:14:51	22:25:37	22:25:41	22:04:18	04:13:51	04:13:09	04:13:07	04:13:13	04:14:55	04:13:04
2	04:16:00	04:16:01	22:57:08	22:57:14	22:50:40	04:17:24					04:17:29
3	04:16:11		23:23:13	23:23:17	23:12:01						
4			23:32:25	00:28:39	23:24:07						
5			00:17:22	00:39:36	23:32:26						
6			00:28:36	01:22:25	00:17:25						
7			00:39:32	01:35:12	00:29:16						
8			00:47:02	01:46:47	00:39:37						
9			01:22:21	02:01:02	00:47:03						
10			01:35:08	02:15:26	01:22:42						
11			01:46:44	02:32:40	01:35:37						
12			02:00:55	03:11:30	01:48:00						
13			02:14:18	03:27:07	02:04:56						
14			02:27:04	03:40:58	02:17:33						
15			02:32:37	03:58:44	02:27:06						
16			02:49:01	04:13:28	02:36:42						
17			03:00:07	04:16:15	02:49:01						
18			03:11:23	04:33:43	03:00:08						
19			03:27:04	05:02:58	03:20:35						
20			03:40:54	05:08:07	03:29:48						
21			03:58:35		03:41:03						
22			04:13:24		04:02:19						
23			04:33:39		04:17:45						
24			05:02:52		04:33:48						
25			05:08:04		05:03:00						
26					05:10:27						

Table 233: Duration of the sleep related activities presented in Table 232

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	06:10:39	00:01:09	00:00:03	00:24:59	00:21:20
2	00:00:01	00:00:10	00:00:06	00:14:47	00:06:28
3	01:43:50		00:00:03	00:00:50	00:11:12
4			00:00:01	00:00:36	00:08:18
5			00:00:03	00:00:01	00:44:56
6			00:00:03	00:00:17	00:11:11
7			00:00:03	00:00:25	00:10:16
8			00:00:01	00:01:13	00:07:25
9			00:00:03	00:03:54	00:35:19
10			00:00:03	00:02:07	00:12:26
11			00:00:03	00:04:02	00:11:07
12			00:00:06	00:09:04	00:12:55
13			00:01:08	00:02:41	00:09:22
14			00:00:01	00:00:05	00:09:31
15			00:00:03	00:03:35	00:05:31
16			00:00:00	00:01:23	00:12:19
17			00:00:01	00:01:30	00:11:06
18			00:00:07	00:00:04	00:11:15
19			00:00:03	00:00:02	00:06:29
20			00:00:03	00:02:20	00:11:06
21			00:00:08		00:17:33
22			00:00:03		00:11:05
23			00:00:04		00:15:55
24			00:00:06		00:29:05
25			00:00:03		00:05:03
26					00:49:33

Figure 327 presents the measured sensor events and the computed bed entrances and exits.

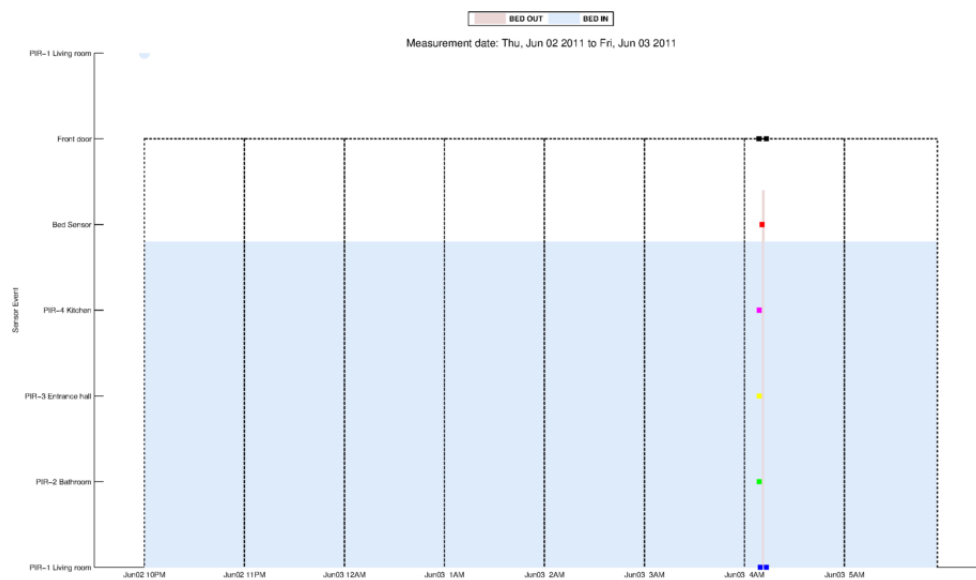


Figure 327: Sensor events and computed bed entrances and exists

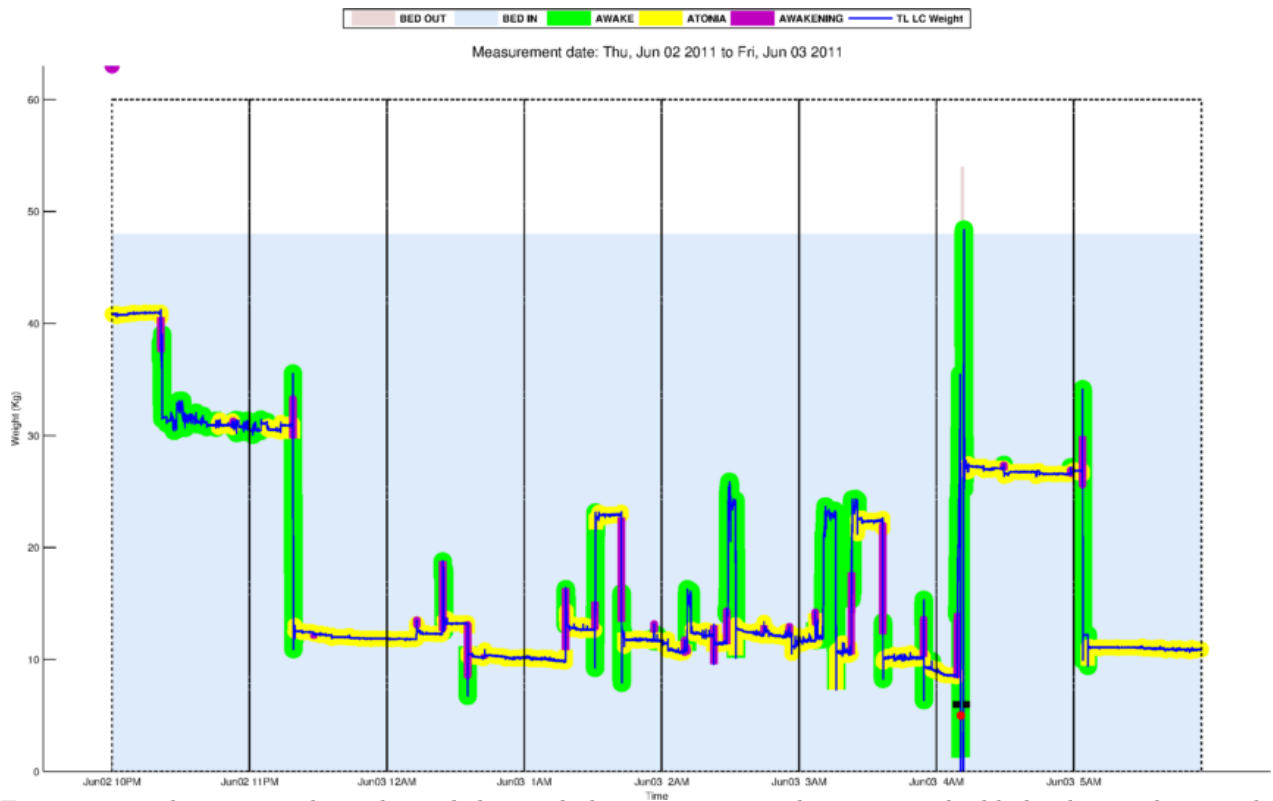


Figure 328: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 328 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 329 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 328).

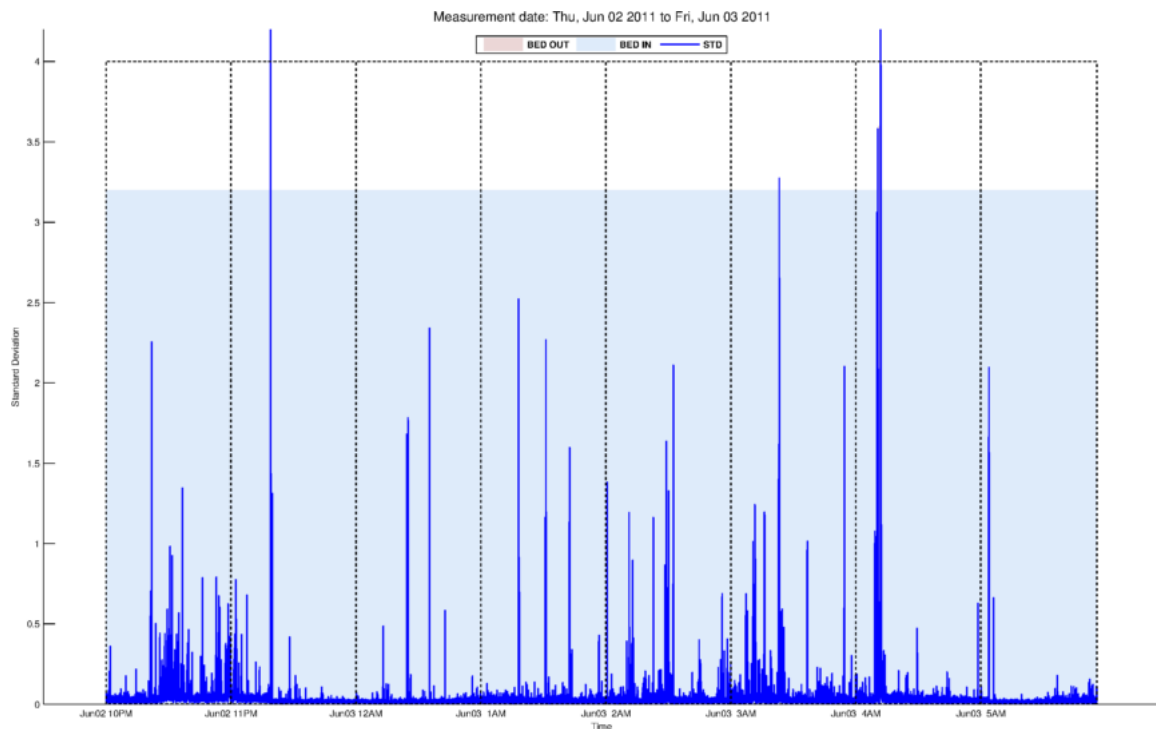


Figure 329: The moving standard deviation for the measured weight.

7.4 3rd Night: from Jun 03 2011 to Jun 04 2011

Table 234 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 235 presents the duration of the estimated sleep related activities.

Table 234: Sleep related activities and sensor events measured between Jun 03 and Jun 04

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:17	02:57:19	23:09:05	23:09:25	22:04:17		02:55:35	02:58:10	02:58:09	02:57:25	02:55:24
2	02:59:30		23:37:05	23:37:15	23:13:03		02:59:47				03:00:51
3			00:23:00	01:09:31	23:37:31						
4			01:09:28	01:46:16	00:23:01						
5			01:42:54	02:07:17	01:23:37						
6			01:54:40	02:37:03	01:46:17						
7			02:06:02	02:49:58	01:54:41						
8			02:36:59	02:55:51	02:08:25						
9			02:49:55	02:59:33	02:37:33						
10			02:55:38	03:15:48	02:50:05						
11			03:15:43	04:08:27	03:00:35						
12			03:43:10	04:22:41	03:16:03						
13			04:04:52	04:28:43	03:43:11						
14			04:19:55	04:44:01	04:08:27						
15			04:28:40	04:55:42	04:22:42						
16			04:43:06	05:08:47	04:34:53						
17			04:50:47	05:31:51	04:44:02						
18			05:07:12	05:44:37	04:55:52						
19			05:31:46		05:08:50						
20			05:44:09		05:36:10						
21					05:44:40						

Table 235: Duration of the sleep related activities presented in Table 234

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	04:53:06	00:02:10	00:00:19	00:03:39	01:04:48
2	03:00:31		00:00:10	00:00:16	00:24:01
3			00:00:00	00:14:06	00:45:30
4			00:00:03	00:00:00	00:46:27
5			00:03:22	00:01:08	00:19:17
6			00:00:00	00:00:30	00:08:23
7			00:01:15	00:00:06	00:11:21
8			00:00:03	00:01:28	00:28:34
9			00:00:03	00:01:01	00:12:22
10			00:00:13	00:00:15	00:05:33
11			00:00:04	00:00:00	00:15:08
12			00:00:01	00:00:00	00:27:07
13			00:03:34	00:06:10	00:21:42
14			00:02:46	00:00:01	00:11:27
15			00:00:03	00:00:10	00:05:58
16			00:00:54	00:00:03	00:08:13
17			00:04:54	00:04:19	00:06:45
18			00:01:35	00:00:03	00:11:20
19			00:00:04		00:22:56
20			00:00:28		00:07:59
21					00:15:18

Figure 330 presents the measured sensor events and the computed bed entrances and exits.

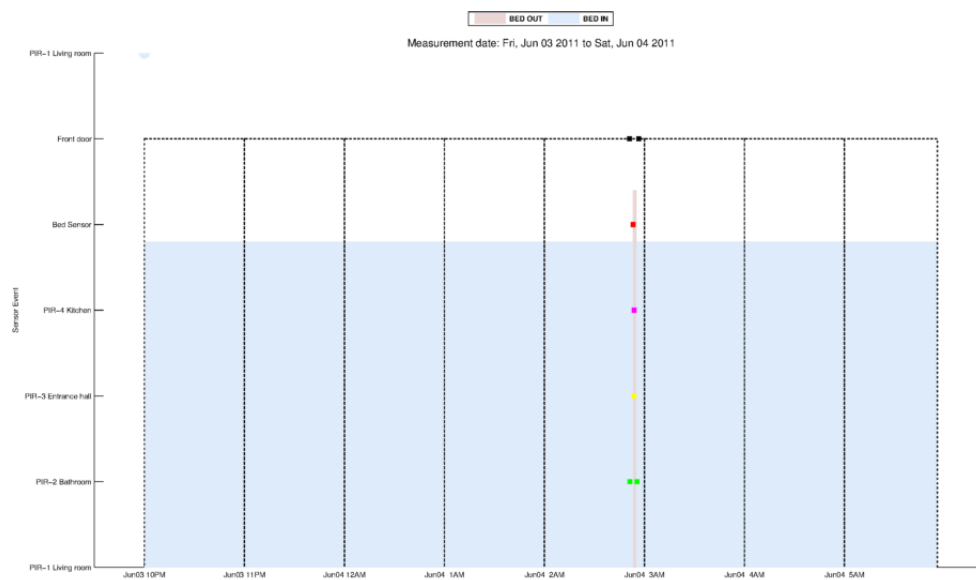


Figure 330: Sensor events and computed bed entrances and exists

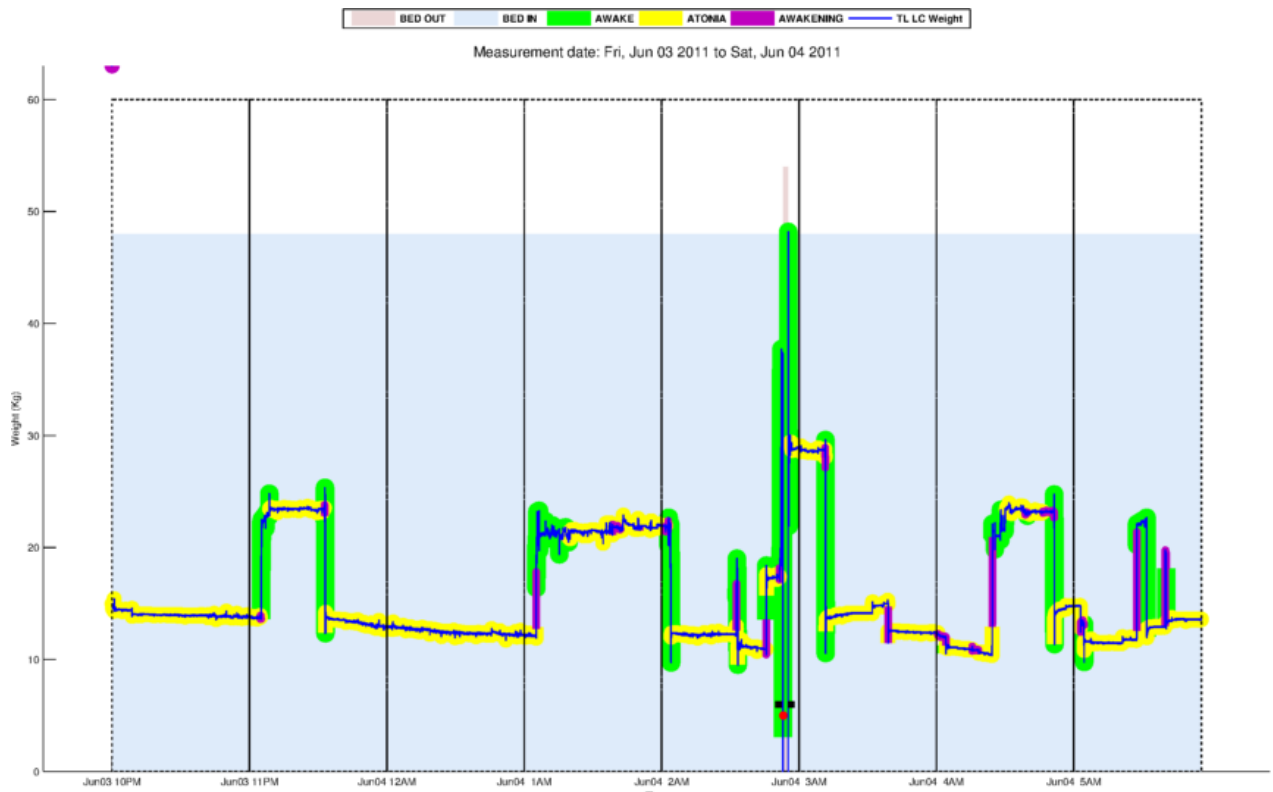


Figure 331: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 331 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 332 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 331).

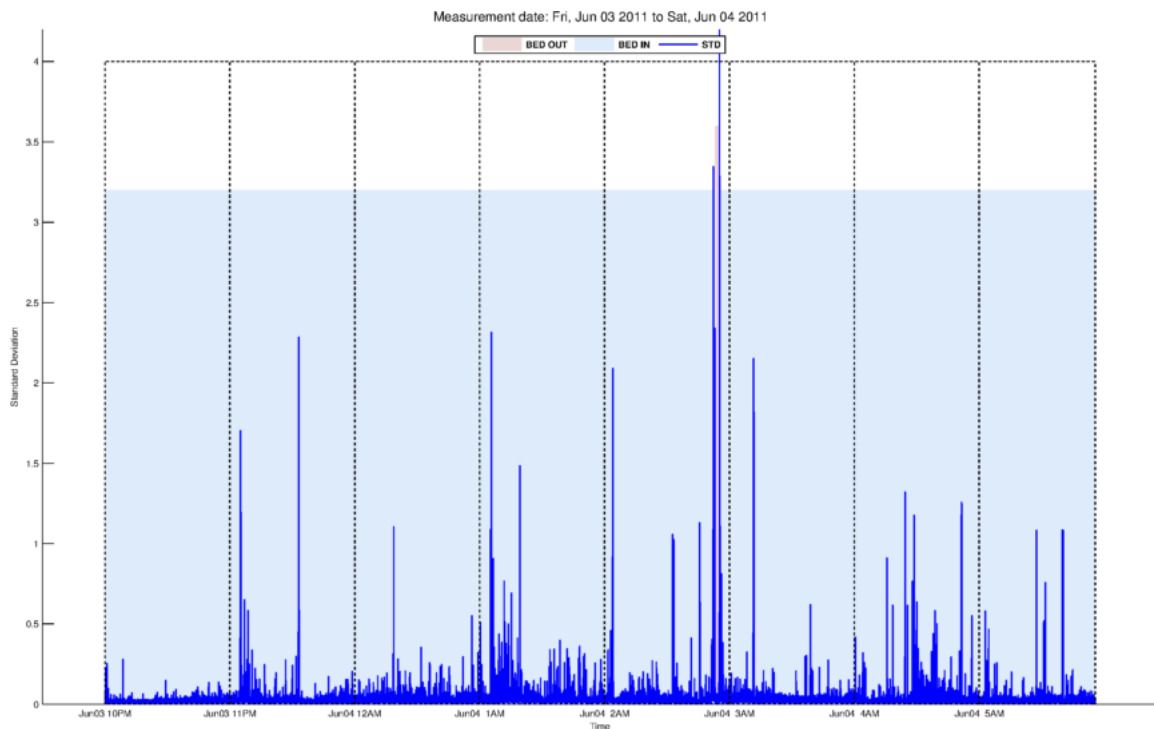


Figure 332: The moving standard deviation for the measured weight.

7.5 4th Night: from Jun 04 2011 to Jun 05 2011

Table 236 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 237 presents the duration of the estimated sleep related activities.

Table 236: Sleep related activities and sensor events measured between Jun 04 and Jun 05

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:18	03:52:34	22:13:34	22:13:55	22:04:18		03:57:41	03:51:15	03:51:34	00:02:20	03:51:14
2	03:57:27		22:30:20	22:30:25	22:18:17			03:57:38		03:32:23	03:58:48
3			22:42:14	23:24:17	22:31:05					03:36:43	
4			23:24:14	23:36:27	22:42:14					03:42:34	
5			23:36:23	23:46:05	23:24:19					03:47:32	
6			23:46:02	23:53:16	23:36:42					03:52:42	
7			23:53:12	00:06:36	23:47:16						
8			00:02:04	00:12:49	23:53:52						
9			00:12:34	01:07:19	00:06:37						
10			00:47:52	01:34:05	00:12:50						
11			01:06:08	01:51:35	00:47:53						
12			01:14:12	02:08:23	01:07:20						
13			01:24:41	03:20:12	01:14:12						
14			01:34:02	03:31:24	01:24:41						
15			01:51:30	03:42:06	01:38:03						
16			02:08:19	03:48:24	01:51:45						
17			03:04:09	03:57:27	02:10:19						
18			03:20:09	04:17:58	03:04:09						
19			03:30:59	05:32:47	03:25:56						
20			03:41:42		03:34:44						
21			03:47:14		03:42:08						
22			04:17:54		03:58:40						
23			04:34:51		04:23:10						
24			05:00:53		04:34:51						
25			05:32:43		05:00:54						
26			05:58:03		05:32:57						

Table 237: Duration of the sleep related activities presented in Table 236

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	05:48:20	00:04:52	00:00:20	00:04:22	00:09:16
2	02:02:33		00:00:05	00:00:39	00:12:02
3			00:00:00	00:00:01	00:11:09
4			00:00:03	00:00:15	00:41:59
5			00:00:03	00:01:10	00:12:05
6			00:00:03	00:00:36	00:09:20
7			00:00:03	00:00:00	00:05:56
8			00:04:32	00:00:00	00:08:12
9			00:00:15	00:00:00	00:05:57
10			00:00:01	00:03:58	00:35:03
11			00:01:11	00:00:10	00:18:15
12			00:00:00	00:01:56	00:06:52
13			00:00:00	00:05:43	00:10:29
14			00:00:03	00:03:20	00:09:20
15			00:00:05	00:00:02	00:13:26
16			00:00:03	00:04:10	00:16:35
17			00:00:00	00:01:13	00:53:50
18			00:00:03	00:05:12	00:15:59
19			00:00:24	00:00:10	00:05:04
20			00:00:23		00:06:58
21			00:01:10		00:05:06
22			00:00:03		00:19:14
23			00:00:00		00:11:41
24			00:00:01		00:26:02
25			00:00:03		00:31:49
26			00:01:55		00:25:06

Figure 333 presents the measured sensor events and the computed bed entrances and exits.

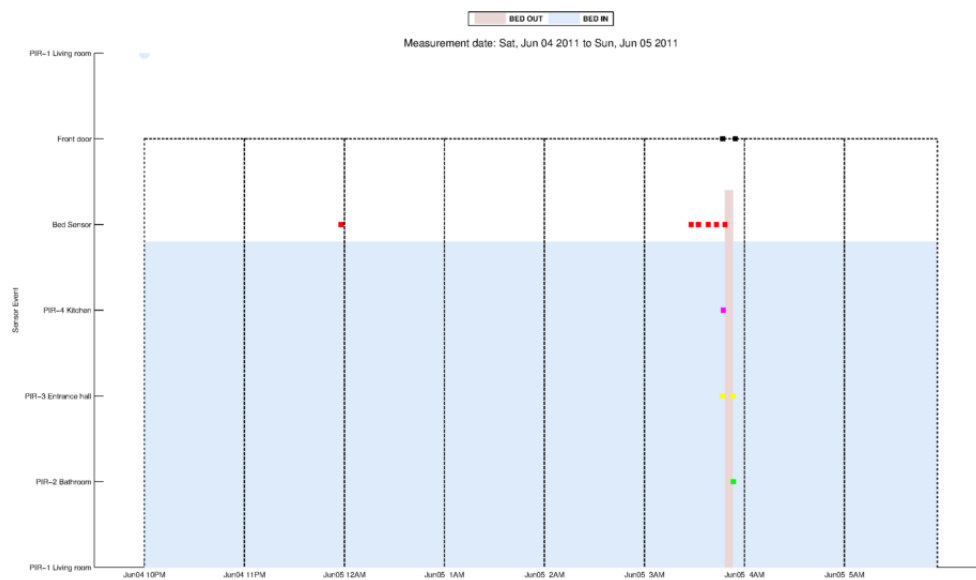


Figure 333: Sensor events and computed bed entrances and exists

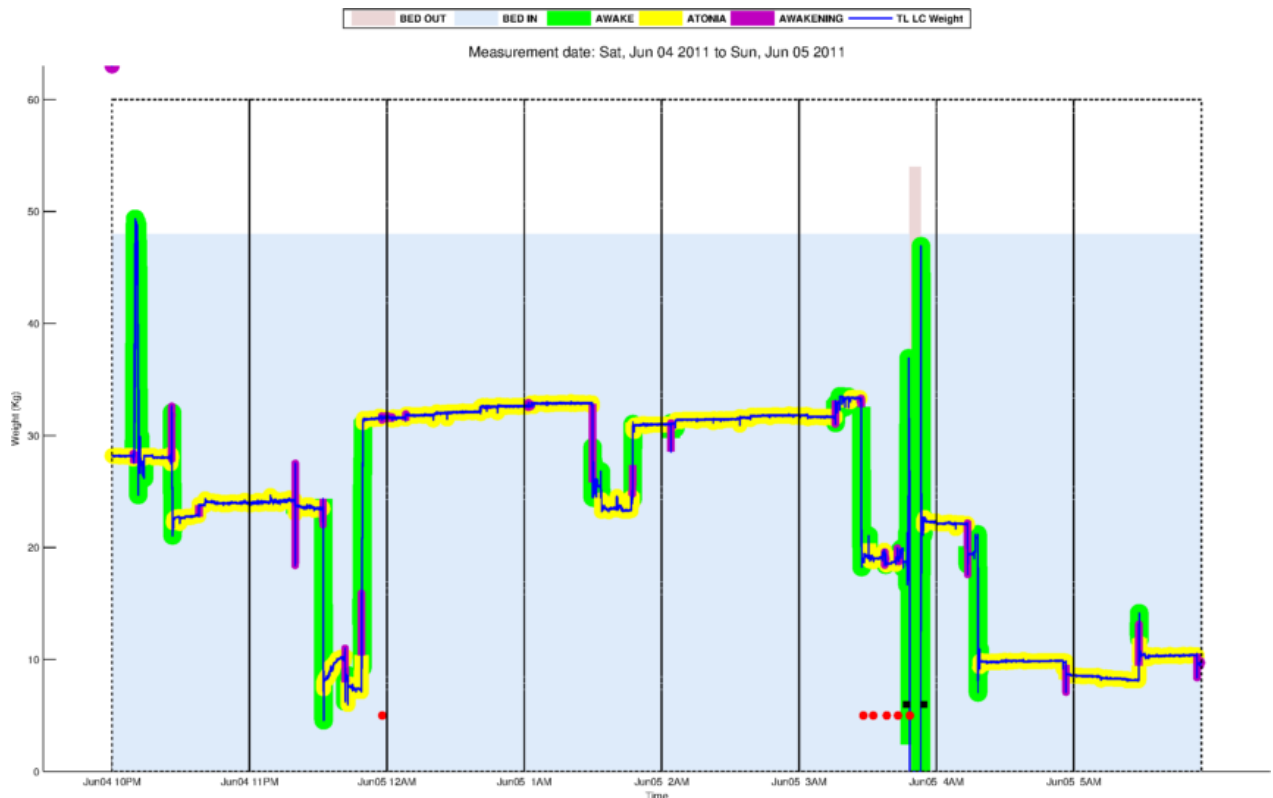


Figure 334: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 334 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 335 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 334).

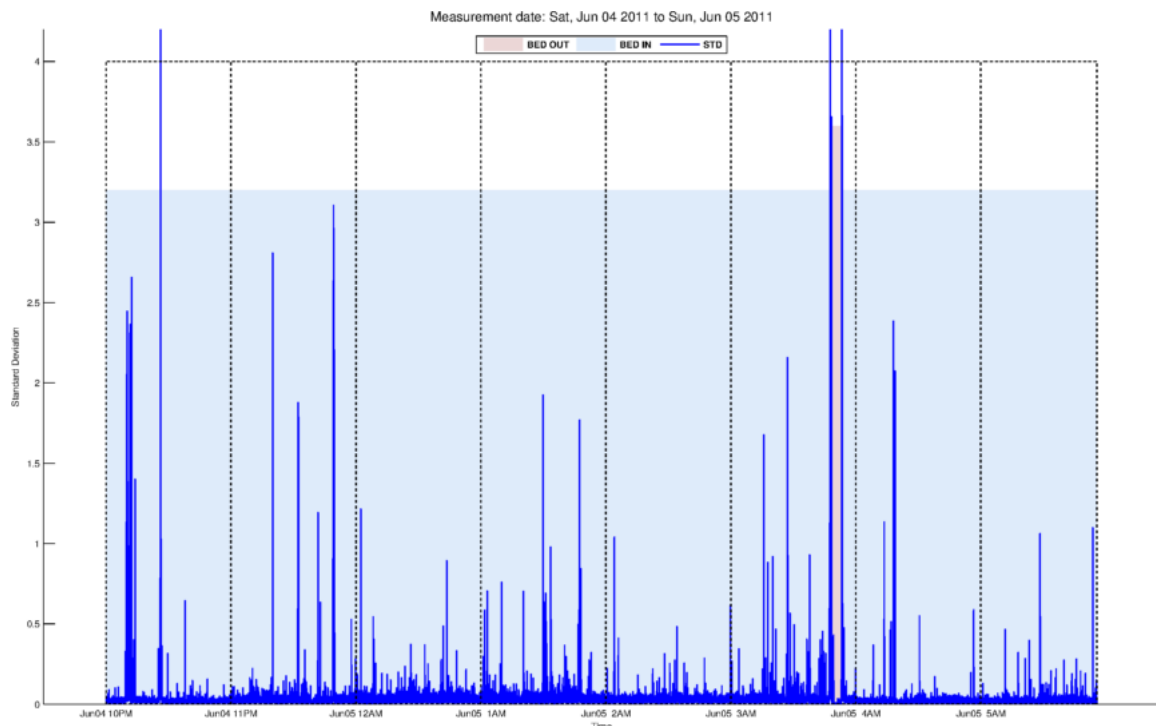


Figure 335: The moving standard deviation for the measured weight.

7.6 5th Night: from Jun 05 2011 to Jun 06 2011

Table 238 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 239 presents the duration of the estimated sleep related activities.

Table 238: Sleep related activities and sensor events measured between Jun 05 and Jun 06

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:18	03:12:00	22:06:52	22:06:55	22:04:18		03:10:55	03:10:46	03:11:08	03:12:07	03:10:43
2	03:13:43	03:13:44	22:26:36	22:26:40	22:07:24		03:16:16	03:16:14			03:17:37
3	03:13:47		22:32:10	23:15:02	22:26:47						03:17:58
4			23:14:59	23:41:52	22:32:11						05:18:28
5			23:24:52	00:10:22	23:17:42						
6			23:41:49	00:24:34	23:24:53						
7			00:10:17	00:31:24	23:45:36						
8			00:24:30	00:41:26	00:17:21						
9			00:30:00	01:15:44	00:24:42						
10			00:36:44	01:50:35	00:31:27						
11			01:15:41	02:02:18	01:00:02						
12			01:27:16	02:22:34	01:19:49						
13			01:32:25	02:34:15	01:27:16						
14			01:46:18	02:52:39	01:32:26						
15			02:02:14	03:07:08	01:50:36						
16			02:19:52	03:13:47	02:03:37						
17			02:33:54	03:50:48	02:22:37						
18			02:40:24	04:06:46	02:34:28						
19			02:50:13	05:13:22	02:40:24						
20			03:07:05	05:54:59	02:57:29						
21			03:50:44		03:17:23						
22			04:06:26		03:51:25						
23			05:13:18		04:07:18						
24			05:49:04		05:38:14						
25			05:54:55		05:49:04						

Table 239: Duration of the sleep related activities presented in Table 238

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	05:07:42	00:01:43	00:00:03	00:00:29	00:02:34
2	00:00:01	00:00:03	00:00:03	00:00:07	00:19:12
3	02:46:13		00:00:01	00:02:40	00:05:22
4			00:00:03	00:03:44	00:42:48
5			00:00:01	00:06:59	00:07:10
6			00:00:03	00:00:08	00:16:55
7			00:00:05	00:00:03	00:24:40
8			00:00:03	00:18:36	00:07:09
9			00:01:23	00:04:05	00:05:18
10			00:04:42	00:00:01	00:05:16
11			00:00:03	00:01:19	00:15:38
12			00:00:00	00:00:03	00:07:26
13			00:00:00	00:00:12	00:05:09
14			00:04:17	00:04:50	00:13:52
15			00:00:04	00:04:51	00:11:38
16			00:02:42	00:03:35	00:16:14
17			00:00:21	00:00:37	00:11:16
18			00:00:00	00:00:32	00:05:56
19			00:02:26	00:24:53	00:09:48
20			00:00:03	00:04:59	00:09:36
21			00:00:03		00:33:22
22			00:00:20		00:15:01
23			00:00:03		01:06:00
24			00:00:00		00:10:49
25			00:00:04		00:05:50

Figure 336 presents the measured sensor events and the computed bed entrances and exits.

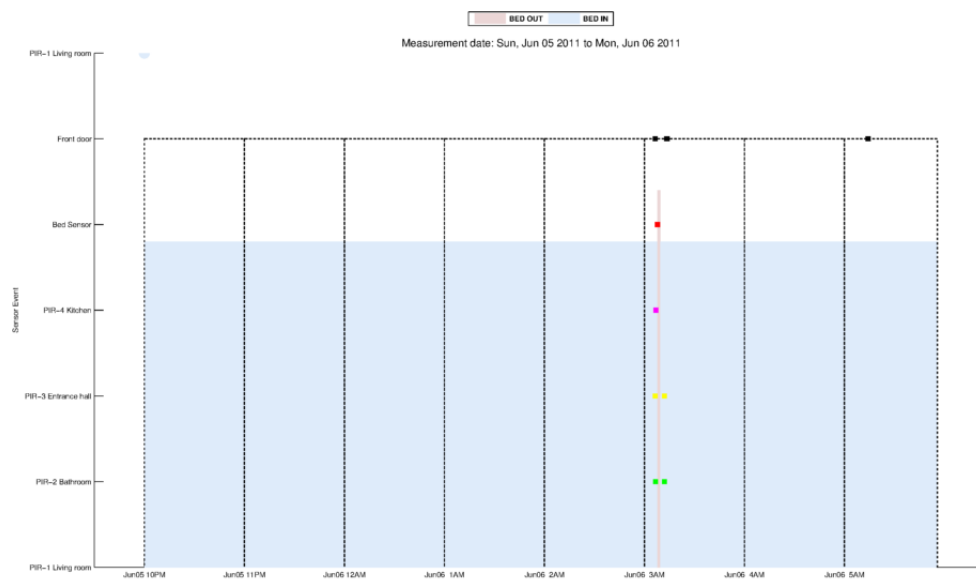


Figure 336: Sensor events and computed bed entrances and exists

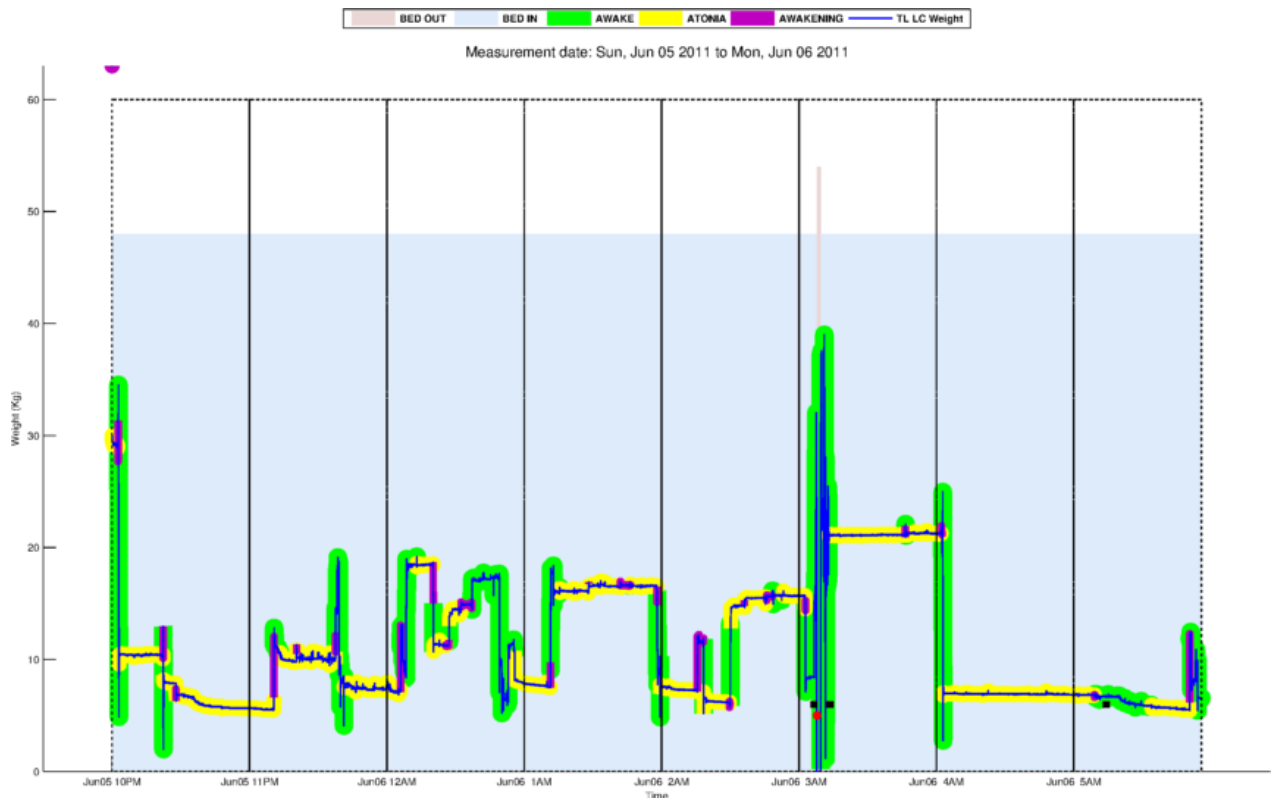


Figure 337: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 337 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 338 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 337).

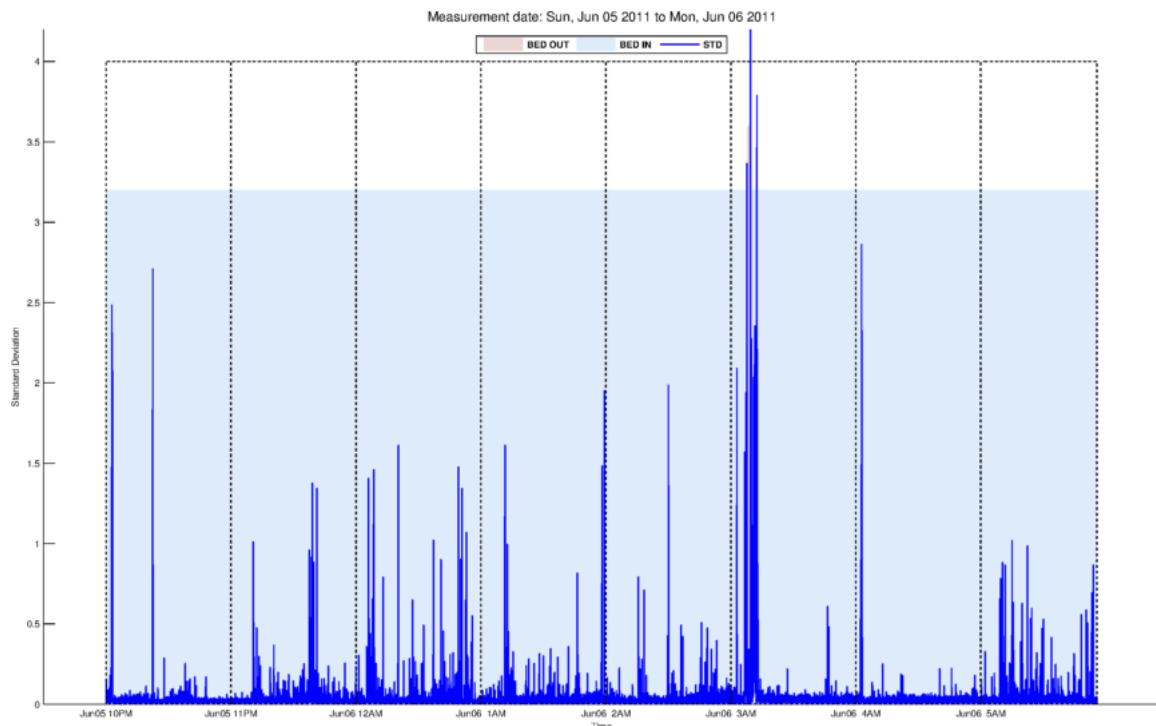


Figure 338: The moving standard deviation for the measured weight.

7.7 6th Night: from Jun 06 2011 to Jun 07 2011

Table 240 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 241 presents the duration of the estimated sleep related activities.

Table 240: Sleep related activities and sensor events measured between Jun 06 and Jun 07

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:17	03:13:14	22:28:34	22:40:03	22:04:17		03:14:07	03:11:32		03:13:22	03:11:31
2	03:16:21		22:39:59	23:11:04	22:28:34						03:18:15
3			22:57:59	23:27:45	22:42:40						03:18:33
4			23:11:00	23:50:31	22:57:59						04:18:25
5			23:27:42	23:58:42	23:12:01						
6			23:42:08	00:13:44	23:28:49						
7			23:48:36	00:56:06	23:42:10						
8			23:58:38	01:46:45	23:50:32						
9			00:13:36	02:07:26	00:00:36						
10			00:56:03	02:58:44	00:31:23						
11			01:46:40	03:09:36	01:03:39						
12			02:07:11	03:16:21	01:46:54						
13			02:16:26	03:45:48	02:08:13						
14			02:58:41	04:11:39	02:16:27						
15			03:08:20	04:48:23	03:01:35						
16			03:45:45	05:31:41	03:17:29						
17			04:11:36		03:46:02						
18			04:39:41		04:12:25						
19			04:47:35		04:39:42						
20			05:31:38		04:58:57						
21					05:35:59						

Table 241: Duration of the sleep related activities presented in Table 240

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	05:08:55	00:03:06	00:00:00	00:02:36	00:24:16
2	02:43:38		00:00:03	00:00:57	00:11:25
3			00:00:00	00:01:04	00:15:19
4			00:00:03	00:00:00	00:13:01
5			00:00:03	00:01:54	00:15:41
6			00:00:02	00:17:39	00:13:18
7			00:01:55	00:07:32	00:06:26
8			00:00:04	00:00:08	00:08:06
9			00:00:07	00:00:46	00:13:00
10			00:00:03	00:02:51	00:24:40
11			00:00:05	00:03:37	00:43:01
12			00:00:15	00:01:08	00:20:17
13			00:00:01	00:00:14	00:08:13
14			00:00:03	00:00:45	00:42:13
15			00:01:16	00:10:33	00:06:45
16			00:00:03	00:04:17	00:28:15
17			00:00:03		00:25:33
18			00:00:00		00:27:16
19			00:00:48		00:07:53
20			00:00:03		00:32:41
21					00:24:00

Figure 339 presents the measured sensor events and the computed bed entrances and exits.

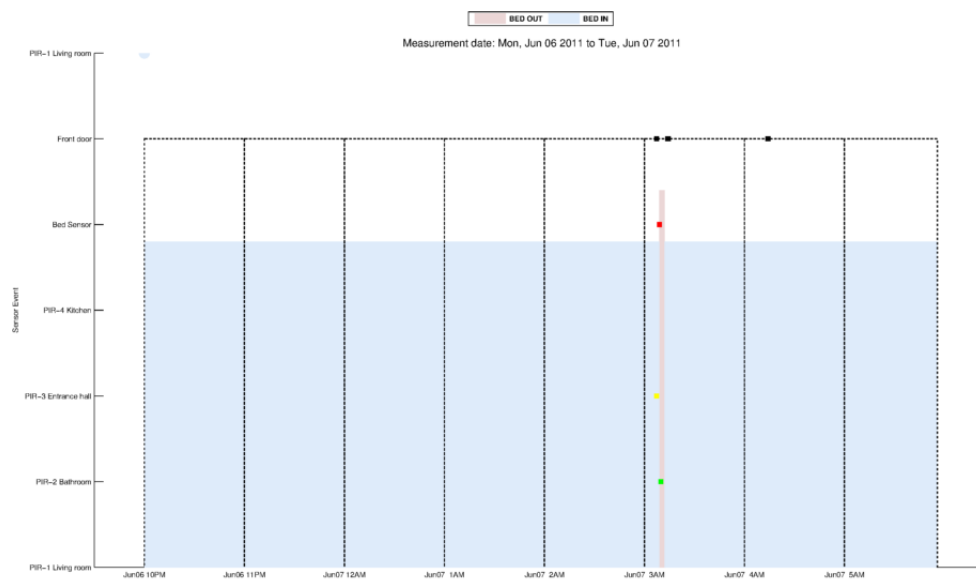


Figure 339: Sensor events and computed bed entrances and exists

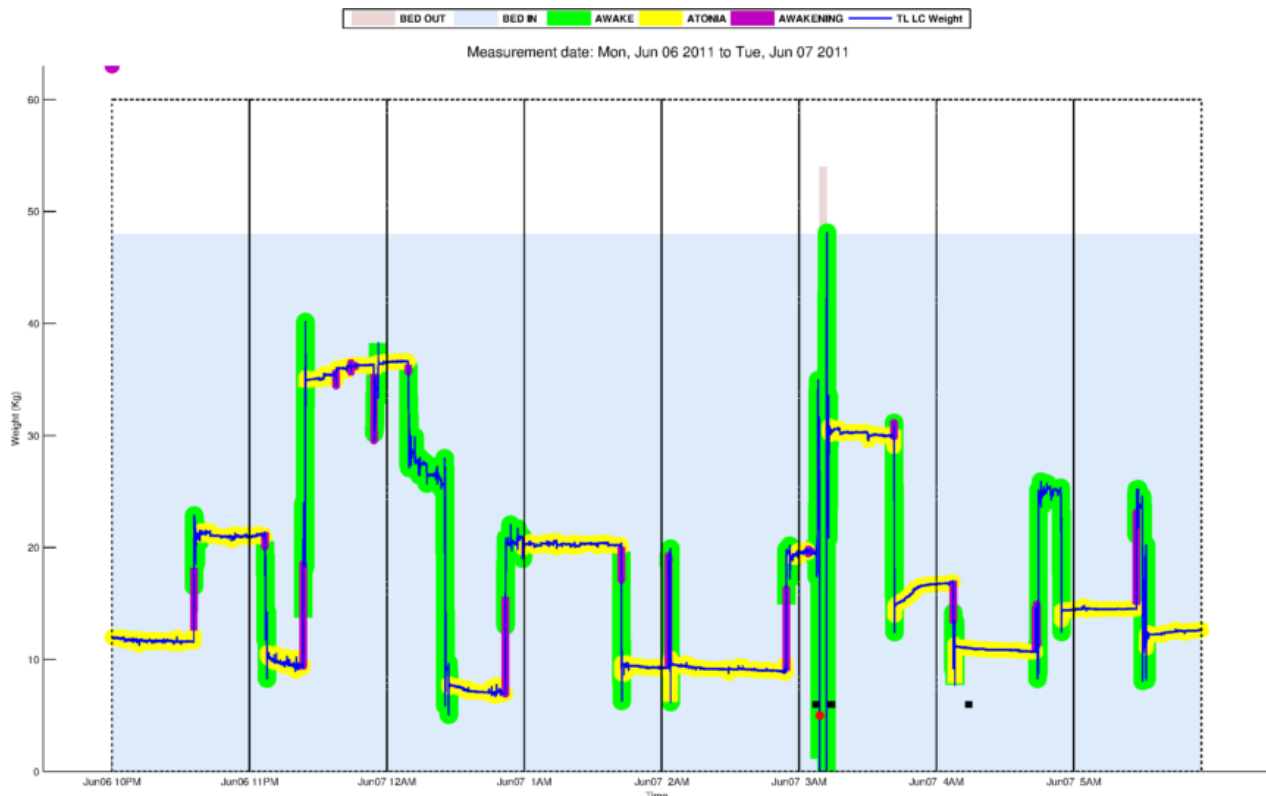


Figure 340: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 340 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 341 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 340).

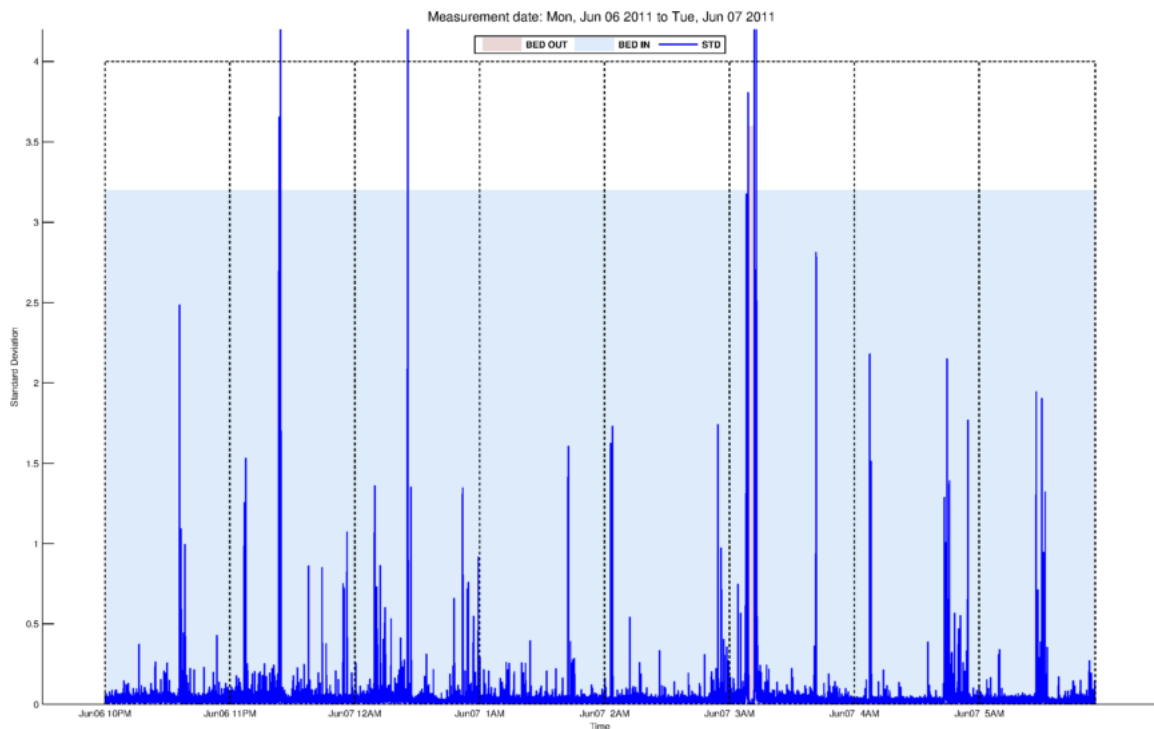


Figure 341: The moving standard deviation for the measured weight.

7.8 7th Night: from Jun 07 2011 to Jun 08 2011

Table 242 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 243 presents the duration of the estimated sleep related activities.

Table 242: Sleep related activities and sensor events measured between Jun 07 and Jun 08

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:17	04:40:44	22:24:54	22:25:23	22:04:17		04:46:18	04:38:50	04:39:00	02:48:43	03:18:22
2	04:45:54		22:49:20	22:49:24	22:25:24			04:46:15		04:40:56	04:38:47
3			23:09:23	23:09:27	22:52:31						04:47:22
4			23:33:48	23:38:38	23:09:37						
5			23:54:39	23:54:42	23:40:30						
6			00:08:03	00:20:07	23:59:31						
7			00:19:50	00:53:11	00:08:03						
8			00:53:06	01:11:29	00:20:13						
9			01:11:22	01:42:54	00:59:00						
10			01:26:54	02:47:38	01:16:24						
11			01:33:39	03:42:03	01:26:57						
12			01:42:48	04:13:18	01:33:40						
13			02:35:11	04:39:07	01:48:11						
14			02:47:34	04:45:54	02:35:12						
15			03:41:46	05:05:53	03:00:22						
16			04:12:50	05:41:10	03:42:05						
17			04:32:51	05:53:56	04:13:20						
18			04:39:03		04:32:51						
19			05:05:41		04:47:35						
20			05:25:14		05:19:42						
21			05:41:07		05:25:14						
22			05:53:53		05:42:19						
23					05:54:03						

Table 243: Duration of the sleep related activities presented in Table 242

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	06:36:28	00:05:09	00:00:29	00:00:01	00:20:36
2	01:14:05		00:00:03	00:03:07	00:23:56
3			00:00:03	00:00:10	00:16:52
4			00:04:50	00:01:52	00:24:10
5			00:00:03	00:04:49	00:14:08
6			00:00:00	00:00:06	00:08:31
7			00:00:16	00:05:49	00:11:47
8			00:00:04	00:04:55	00:32:53
9			00:00:07	00:05:17	00:12:23
10			00:00:03	00:12:44	00:10:29
11			00:00:01	00:00:02	00:06:42
12			00:00:05	00:00:01	00:09:08
13			00:00:00	00:01:37	00:47:00
14			00:00:03	00:01:41	00:12:22
15			00:00:17	00:13:49	00:41:25
16			00:00:28	00:01:09	00:30:44
17			00:00:00	00:00:06	00:19:31
18			00:00:04		00:06:12
19			00:00:12		00:18:06
20			00:00:00		00:05:32
21			00:00:03		00:15:53
22			00:00:03		00:11:33
23					00:05:56

Figure 342 presents the measured sensor events and the computed bed entrances and exits.

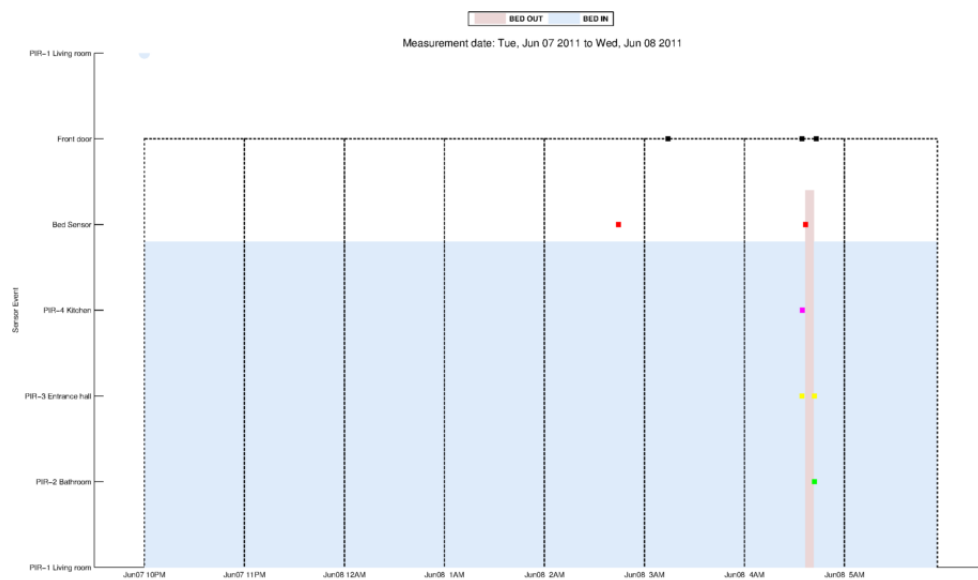


Figure 342: Sensor events and computed bed entrances and exists

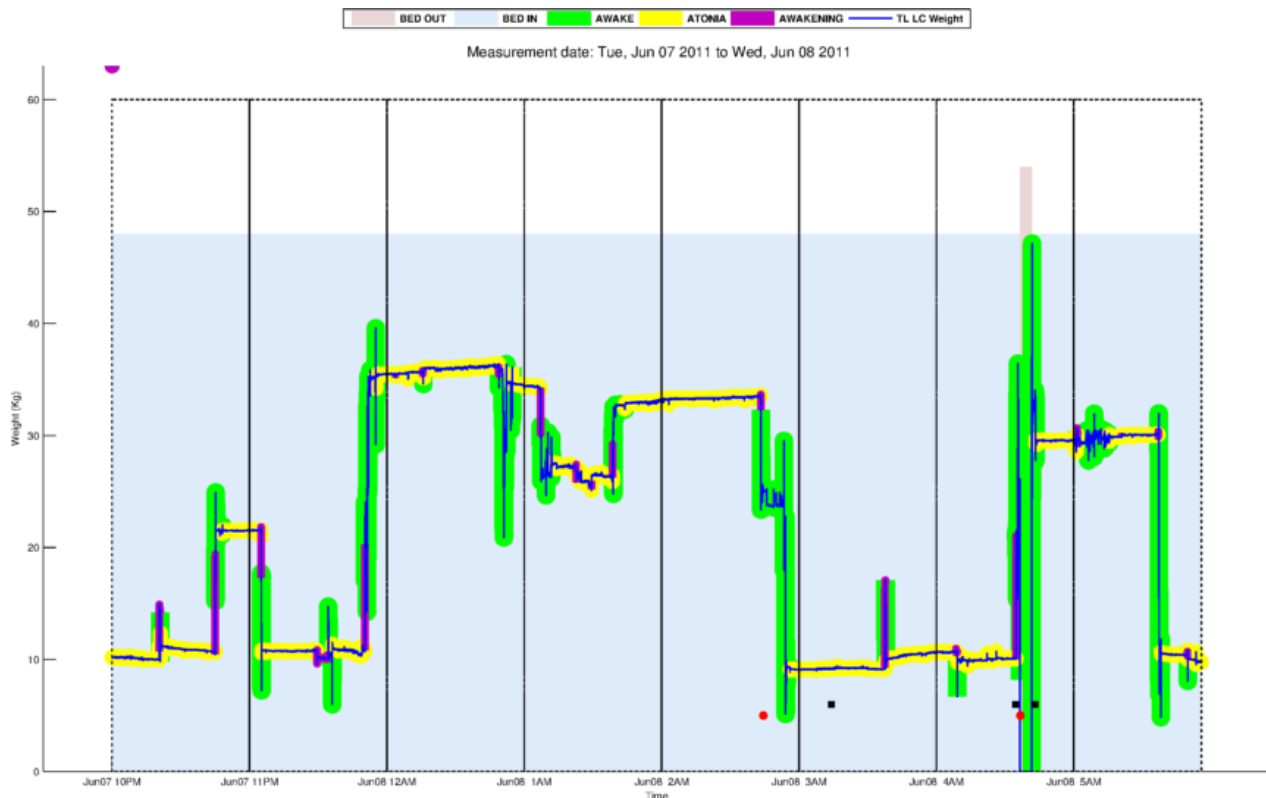


Figure 343: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 343 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 344 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 343).

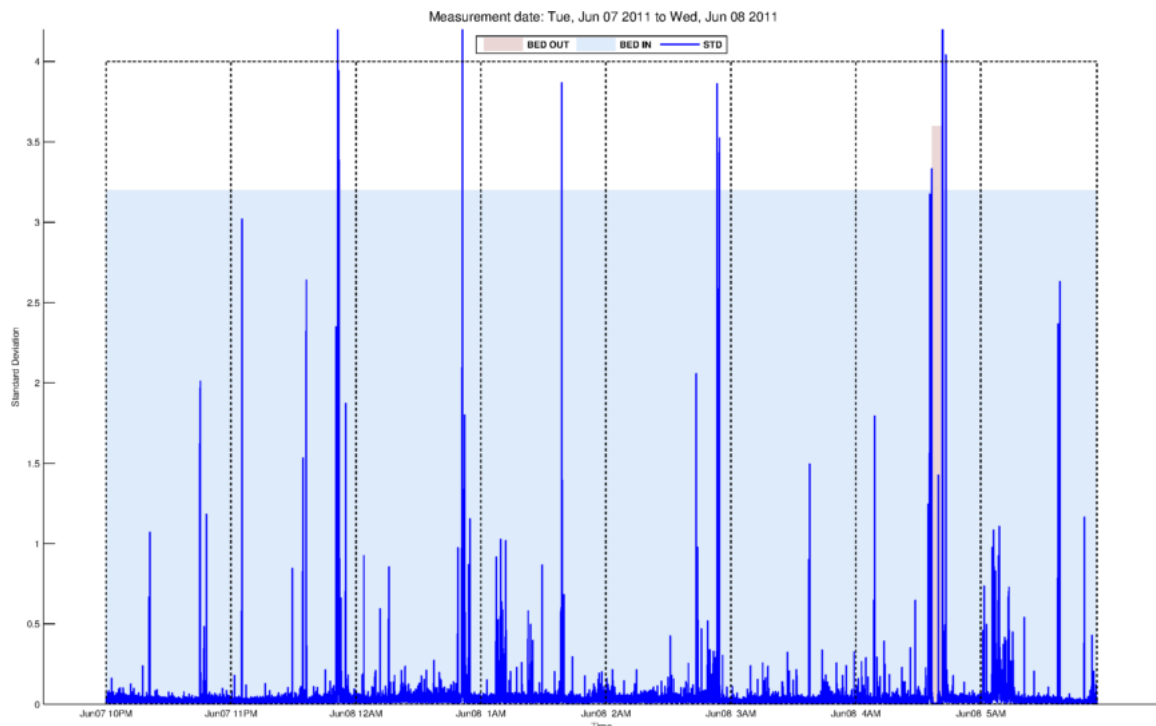


Figure 344: The moving standard deviation for the measured weight.

7.9 8th Night: from Jun 08 2011 to Jun 09 2011

Table 244 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 245 presents the duration of the estimated sleep related activities.

Table 244: Sleep related activities and sensor events measured between Jun 08 and Jun 09

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:17	22:20:50	22:19:36	22:19:39	22:04:17	22:21:17		04:07:02	04:07:25	22:20:59	02:18:19
2	22:22:23	04:08:30	23:17:36	22:22:27	22:24:55					04:08:38	04:07:01
3	04:11:02		23:37:51	23:17:45	23:21:02						04:12:31
4			23:48:34	23:42:29	23:42:30						
5			00:03:16	23:48:53	23:50:54						
6			00:11:40	00:03:19	00:04:10						
7			00:41:39	00:43:21	00:11:41						
8			01:03:33	01:03:36	00:49:50						
9			01:43:58	01:47:56	01:03:43						
10			01:54:12	01:54:16	01:48:03						
11			02:16:39	02:21:00	02:04:10						
12			03:04:16	03:04:29	02:21:01						
13			03:13:31	03:39:49	03:04:32						
14			03:35:32	04:07:36	03:13:32						
15			04:06:40	04:11:05	03:39:50						
16			04:21:05	04:34:31	04:14:24						
17			04:34:28	04:51:57	04:21:05						
18			04:51:53	05:13:56	04:34:38						
19			05:13:52	05:25:07	04:51:58						
20			05:21:44	05:39:33	05:15:03						
21			05:39:10	05:49:42	05:26:19						
22			05:48:36		05:41:04						

Table 245: Duration of the sleep related activities presented in Table 244

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:16:33	00:01:33	00:00:03	00:01:11	00:15:18
2	05:46:06	00:02:31	00:00:09	00:02:28	00:52:40
3	01:48:57		00:04:38	00:03:16	00:16:49
4			00:00:19	00:00:00	00:06:04
5			00:00:03	00:02:00	00:12:22
6			00:00:00	00:00:50	00:07:30
7			00:01:41	00:06:29	00:29:58
8			00:00:03	00:00:07	00:13:43
9			00:03:58	00:00:07	00:40:14
10			00:00:03	00:09:54	00:06:09
11			00:04:21	00:00:00	00:12:29
12			00:00:12	00:00:03	00:43:15
13			00:00:00	00:00:00	00:08:59
14			00:04:17	00:00:54	00:22:00
15			00:00:56	00:03:19	00:26:50
16			00:00:00	00:00:06	00:06:40
17			00:00:03	00:00:01	00:13:22
18			00:00:03	00:01:07	00:17:15
19			00:00:03	00:01:12	00:21:54
20			00:03:23	00:01:31	00:06:41
21			00:00:23	00:10:17	00:12:51
22			00:01:05		00:07:32

Figure 345 presents the measured sensor events and the computed bed entrances and exits.

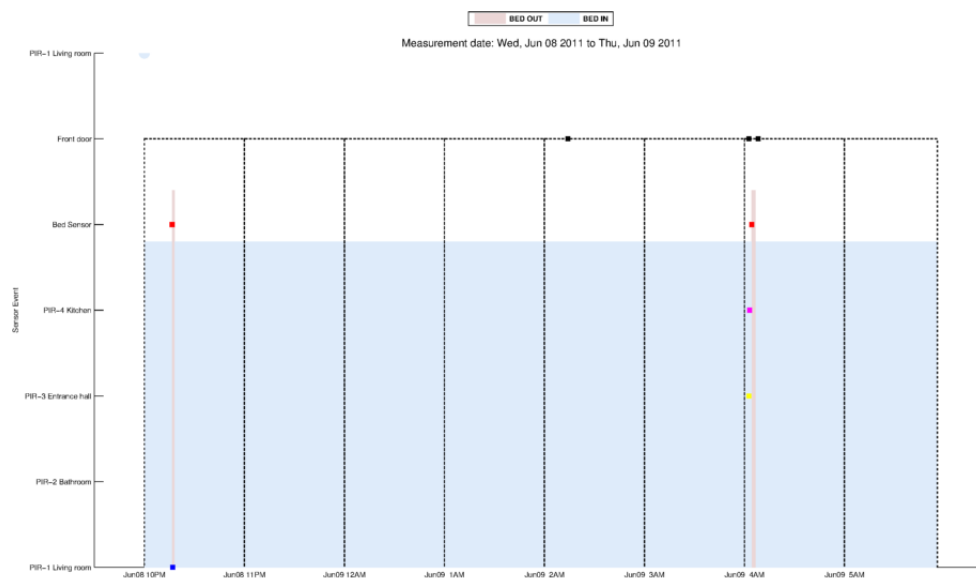


Figure 345: Sensor events and computed bed entrances and exists

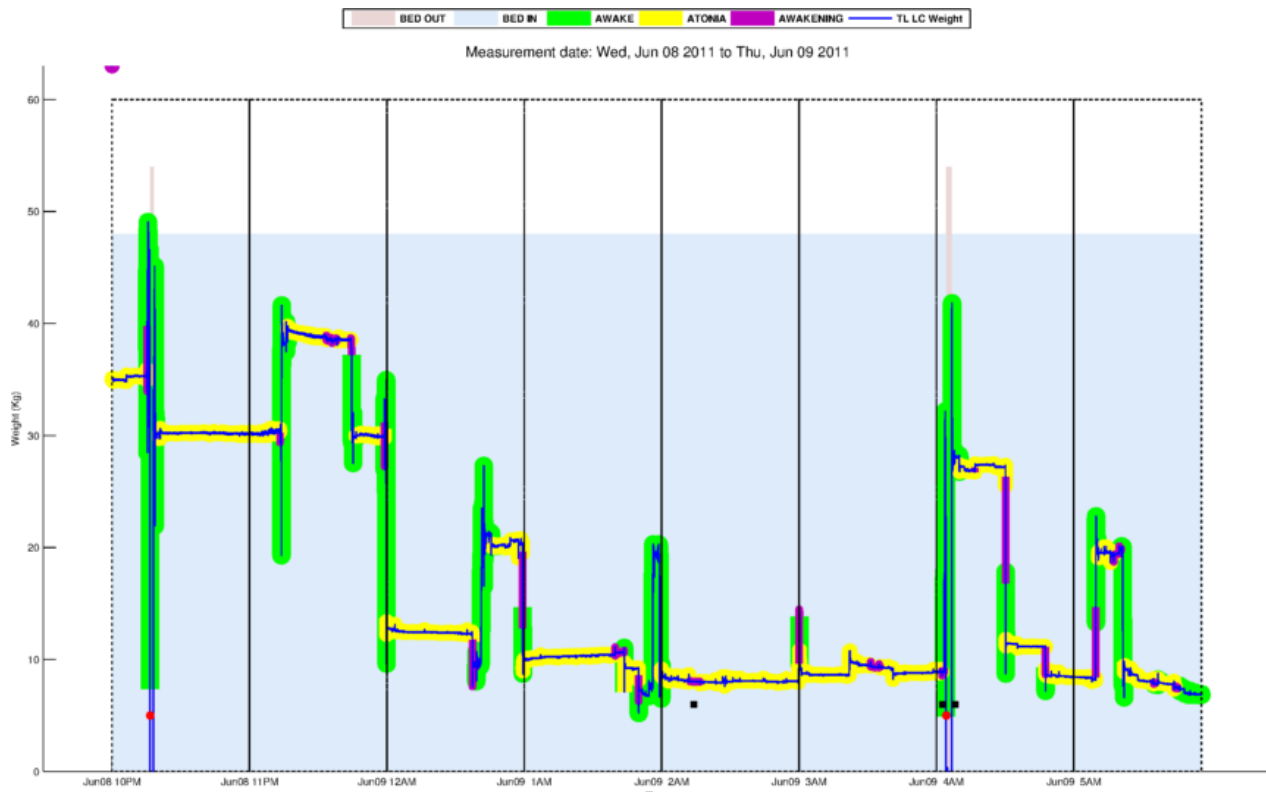


Figure 346: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 346 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 347 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 346).

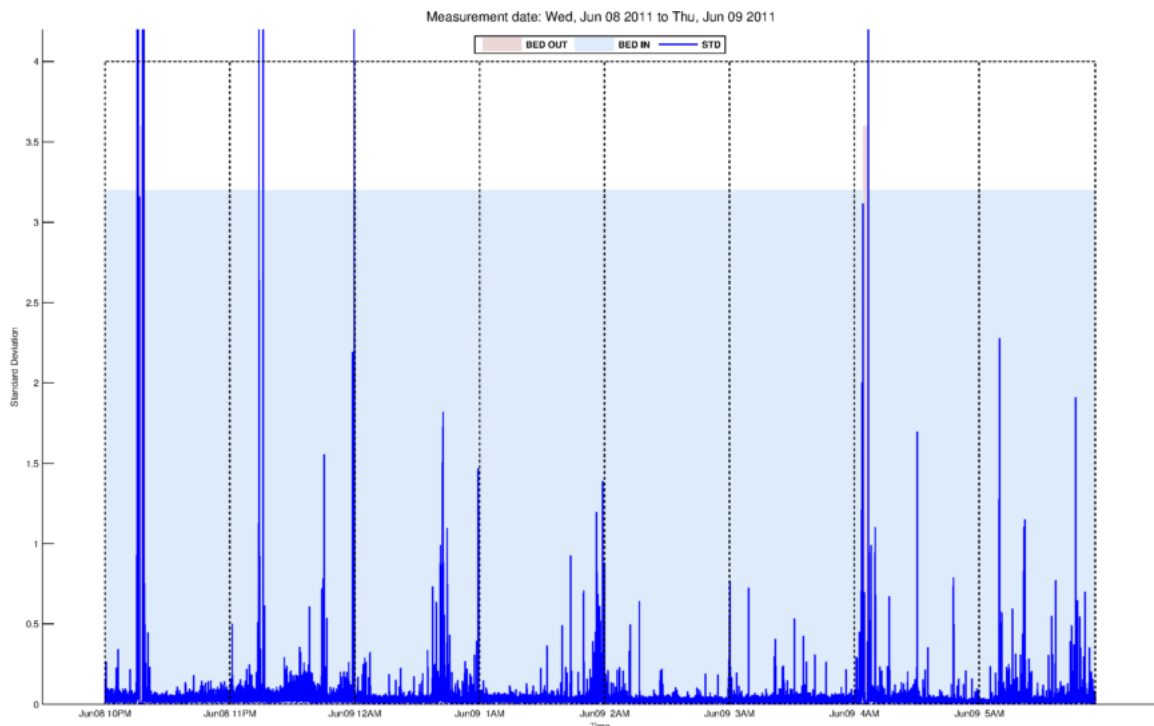


Figure 347: The moving standard deviation for the measured weight.

7.10 9th Night: from Jun 09 2011 to Jun 10 2011

Table 246 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 247 presents the duration of the estimated sleep related activities.

Table 246: Sleep related activities and sensor events measured between Jun 09 and Jun 10

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:18	02:09:56	22:12:53	22:12:56	22:04:18	02:11:56	02:12:59		02:09:07	02:10:05	01:18:16
2	02:12:36		22:46:25	22:46:29	22:19:25						02:08:42
3			23:10:07	22:56:33	22:49:06						02:08:50
4			23:48:22	23:13:07	22:58:12						02:13:54
5			00:01:40	23:48:26	23:24:28						
6			00:17:50	00:17:53	23:51:52						
7			00:29:17	00:52:52	00:01:41						
8			00:52:49	01:35:19	00:21:15						
9			01:10:22	02:03:04	00:29:18						
10			01:34:18	02:12:36	00:54:49						
11			02:03:00	02:42:44	01:10:23						
12			02:42:41	03:06:08	01:44:16						
13			02:59:23	04:40:25	02:13:51						
14			03:06:05	04:53:56	02:43:23						
15			03:49:28	05:14:27	02:59:23						
16			03:57:45		03:07:32						
17			04:03:14		03:49:29						
18			04:40:21		03:57:48						
19			04:53:41		04:03:17						
20			05:10:23		04:46:32						
21					04:55:56						
22					05:38:33						

Table 247: Duration of the sleep related activities presented in Table 246

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	04:05:40	00:02:40	00:00:03	00:06:29	00:08:35
2	03:47:25		00:00:03	00:02:37	00:27:00
3			00:02:59	00:01:39	00:07:27
4			00:00:03	00:11:22	00:11:55
5			00:00:00	00:03:26	00:23:54
6			00:00:03	00:03:21	00:09:48
7			00:00:01	00:01:56	00:16:09
8			00:00:03	00:08:57	00:08:03
9			00:00:00	00:06:52	00:23:30
10			00:01:00	00:01:15	00:15:34
11			00:00:03	00:00:39	00:23:55
12			00:00:03	00:01:24	00:18:44
13			00:00:00	00:06:07	00:28:50
14			00:00:03	00:02:00	00:15:59
15			00:00:00	00:24:07	00:06:41
16			00:00:03		00:41:56
17			00:00:03		00:08:16
18			00:00:03		00:05:26
19			00:00:15		00:37:04
20			00:04:03		00:07:09
21					00:14:27
22					00:21:25

Figure 348 presents the measured sensor events and the computed bed entrances and exits.

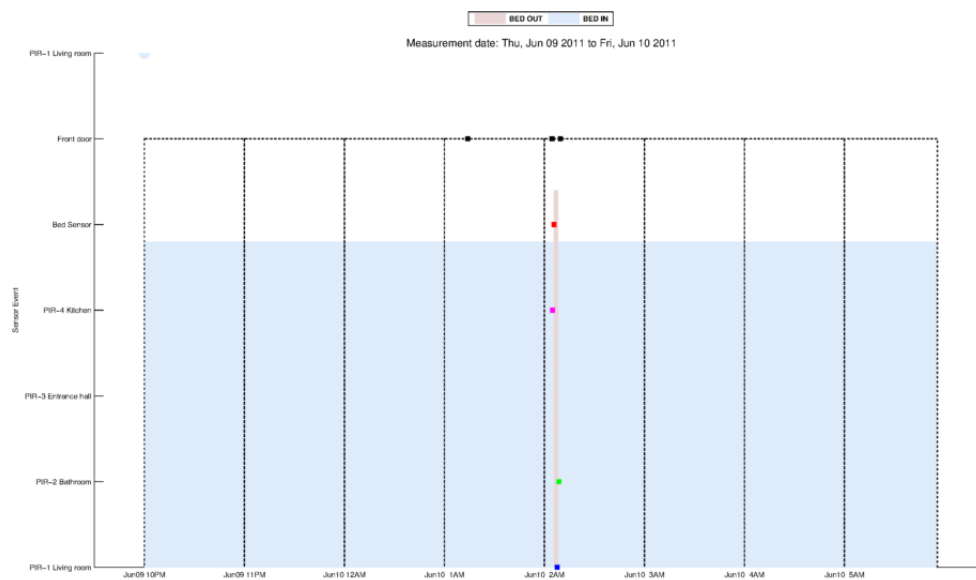


Figure 348: Sensor events and computed bed entrances and exists

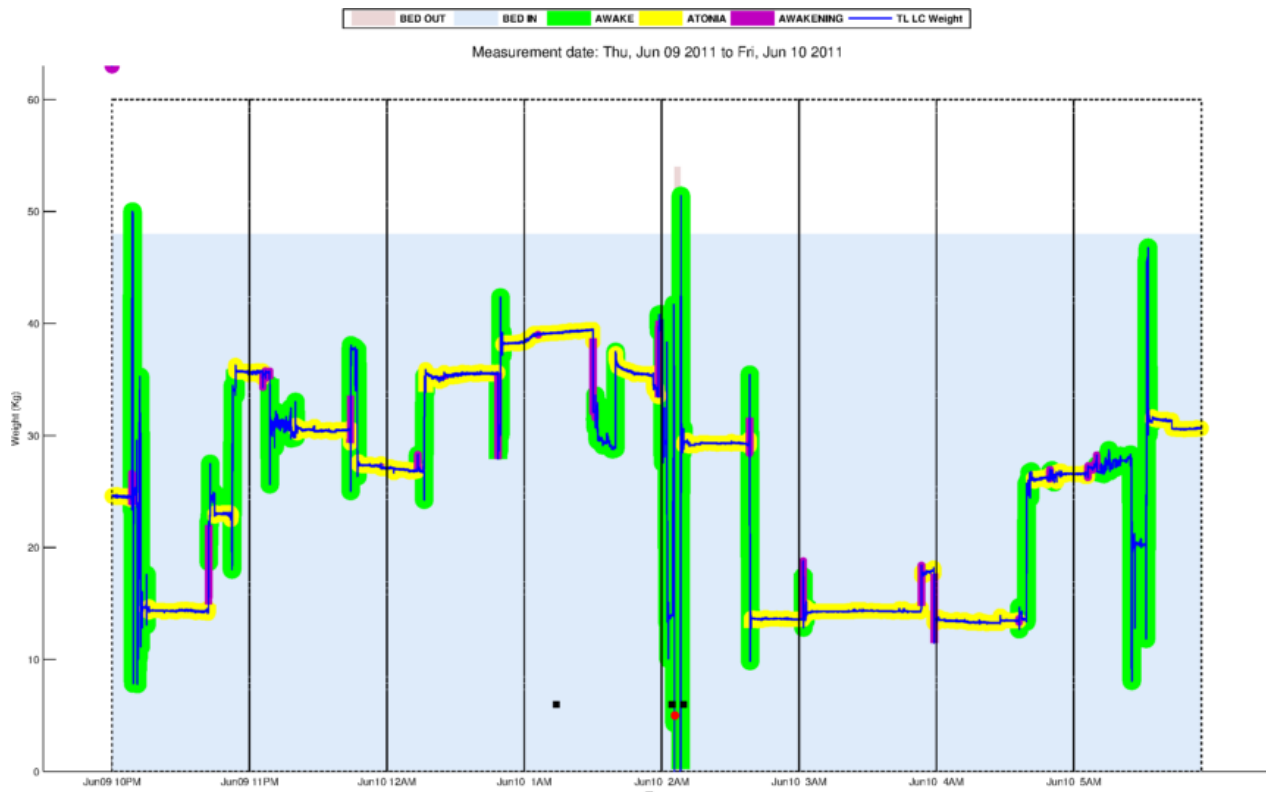


Figure 349: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 349 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 350 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 349).

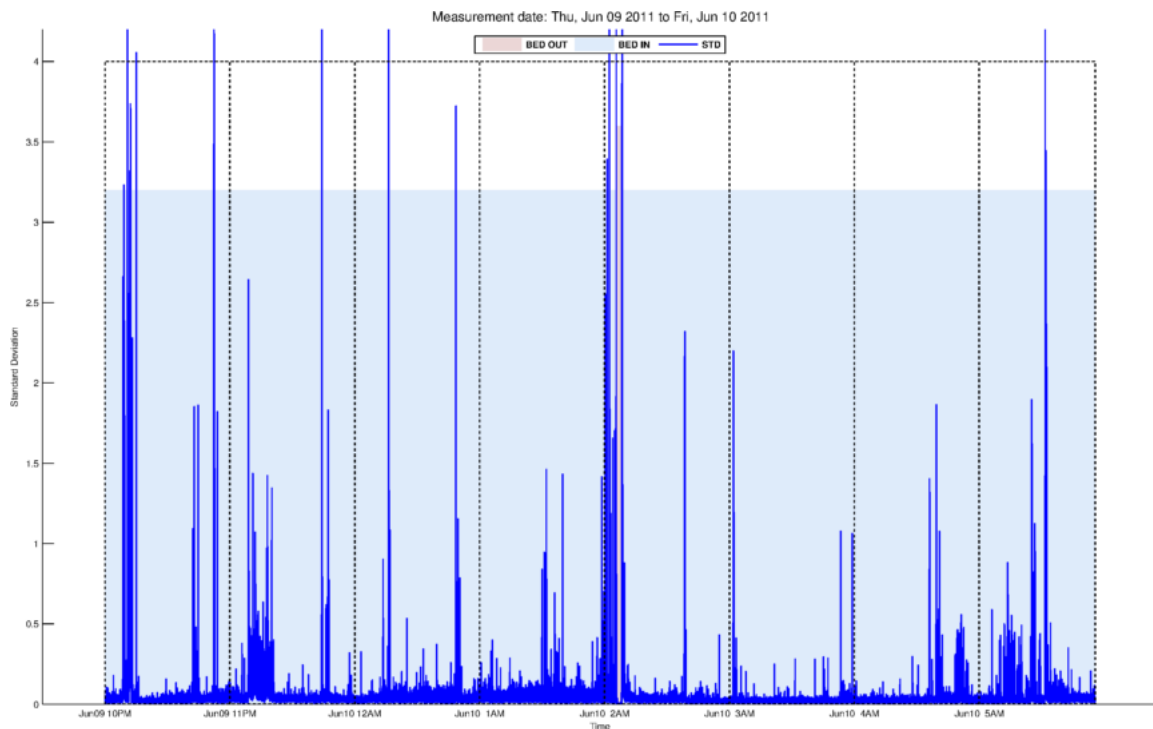


Figure 350: The moving standard deviation for the measured weight.

7.11 10th Night: from Jun 10 2011 to Jun 11 2011

Table 248 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 249 presents the duration of the estimated sleep related activities.

Table 248: Sleep related activities and sensor events measured between Jun 10 and Jun 11

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:18	04:15:29	22:09:01	22:09:06	22:04:18		22:03:44	22:03:12	22:03:11	22:00:00	04:14:21
2	04:16:10	04:16:11	22:49:22	22:53:13	22:09:16		22:08:21	22:25:34	22:08:35	04:15:55	04:20:55
3	04:19:12	04:19:12	23:26:58	23:27:02	22:53:20		04:14:26	04:14:21	22:16:05		
4	04:19:25	04:19:27	00:16:43	00:17:34	23:32:20		04:19:40	04:19:38	22:26:42		
5	04:19:30		00:40:04	00:59:50	00:23:37		05:27:48	05:27:44	04:14:32		
6			00:59:47	01:32:54	00:40:05						
7			01:32:50	01:46:56	01:03:36						
8			01:46:46	03:01:24	01:33:43						
9			03:01:21	03:28:38	01:49:26						
10			03:20:26	03:53:23	03:07:47						
11			03:28:34	04:09:32	03:20:27						
12			03:44:03	04:19:38	03:29:48						
13			03:53:20	04:42:46	03:44:03						
14			04:09:28	05:31:24	04:00:29						
15			04:42:42		04:20:15						
16			05:31:16		04:43:47						
17			05:49:31		05:33:33						
18			05:56:27		05:49:31						

Table 249: Duration of the sleep related activities presented in Table 248

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	06:11:19	00:00:41	00:00:05	00:00:09	00:04:43
2	00:00:01	00:03:01	00:03:51	00:00:07	00:40:07
3	00:00:00	00:00:13	00:00:04	00:05:17	00:33:38
4	00:00:02	00:00:02	00:00:51	00:06:02	00:44:24
5	01:40:32		00:00:01	00:03:46	00:16:27
6			00:00:03	00:00:49	00:19:42
7			00:00:03	00:02:30	00:29:14
8			00:00:09	00:06:22	00:13:04
9			00:00:03	00:01:10	01:11:56
10			00:00:01	00:07:06	00:12:39
11			00:00:04	00:05:57	00:08:07
12			00:00:00	00:00:37	00:14:15
13			00:00:03	00:01:01	00:09:17
14			00:00:03	00:02:09	00:08:59
15			00:00:03		00:22:27
16			00:00:08		00:47:30
17			00:00:00		00:15:58
18			00:03:32		00:06:55

Figure 351 presents the measured sensor events and the computed bed entrances and exits.

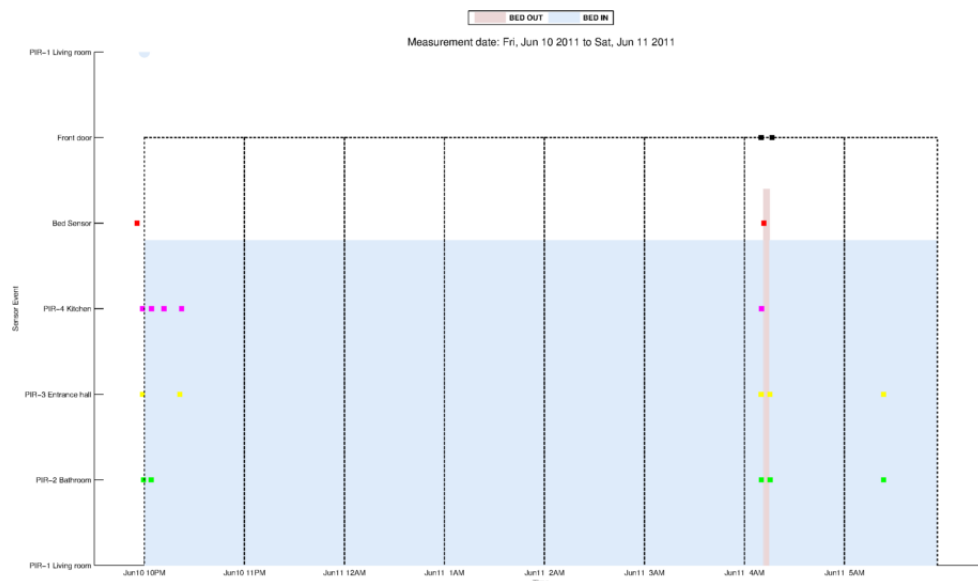


Figure 351: Sensor events and computed bed entrances and exists

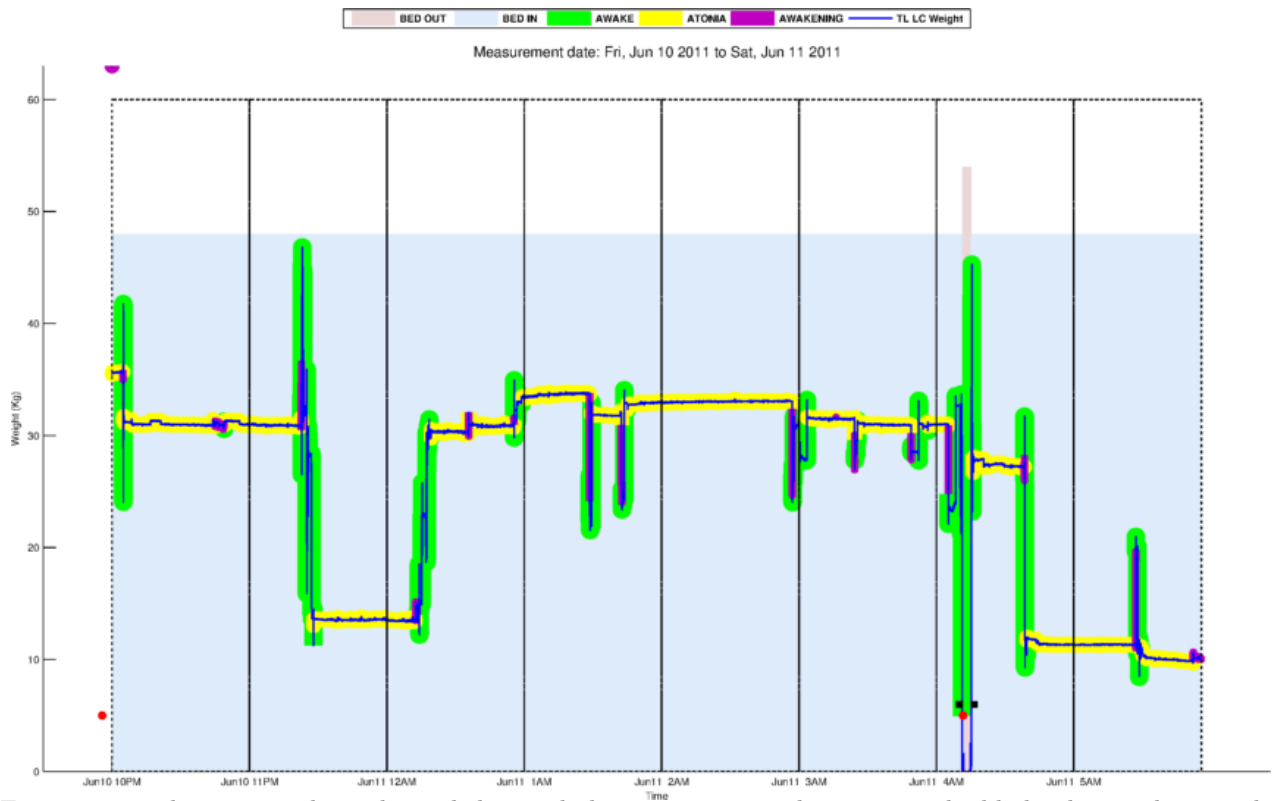


Figure 352: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 352 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 353 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 352).

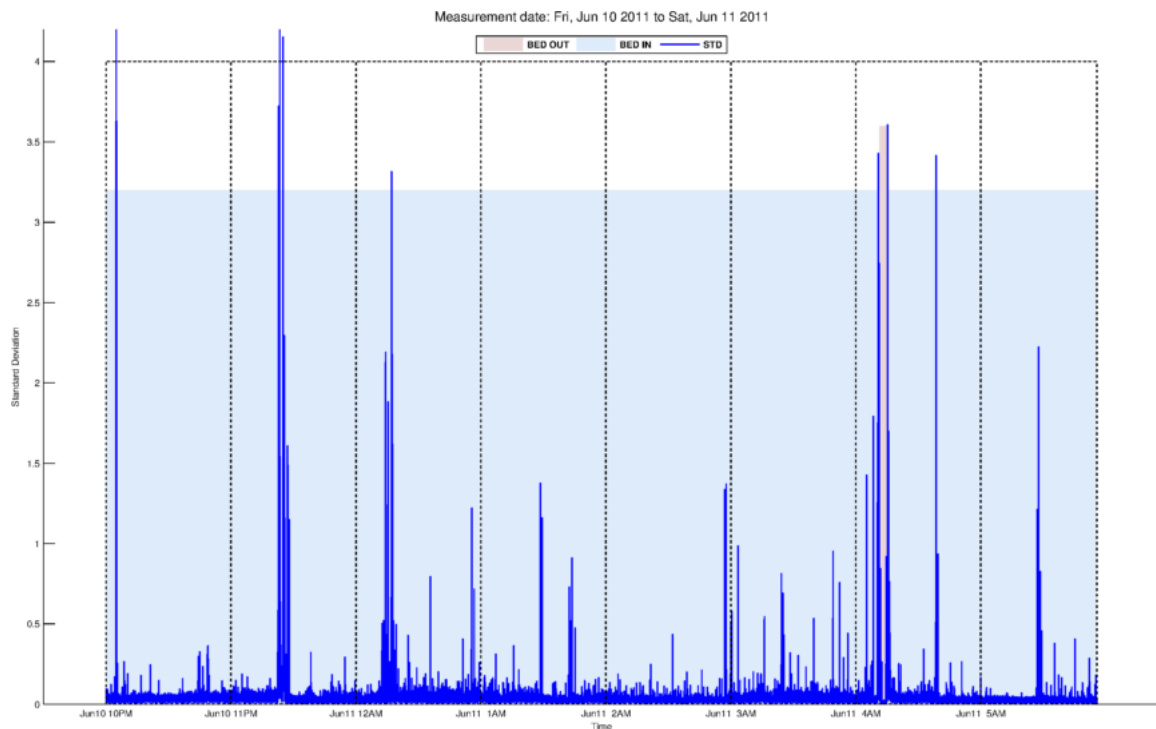


Figure 353: The moving standard deviation for the measured weight.

7.12 11th Night: from Jun 11 2011 to Jun 12 2011

Table 250 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 251 presents the duration of the estimated sleep related activities.

Table 250: Sleep related activities and sensor events measured between Jun 11 and Jun 12

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:17	03:48:21	22:09:24	22:09:28	22:04:17		03:46:57	03:46:49	03:47:22	03:48:36	23:18:11
2	03:51:20	03:51:35	22:47:45	22:54:09	22:14:33		03:52:04	03:52:03			03:46:48
3	03:51:40	03:51:47	22:54:03	23:06:50	22:47:46						03:53:16
4	03:51:48		23:06:45	23:27:24	23:00:32						
5			23:27:20	23:44:29	23:10:13						
6			23:38:04	01:07:13	23:27:34						
7			23:43:55	01:29:43	23:38:05						
8			00:38:55	02:08:14	23:48:15						
9			01:07:10	02:15:22	00:38:55						
10			01:22:07	02:52:31	01:09:44						
11			01:29:40	03:07:54	01:22:09						
12			01:38:08	03:47:11	01:31:24						
13			01:47:29	03:51:28	01:38:11						
14			01:56:40	03:51:48	01:47:30						
15			02:02:40	04:16:44	01:56:41						
16			02:08:10	04:53:57	02:02:42						
17			02:15:18	05:24:53	02:09:22						
18			02:38:44	05:34:47	02:19:55						
19			03:07:51	05:48:01	02:38:46						
20			03:25:09	05:54:52	02:53:12						
21			03:47:06		03:08:02						
22			04:16:40		03:25:10						
23			04:53:53		04:00:34						
24			05:24:47		04:16:50						
25			05:34:13		04:54:08						
26			05:46:02		05:29:13						
27			05:54:48		05:35:55						
28					05:48:02						

Table 251: Duration of the sleep related activities presented in Table 250

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	05:44:11	00:02:59	00:00:03	00:05:05	00:05:07
2	00:00:15	00:00:05	00:00:00	00:06:23	00:33:13
3	00:00:06	00:00:01	00:00:06	00:03:23	00:06:17
4	02:08:14		00:00:04	00:00:10	00:06:14
5			00:00:03	00:03:46	00:17:08
6			00:00:00	00:02:31	00:10:30
7			00:00:34	00:01:41	00:05:50
8			00:00:00	00:01:08	00:50:40
9			00:00:03	00:04:34	00:28:15
10			00:00:02	00:00:41	00:12:23
11			00:00:03	00:00:07	00:07:31
12			00:00:03	00:01:10	00:06:43
13			00:00:01	00:00:07	00:09:18
14			00:00:01	00:08:45	00:09:10
15			00:00:02	00:00:06	00:05:59
16			00:00:03	00:00:11	00:05:28
17			00:00:03	00:04:20	00:05:56
18			00:00:02	00:01:07	00:18:49
19			00:00:03	00:00:01	00:13:46
20			00:00:01	00:05:07	00:14:38
21			00:00:05		00:17:08
22			00:00:03		00:21:56
23			00:00:03		00:16:07
24			00:00:06		00:37:04
25			00:00:34		00:30:40
26			00:01:59		00:05:00
27			00:00:03		00:10:07
28					00:06:46

Figure 354 presents the measured sensor events and the computed bed entrances and exits.

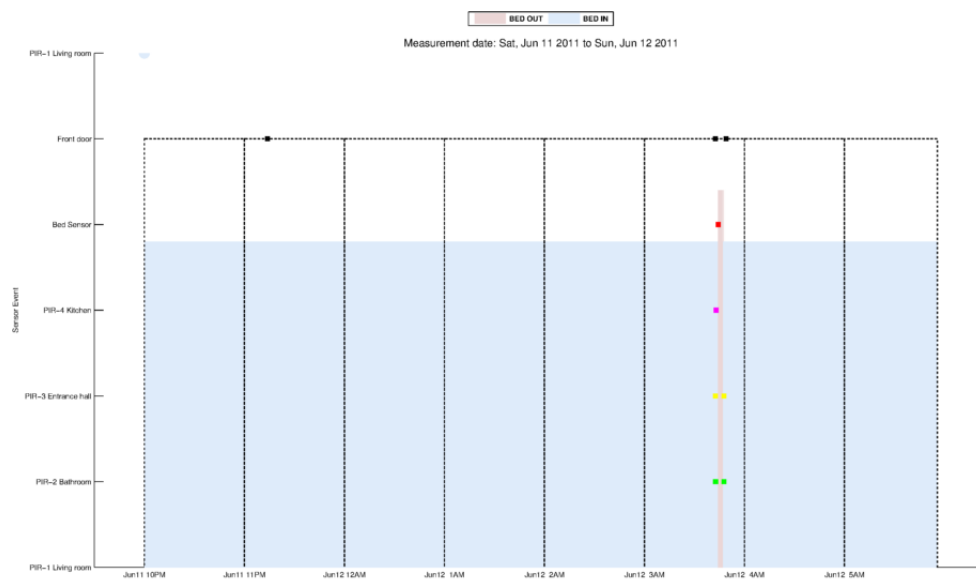


Figure 354: Sensor events and computed bed entrances and exists

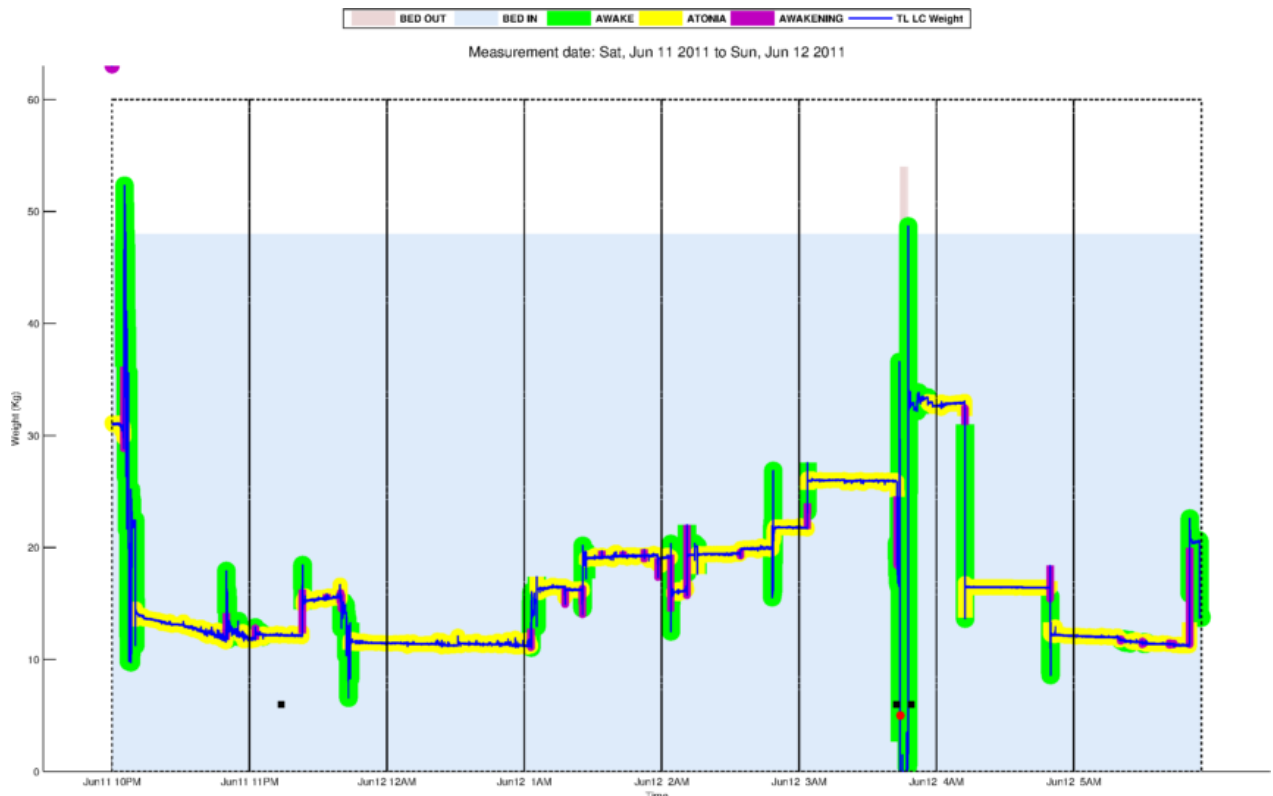


Figure 355: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 355 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 356 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 355).

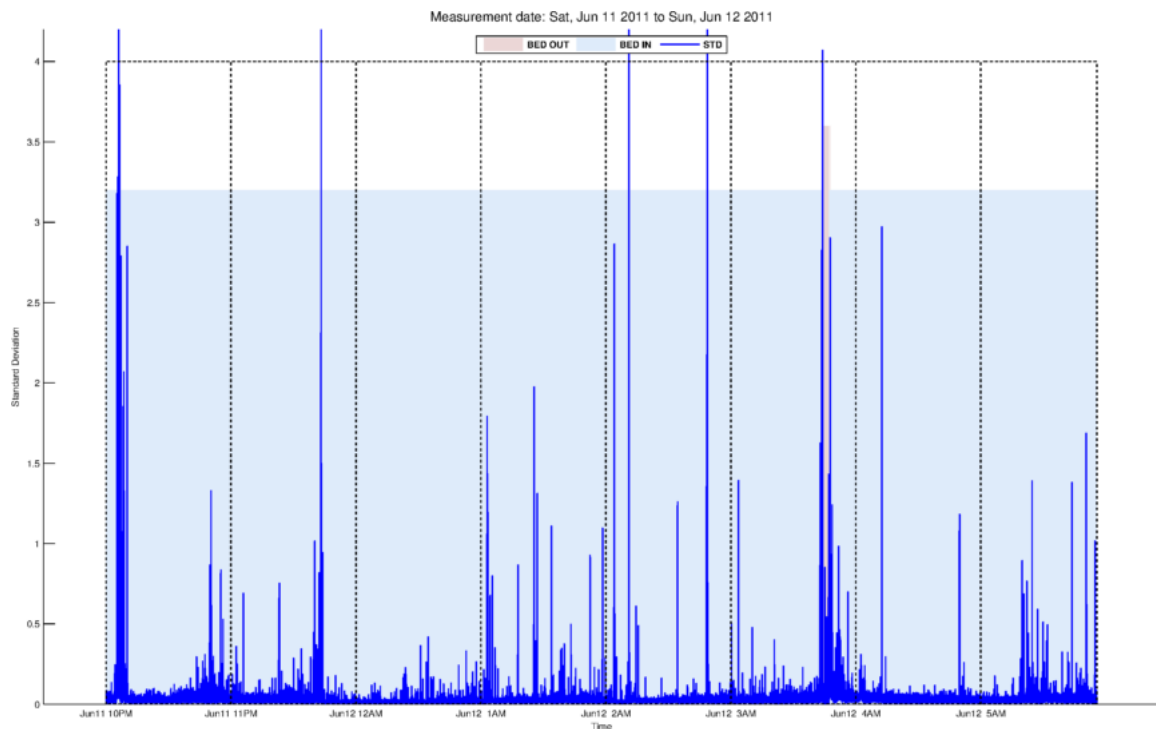


Figure 356: The moving standard deviation for the measured weight.

7.13 12th Night: from Jun 12 2011 to Jun 13 2011

Table 252 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 253 presents the duration of the estimated sleep related activities.

Table 252: Sleep related activities and sensor events measured between Jun 12 and Jun 13

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:17	03:44:07	22:09:15	22:09:19	22:04:17		03:44:49	03:42:46	03:43:02	03:44:18	22:18:09
2	03:46:22	03:46:25	22:20:21	22:47:25	22:12:06		03:48:10	03:48:08			03:42:44
3	03:47:00	03:47:01	22:46:13	22:57:57	22:20:21						03:49:30
4	03:47:52		22:56:59	23:11:27	22:50:13						
5			23:11:24	23:33:52	23:03:03						
6			23:32:18	00:14:48	23:11:30						
7			00:00:23	00:56:19	23:46:15						
8			00:14:45	01:29:20	00:00:24						
9			00:33:25	02:00:57	00:21:41						
10			00:39:17	02:35:30	00:33:25						
11			00:53:06	02:44:33	00:39:18						
12			01:22:15	02:58:18	01:01:31						
13			01:29:16	03:43:14	01:22:16						
14			01:55:39	03:47:52	01:36:45						
15			02:00:53	04:11:20	01:55:39						
16			02:35:26	05:09:29	02:05:03						
17			02:44:29	05:38:23	02:36:45						
18			02:58:14		02:44:37						
19			03:23:18		02:59:22						
20			03:43:10		03:23:19						
21			04:11:16		03:48:51						
22			05:04:49		04:14:17						
23			05:38:17		05:22:39						
24			05:57:28		05:44:36						

Table 253: Duration of the sleep related activities presented in Table 252

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	05:39:58	00:02:14	00:00:03	00:02:47	00:04:58
2	00:00:03	00:00:34	00:00:00	00:02:48	00:08:14
3	00:00:01	00:00:51	00:01:11	00:05:07	00:25:53
4	02:12:10		00:00:57	00:00:02	00:06:46
5			00:00:03	00:12:23	00:08:20
6			00:01:34	00:06:52	00:20:49
7			00:00:00	00:05:12	00:14:09
8			00:00:03	00:07:25	00:14:21
9			00:00:00	00:04:06	00:11:44
10			00:00:00	00:01:15	00:05:52
11			00:03:13	00:00:04	00:13:48
12			00:00:01	00:01:04	00:20:45
13			00:00:03	00:00:53	00:07:00
14			00:00:00	00:00:59	00:18:54
15			00:00:03	00:02:57	00:05:14
16			00:00:03	00:13:10	00:30:24
17			00:00:03	00:06:14	00:07:44
18			00:00:03		00:13:38
19			00:00:01		00:23:56
20			00:00:03		00:19:52
21			00:00:03		00:22:26
22			00:04:40		00:50:33
23			00:00:05		00:15:39
24			00:02:30		00:12:52

Figure 357 presents the measured sensor events and the computed bed entrances and exits.

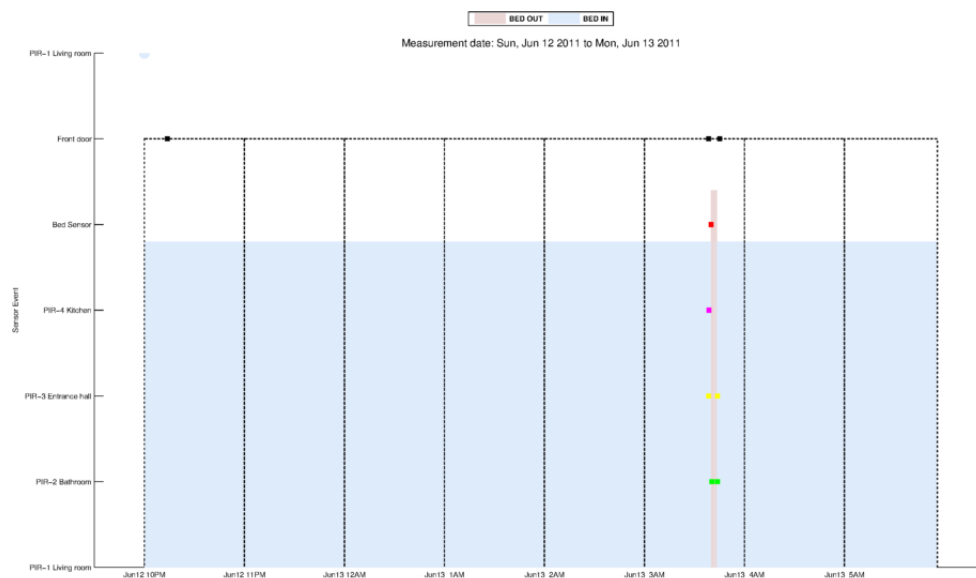


Figure 357: Sensor events and computed bed entrances and exists

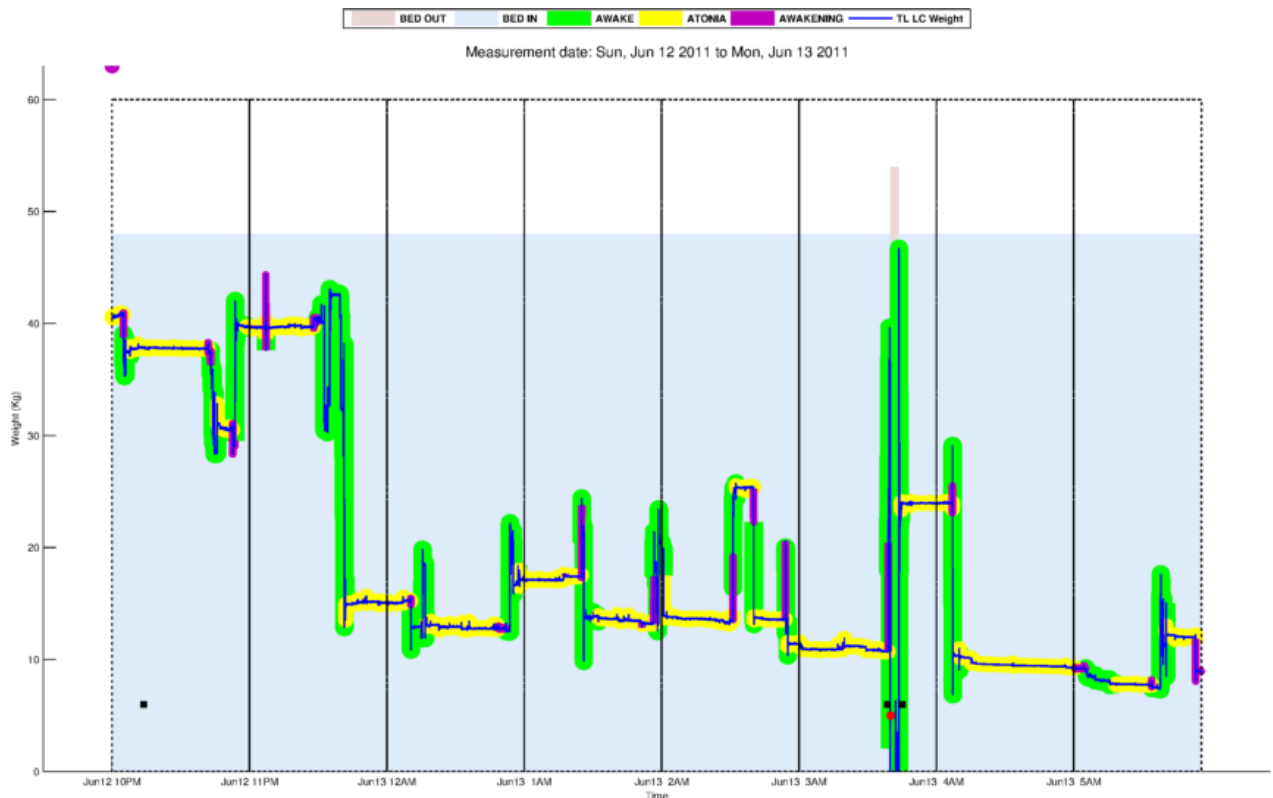


Figure 358: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 358 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 359 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 358).

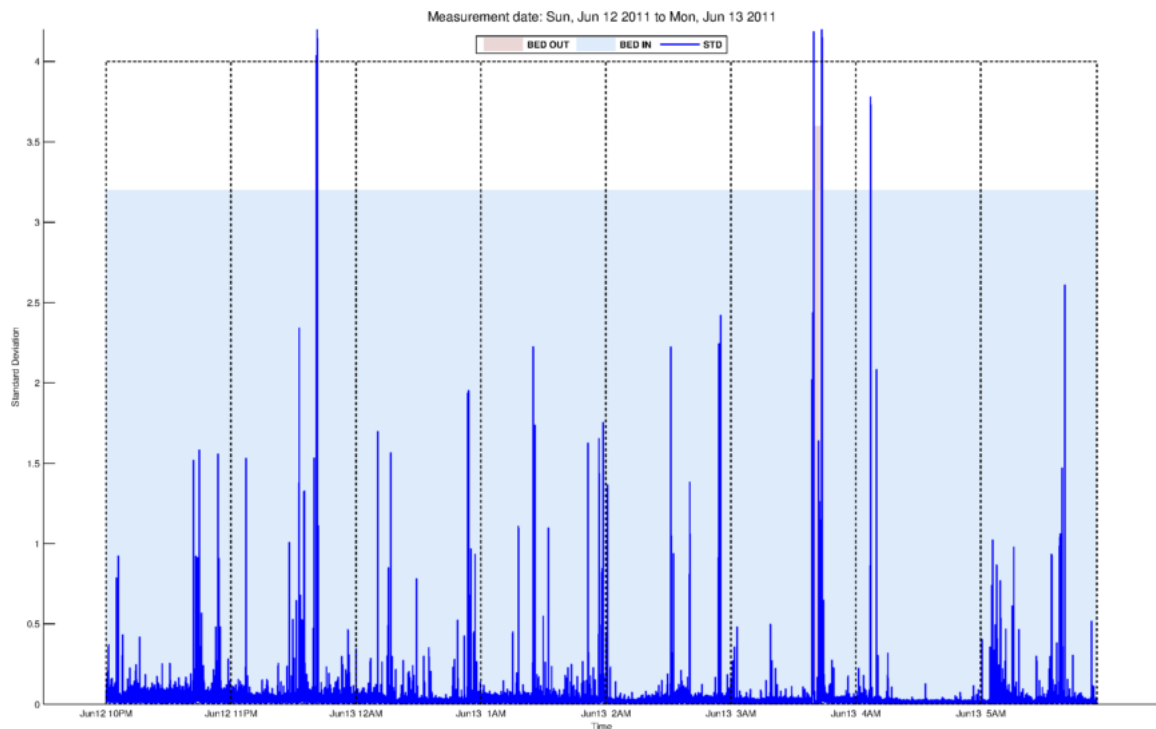


Figure 359: The moving standard deviation for the measured weight.

7.14 13th Night: from Jun 13 2011 to Jun 14 2011

Table 254 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 255 presents the duration of the estimated sleep related activities.

Table 254: Sleep related activities and sensor events measured between Jun 13 and Jun 14

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:17	01:31:17	22:13:29	22:13:33	22:04:17			01:29:22	01:29:36	01:31:26	01:35:32
2	01:34:47		22:23:35	22:23:41	22:16:03						
3			22:52:22	22:52:25	22:23:53						
4			23:42:00	23:42:21	22:58:12						
5			23:57:57	23:58:00	23:49:51						
6			00:09:43	00:10:25	00:01:52						
7			00:46:26	00:46:29	00:10:25						
8			00:54:20	01:02:12	00:47:53						
9			01:02:09	01:29:36	00:54:21						
10			01:28:05	01:34:47	01:07:11						
11			01:53:33	01:53:38	01:35:11						
12			02:08:12	02:09:31	01:54:16						
13			02:16:34	02:16:38	02:09:32						
14			02:32:43	02:32:46	02:16:43						
15			02:57:18	02:57:23	02:32:59						
16			03:21:22	03:21:25	02:57:40						
17			04:01:36	04:02:52	03:22:15						
18			04:27:37	04:18:30	04:02:52						
19			04:40:54	04:27:42	04:20:41						
20			04:57:47	04:58:16	04:27:48						
21			05:15:41	05:18:29	04:43:16						
22			05:35:02	05:54:19	05:08:46						
23			05:43:01		05:22:30						
24			05:49:24		05:35:04						
25					05:43:04						

Table 255: Duration of the sleep related activities presented in Table 254

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	03:27:04	00:03:30	00:00:04	00:02:30	00:09:12
2	04:25:18		00:00:06	00:00:12	00:07:32
3			00:00:03	00:05:46	00:28:29
4			00:00:21	00:07:31	00:43:49
5			00:00:03	00:03:51	00:08:05
6			00:00:41	00:00:00	00:07:51
7			00:00:03	00:01:23	00:36:01
8			00:00:01	00:04:59	00:06:27
9			00:00:03	00:01:40	00:07:48
10			00:01:31	00:00:24	00:20:54
11			00:00:05	00:00:38	00:18:22
12			00:01:19	00:00:01	00:13:56
13			00:00:03	00:00:05	00:07:02
14			00:00:03	00:00:12	00:16:00
15			00:00:05	00:00:17	00:24:20
16			00:00:03	00:00:49	00:23:42
17			00:01:15	00:00:00	00:39:22
18			00:00:05	00:02:11	00:15:38
19			00:02:22	00:00:06	00:06:56
20			00:00:29	00:10:30	00:13:06
21			00:02:48	00:04:02	00:14:31
22			00:00:02	00:05:40	00:06:55
23			00:00:02		00:12:31
24			00:04:55		00:07:58
25					00:06:20

Figure 360 presents the measured sensor events and the computed bed entrances and exits.

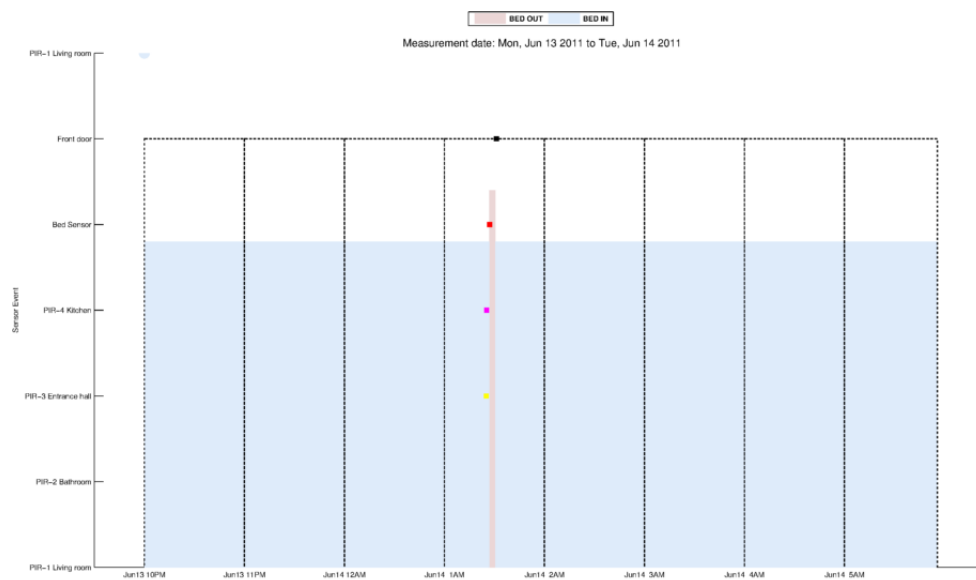


Figure 360: Sensor events and computed bed entrances and exists

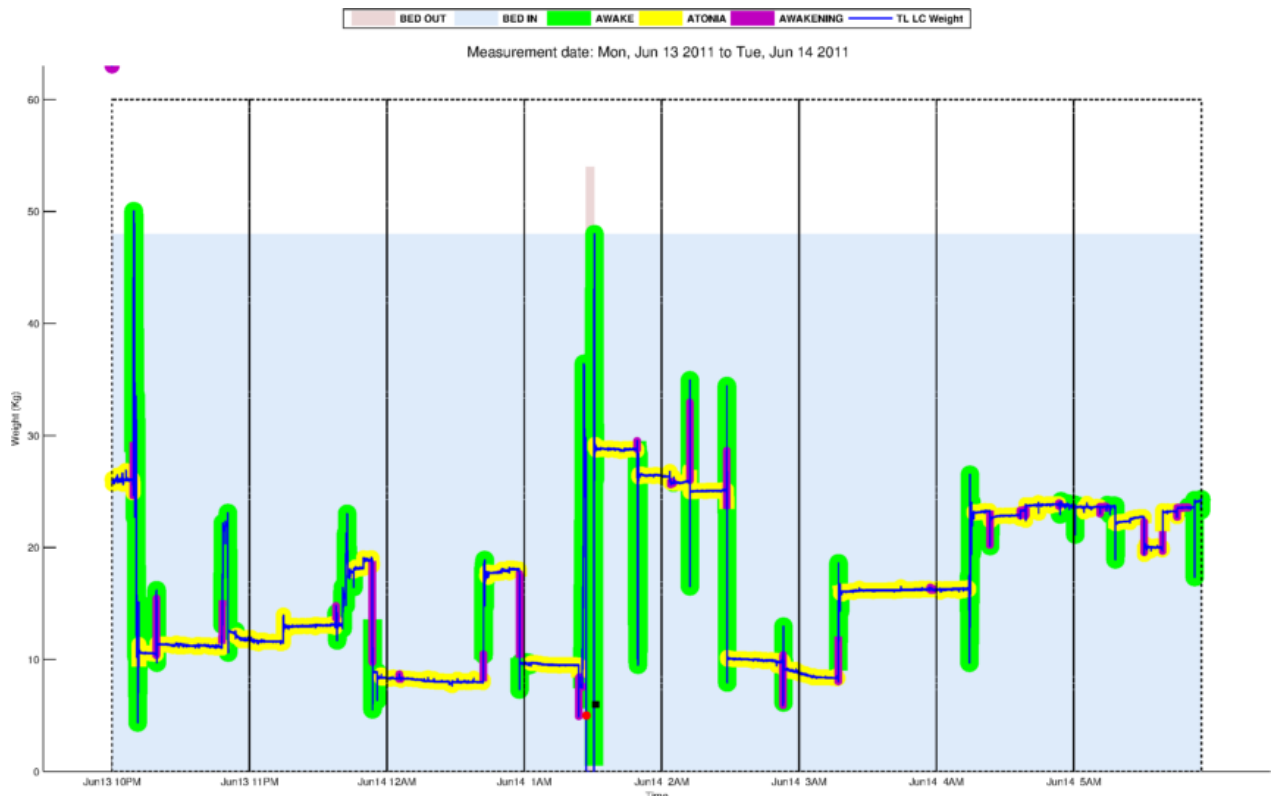


Figure 361: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 361 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 362 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 361).

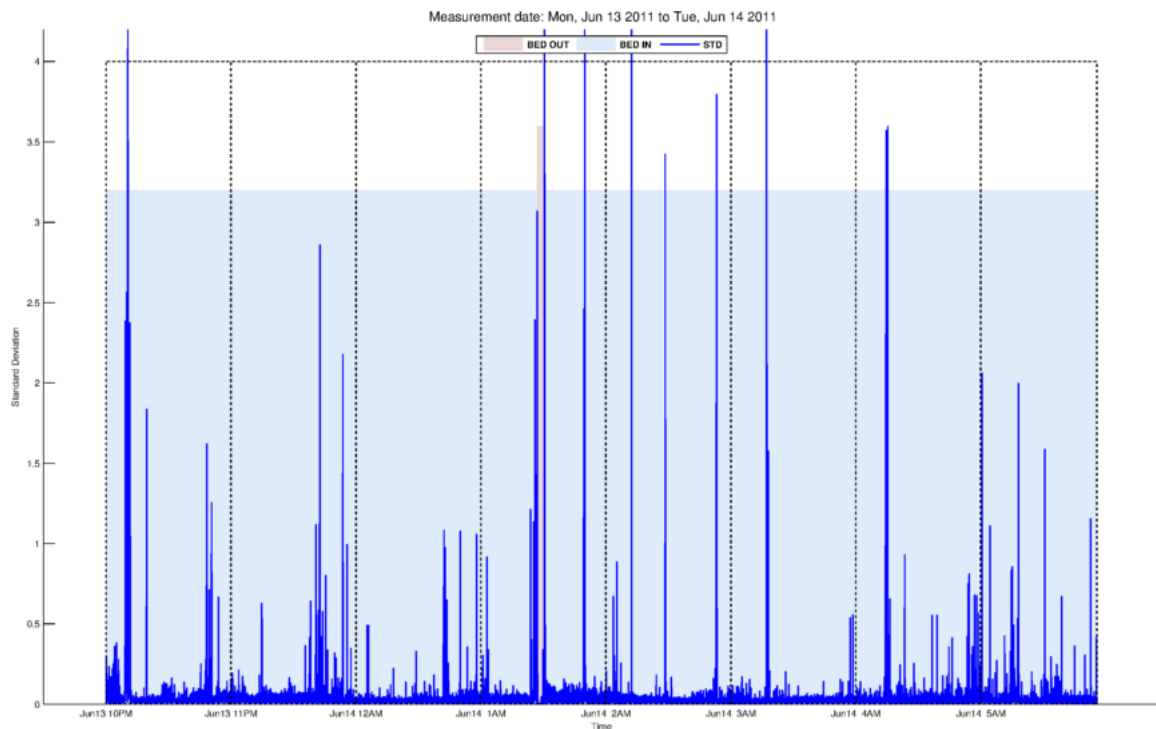


Figure 362: The moving standard deviation for the measured weight.

7.15 14th Night: from Jun 14 2011 to Jun 15 2011

Table 256 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 257 presents the duration of the estimated sleep related activities.

Table 256: Sleep related activities and sensor events measured between Jun 14 and Jun 15

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:17	01:56:28	22:23:45	22:23:48	22:04:17		01:57:10	01:55:17	01:55:27	01:56:36	01:55:15
2	02:01:32		23:18:23	23:21:05	22:27:14		02:02:11		02:02:08		02:02:12
3			23:28:32	23:28:35	23:21:15						
4			00:00:07	00:00:59	23:32:28						
5			00:10:55	00:39:25	00:01:00						
6			00:39:21	01:39:11	00:10:55						
7			01:06:43	01:55:36	00:50:00						
8			01:34:37	02:01:36	01:06:44						
9			01:55:32	02:49:39	01:47:17						
10			02:49:35	02:58:00	02:02:48						
11			02:56:23	03:27:07	02:49:46						
12			03:04:35	03:38:52	02:58:00						
13			03:11:20	04:40:16	03:04:36						
14			03:27:03	04:52:10	03:11:21						
15			03:38:49	05:07:41	03:32:46						
16			04:01:09	05:44:31	03:39:00						
17			04:08:23	05:55:31	04:01:11						
18			04:38:15		04:08:25						
19			04:51:51		04:44:03						
20			05:06:38		04:55:34						
21			05:23:22		05:09:56						
22			05:44:28		05:23:22						
23			05:55:28		05:44:35						

Table 257: Duration of the sleep related activities presented in Table 256

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	03:52:16	00:05:04	00:00:03	00:03:25	00:19:28
2	03:58:33		00:02:41	00:00:10	00:51:10
3			00:00:03	00:03:53	00:07:17
4			00:00:52	00:00:01	00:27:39
5			00:00:00	00:10:35	00:09:54
6			00:00:03	00:08:06	00:28:27
7			00:00:00	00:00:52	00:16:44
8			00:04:34	00:01:12	00:27:54
9			00:00:04	00:00:07	00:08:15
10			00:00:03	00:00:00	00:46:48
11			00:01:37	00:05:39	00:06:36
12			00:00:00	00:00:07	00:06:35
13			00:00:01	00:03:46	00:06:44
14			00:00:03	00:03:24	00:15:42
15			00:00:03	00:02:15	00:06:03
16			00:00:02	00:00:04	00:22:10
17			00:00:02	00:04:28	00:07:11
18			00:02:01		00:29:51
19			00:00:18		00:07:49
20			00:01:03		00:11:04
21			00:00:00		00:13:26
22			00:00:03		00:21:06
23			00:00:03		00:10:52

Figure 363 presents the measured sensor events and the computed bed entrances and exits.

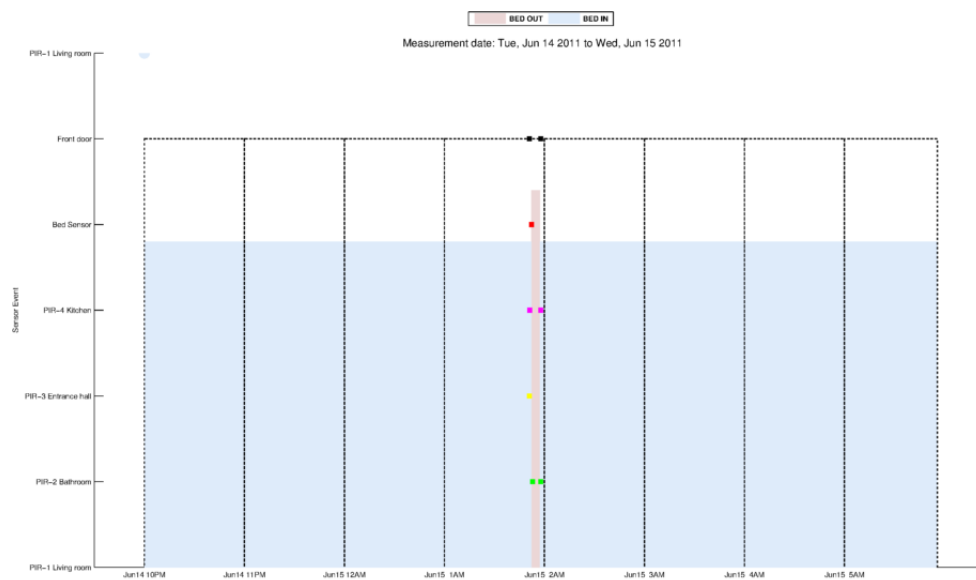


Figure 363: Sensor events and computed bed entrances and exists

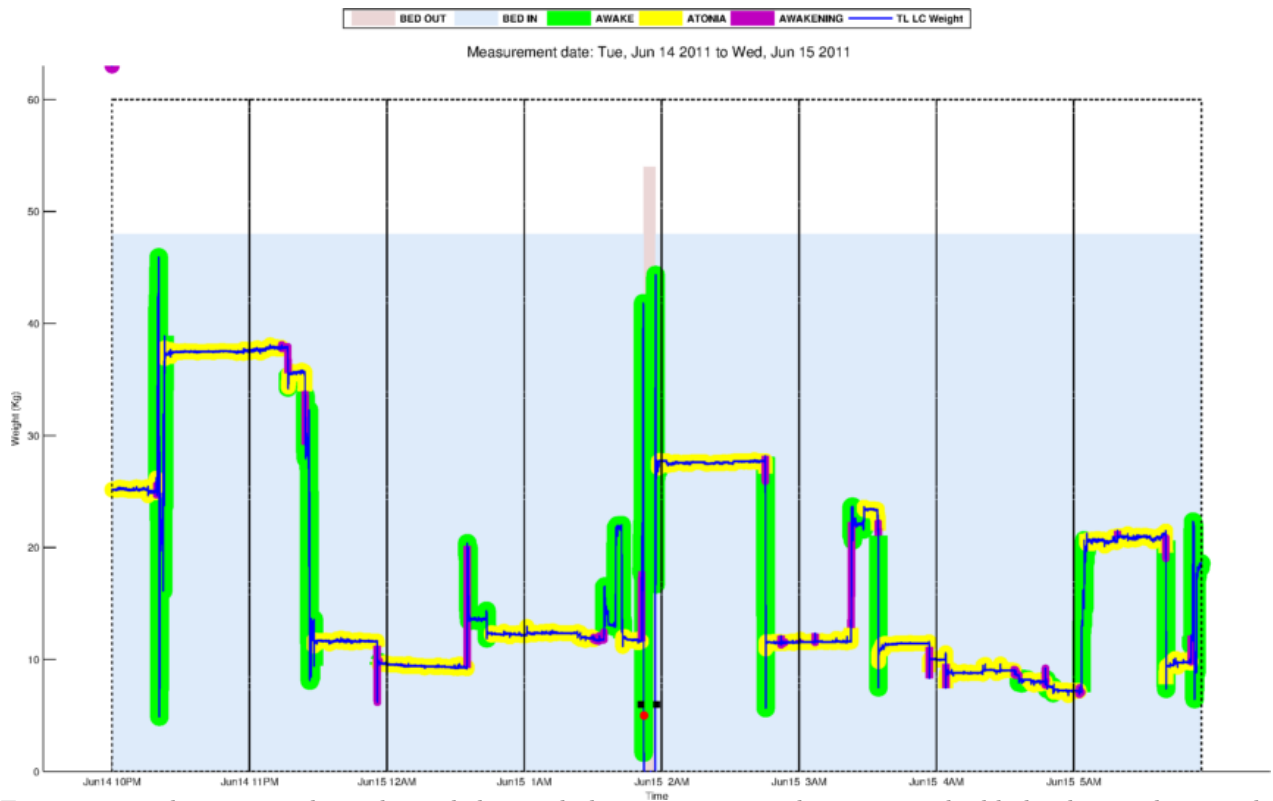


Figure 364: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 364 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 365 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 364).

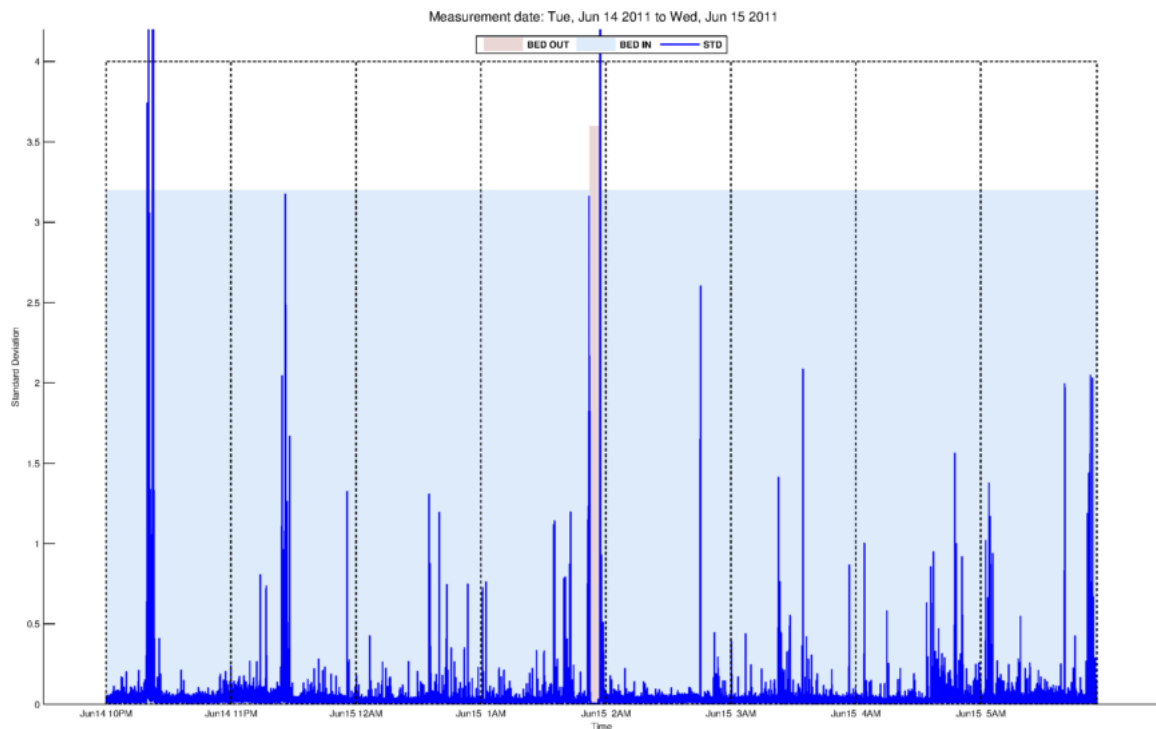


Figure 365: The moving standard deviation for the measured weight.

7.16 15th Night: from Jun 15 2011 to Jun 16 2011

Table 258 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 259 presents the duration of the estimated sleep related activities.

Table 258: Sleep related activities and sensor events measured between Jun 15 and Jun 16

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:17	03:12:21	22:28:00	22:29:23	22:04:17		03:12:55		03:11:11	03:12:30	03:10:50
2	03:15:44	03:15:56	23:08:42	23:08:47	22:40:03						03:17:23
3	03:15:59	03:16:02	23:31:08	23:31:13	23:10:36						
4	03:16:06		23:44:53	23:45:58	23:34:03						
5			00:09:35	00:09:38	23:46:00						
6			01:22:38	00:58:56	00:14:24						
7			02:19:14	01:27:31	01:01:01						
8			02:37:12	02:19:18	01:30:03						
9			02:49:51	02:37:16	02:21:25						
10			03:03:14	02:49:55	02:37:59						
11			03:11:13	03:03:17	02:51:44						
12			03:25:59	03:11:16	03:06:10						
13			03:50:05	03:15:47	03:18:33						
14			04:16:05	03:15:59	03:38:25						
15			04:34:00	03:16:09	03:58:04						
16			04:39:57	03:26:08	04:16:08						
17			05:03:54	03:52:41	04:34:18						
18			05:24:51	04:34:06	04:56:48						
19				04:40:01	05:10:02						
20				05:03:58	05:24:52						

Table 259: Duration of the sleep related activities presented in Table 258

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	05:08:12	00:03:22	00:01:23	00:10:40	00:23:43
2	00:00:12	00:00:02	00:00:05	00:01:48	00:28:39
3	00:00:03	00:00:04	00:00:04	00:02:50	00:20:33
4	02:43:58		00:01:04	00:00:02	00:10:50
5			00:00:03	00:04:46	00:23:35
6			00:04:53	00:02:05	00:44:33
7			00:00:03	00:02:32	00:21:37
8			00:00:03	00:02:07	00:49:12
9			00:00:03	00:00:43	00:15:47
10			00:00:03	00:01:49	00:11:53
11			00:00:03	00:02:52	00:11:30
12			00:00:09	00:01:05	00:05:03
13			00:02:36	00:00:09	00:07:26
14			00:00:02	00:00:01	00:11:40
15			00:00:06	00:02:24	00:18:02
16			00:00:04	00:12:17	00:17:53
17			00:00:03	00:05:23	00:05:38
18			00:00:01	00:00:12	00:07:07
19				00:16:47	00:14:49
20				00:06:04	00:35:07

Figure 366 presents the measured sensor events and the computed bed entrances and exits.

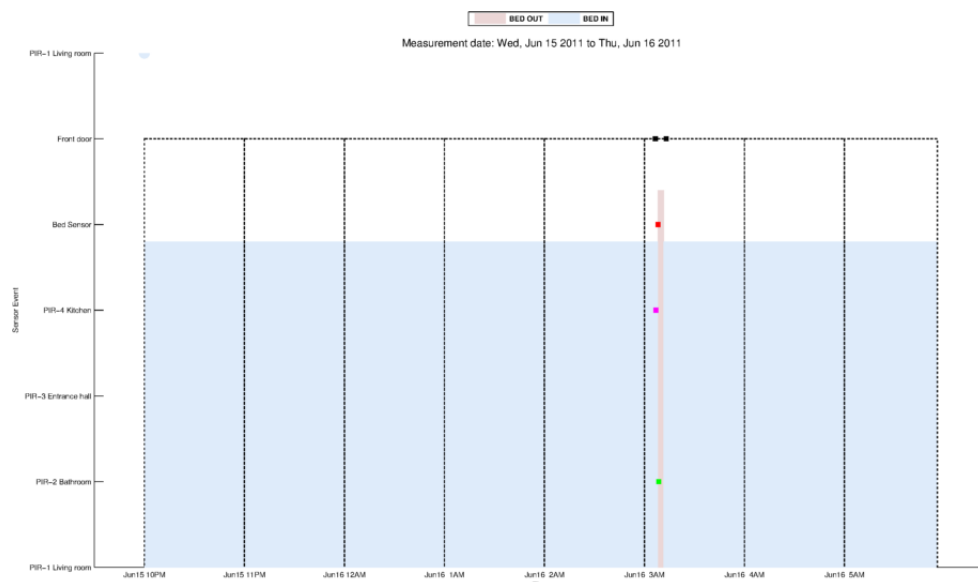


Figure 366: Sensor events and computed bed entrances and exists

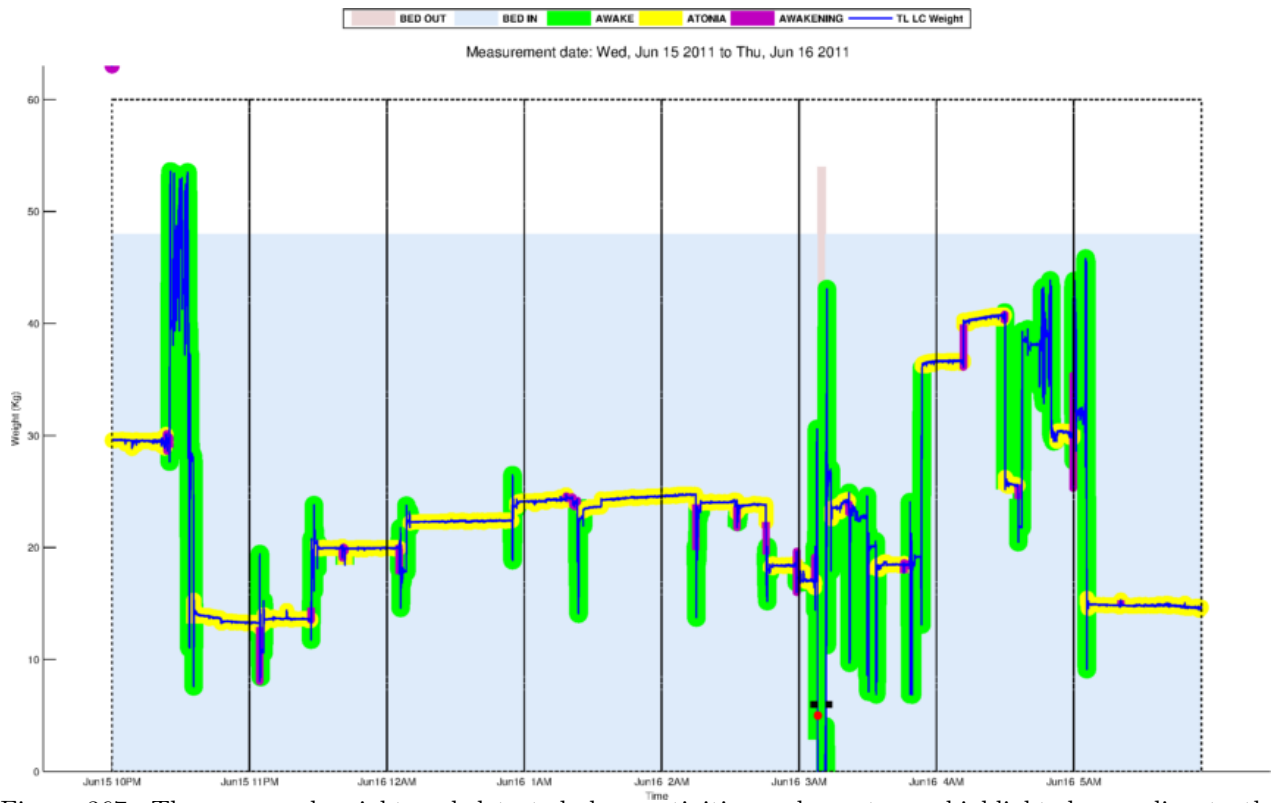


Figure 367: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 367 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 368 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 367).

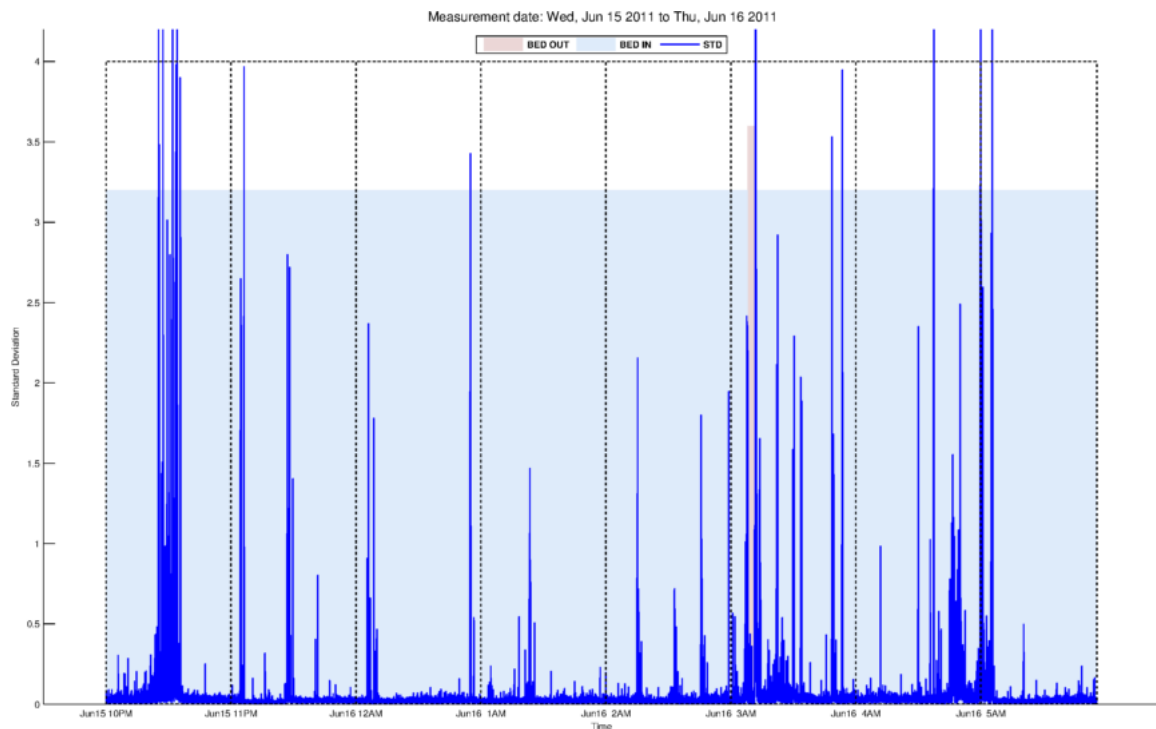


Figure 368: The moving standard deviation for the measured weight.

7.17 16th Night: from Jun 16 2011 to Jun 17 2011

Table 260 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 261 presents the duration of the estimated sleep related activities.

Table 260: Sleep related activities and sensor events measured between Jun 16 and Jun 17

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:17	01:25:29	22:49:12	22:49:28	22:04:17		01:24:10	01:24:00	01:24:29	01:25:38	01:23:57
2	01:29:33		22:58:27	22:59:48	22:49:46		01:30:01	01:29:59		03:24:16	01:31:15
3			23:07:46	23:07:53	23:00:13					05:15:32	
4			23:23:03	00:03:16	23:11:53					05:49:11	
5			23:58:58	00:37:24	23:23:04						
6			00:24:51	00:54:29	00:08:37						
7			00:37:02	01:24:06	00:24:51						
8			00:54:25	01:29:36	00:39:20						
9			01:19:37	01:47:50	00:59:35						
10			01:35:44	03:19:13	01:30:04						
11			01:47:46	04:12:45	01:35:45						
12			02:09:24	05:03:53	01:47:56						
13			02:40:43	05:15:07	02:09:24						
14			02:54:43	05:48:42	02:40:46						
15			03:19:10		02:54:43						
16			04:12:36		03:23:50						
17			04:47:22		04:12:53						
18			05:00:12		04:47:24						
19			05:15:04		05:03:54						
20			05:46:01		05:15:48						

Table 261: Duration of the sleep related activities presented in Table 260

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	03:21:16	00:04:04	00:00:16	00:00:18	00:44:55
2	04:30:33		00:01:20	00:00:25	00:08:41
3			00:00:07	00:04:00	00:07:32
4			00:00:00	00:05:21	00:11:11
5			00:04:18	00:01:56	00:35:55
6			00:00:00	00:05:06	00:16:14
7			00:00:22	00:01:23	00:12:11
8			00:00:03	00:00:28	00:15:05
9			00:04:28	00:00:06	00:20:02
10			00:00:01	00:04:37	00:05:39
11			00:00:03	00:00:08	00:12:02
12			00:00:00	00:00:00	00:21:28
13			00:00:03	00:00:41	00:31:20
14			00:00:00	00:11:17	00:13:57
15			00:00:03		00:24:27
16			00:00:09		00:48:47
17			00:00:02		00:34:29
18			00:03:41		00:12:48
19			00:00:03		00:11:10
20			00:02:41		00:30:13

Figure 369 presents the measured sensor events and the computed bed entrances and exits.

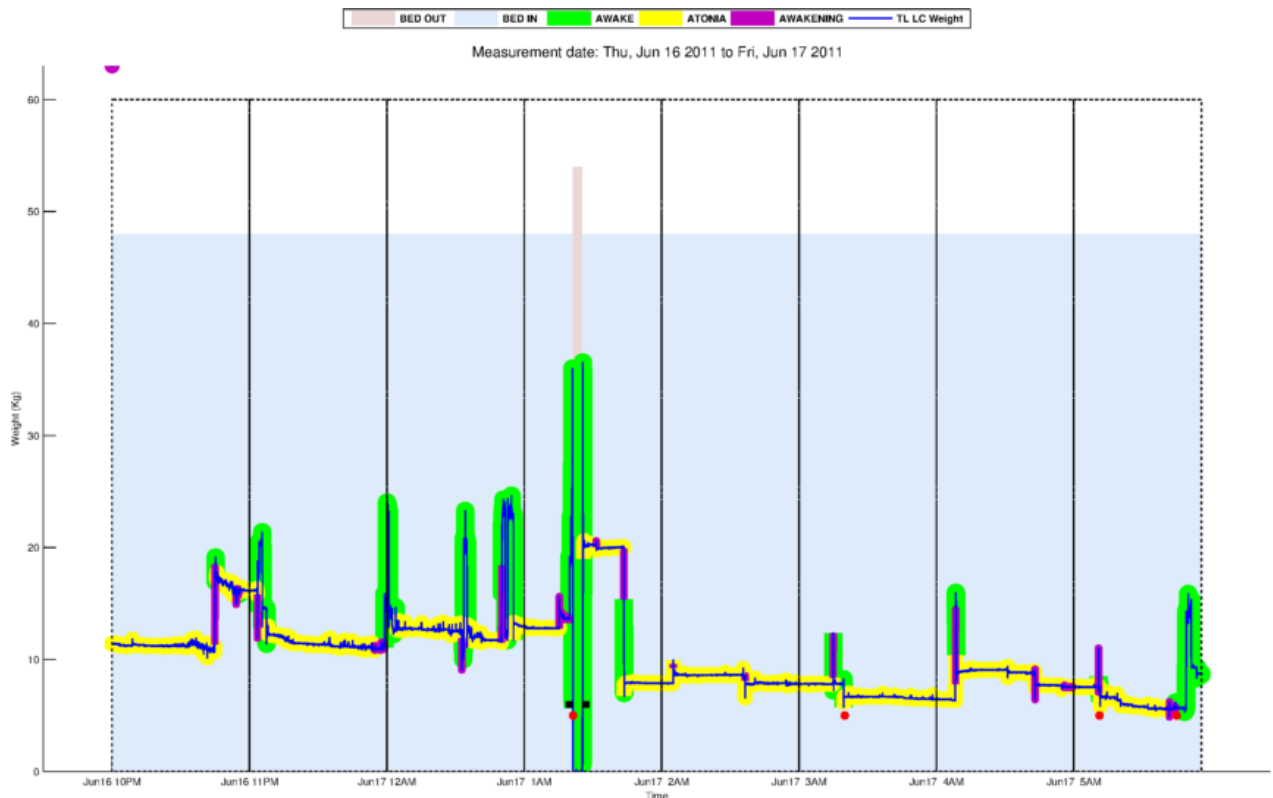


Figure 370: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 370 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 371 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 370).

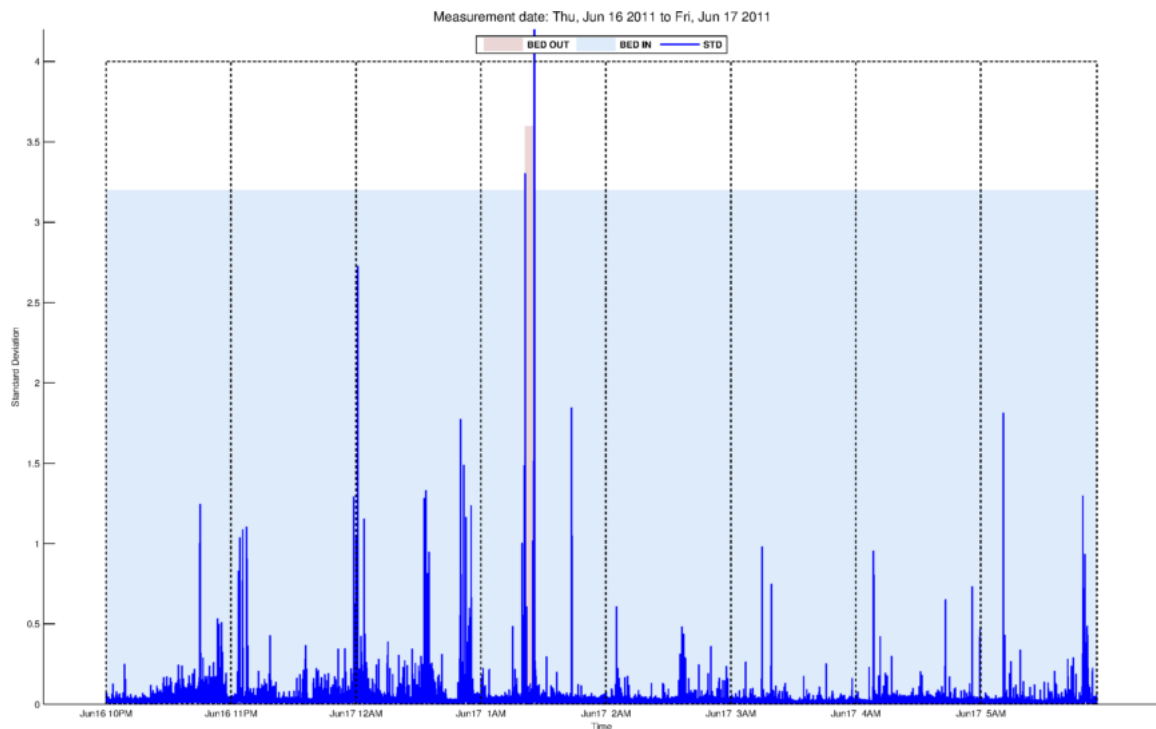


Figure 371: The moving standard deviation for the measured weight.

7.18 17th Night: from Jun 17 2011 to Jun 18 2011

Table 262 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 263 presents the duration of the estimated sleep related activities.

Table 262: Sleep related activities and sensor events measured between Jun 17 and Jun 18

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:18	04:04:22	22:34:50	22:34:54	22:04:18	04:05:00	04:02:43	04:02:40	04:02:59	04:04:44	04:02:38
2	04:06:40	04:06:41	22:54:31	23:48:39	22:43:02		04:07:48	04:07:46			04:08:57
3	04:06:44	04:06:48	23:10:10	00:11:35	22:54:32						
4	04:07:23		23:21:56	01:02:25	23:10:11						
5			23:45:54	01:17:07	23:21:56						
6			00:11:30	01:39:07	23:51:26						
7			00:28:47	02:13:06	00:15:57						
8			01:02:21	02:36:12	00:28:48						
9			01:17:03	03:57:56	01:07:30						
10			01:39:03	04:06:47	01:18:57						
11			01:55:30	04:07:27	01:39:51						
12			02:11:39	04:45:54	01:55:30						
13			02:36:08	05:00:29	02:13:23						
14			02:49:40	05:59:50	02:36:13						
15			02:57:32		02:49:40						
16			03:04:09		02:57:32						
17			03:10:40		03:04:09						
18			03:54:02		03:10:41						
19			04:45:51		04:08:44						
20			05:00:25		04:46:13						
21			05:56:34		05:00:42						

Table 263: Duration of the sleep related activities presented in Table 262

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	06:00:14	00:02:18	00:00:03	00:08:08	00:30:33
2	00:00:00	00:00:03	00:00:01	00:02:47	00:11:29
3	00:00:04	00:00:35	00:00:01	00:04:22	00:15:39
4	01:52:38		00:00:00	00:05:05	00:11:44
5			00:02:46	00:01:50	00:23:58
6			00:00:05	00:00:44	00:20:03
7			00:00:00	00:00:17	00:12:50
8			00:00:03	00:00:01	00:33:34
9			00:00:03	00:06:26	00:09:34
10			00:00:03	00:00:00	00:20:07
11			00:00:00	00:01:17	00:15:39
12			00:01:26	00:00:18	00:16:09
13			00:00:04	00:00:13	00:22:45
14			00:00:00	00:00:08	00:13:27
15			00:00:00		00:07:52
16			00:00:00		00:06:36
17			00:00:01		00:06:31
18			00:03:54		00:43:22
19			00:00:03		00:37:08
20			00:00:03		00:14:13
21			00:03:16		00:55:53

Figure 372 presents the measured sensor events and the computed bed entrances and exits.

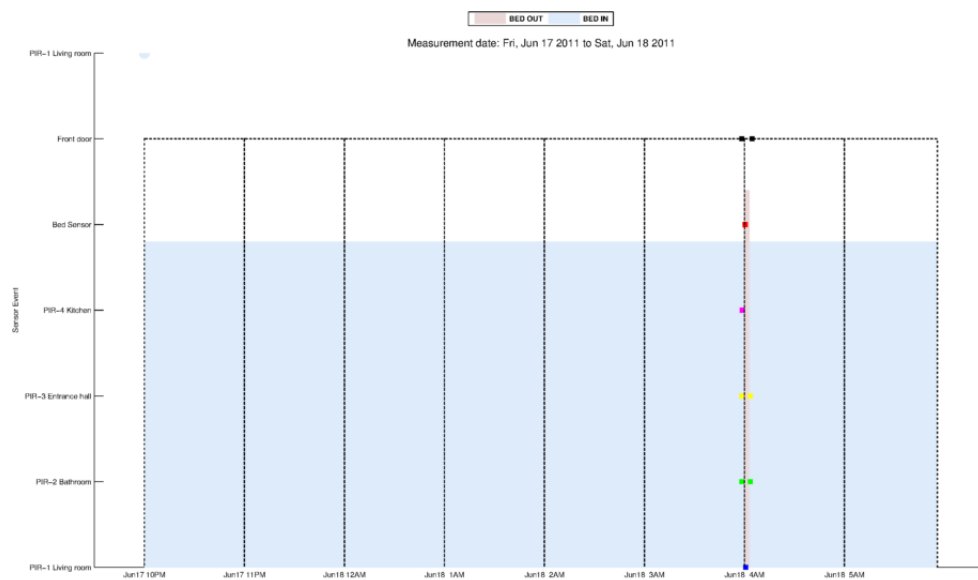


Figure 372: Sensor events and computed bed entrances and exists

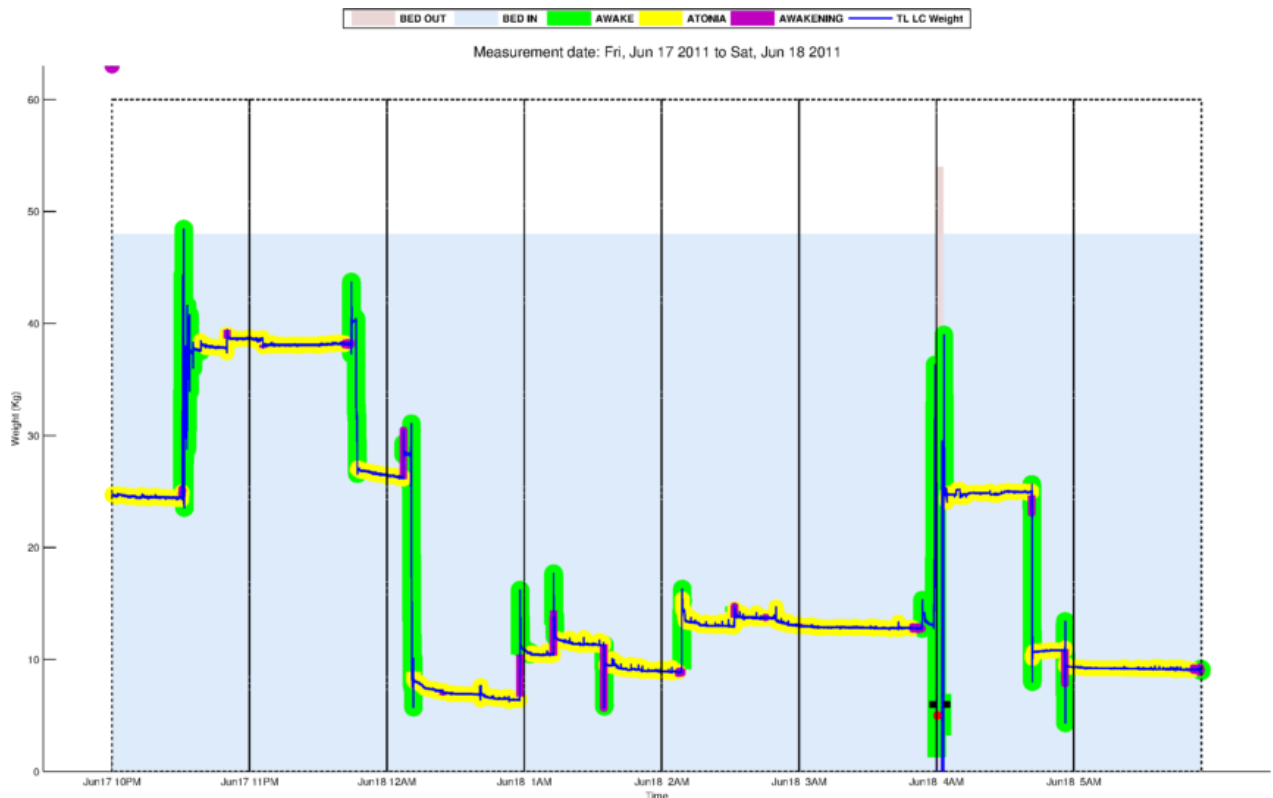


Figure 373: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 373 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 374 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 373).

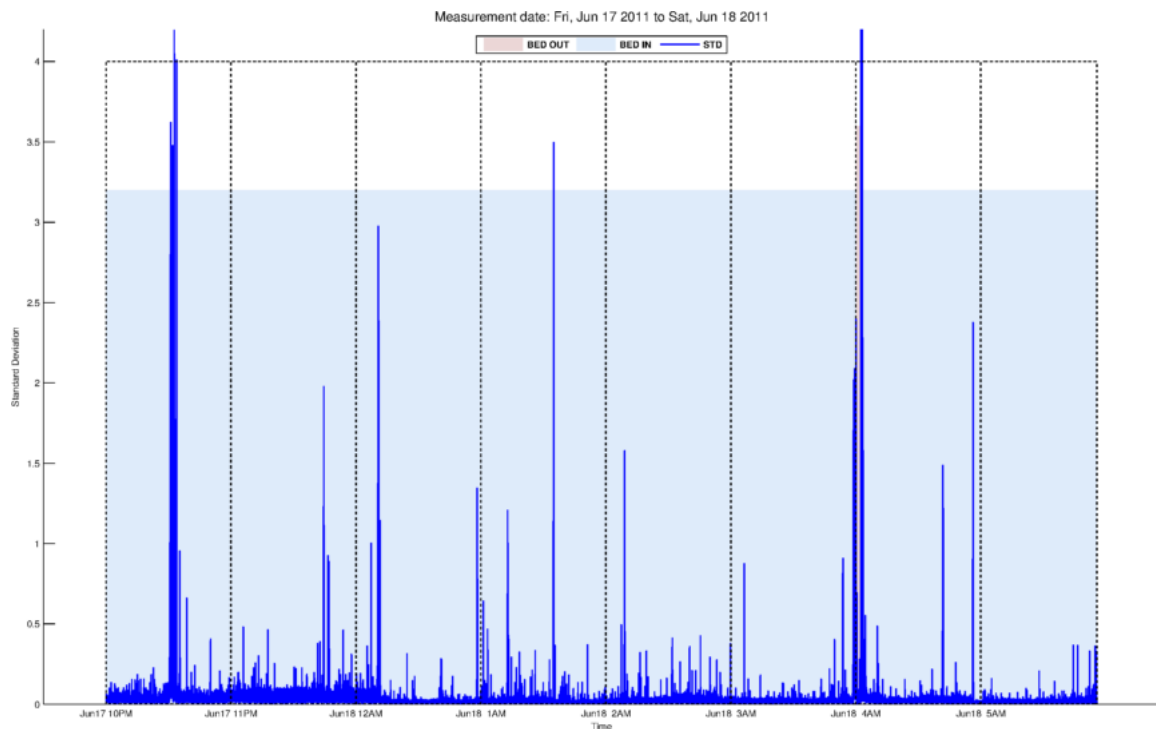


Figure 374: The moving standard deviation for the measured weight.

7.19 18th Night: from Jun 18 2011 to Jun 19 2011

Table 264 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 265 presents the duration of the estimated sleep related activities.

Table 264: Sleep related activities and sensor events measured between Jun 18 and Jun 19

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:18	04:57:16	22:08:39	22:08:42	22:04:18		04:58:06		04:56:22	04:57:43	04:56:06
2	04:58:50		22:19:22	22:19:32	22:13:10						05:00:22
3			23:00:33	23:00:36	22:19:52						
4			23:09:30	23:09:58	23:03:11						
5			00:00:27	00:00:31	23:10:02						
6			00:21:05	00:21:09	00:00:37						
7			00:53:09	00:53:12	00:22:49						
8			01:15:27	01:15:31	00:53:42						
9			01:33:28	01:33:32	01:18:20						
10			01:55:12	01:55:15	01:35:24						
11			02:06:55	02:07:53	01:57:38						
12			02:16:57	02:46:28	02:07:55						
13			02:32:30	03:06:17	02:16:58						
14			02:46:24	03:21:01	02:32:30						
15			03:06:14	03:38:16	02:48:45						
16			03:20:57	04:08:48	03:07:46						
17			03:28:07	04:35:14	03:21:09						
18			03:38:13	04:47:18	03:28:08						
19			04:08:00	04:58:55	03:49:05						
20			04:35:10	05:19:48	04:09:50						
21			04:47:15	05:43:18	04:35:24						
22			05:19:44		05:00:12						
23			05:43:12		05:19:50						
24					05:43:27						

Table 265: Duration of the sleep related activities presented in Table 264

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	06:53:11	00:01:34	00:00:03	00:04:27	00:04:21
2	01:01:11		00:00:10	00:00:20	00:06:12
3			00:00:03	00:02:35	00:40:42
4			00:00:28	00:00:04	00:06:19
5			00:00:03	00:00:06	00:50:27
6			00:00:04	00:01:39	00:20:28
7			00:00:03	00:00:29	00:30:21
8			00:00:03	00:02:49	00:21:46
9			00:00:04	00:01:52	00:15:08
10			00:00:03	00:02:23	00:19:48
11			00:00:58	00:00:02	00:09:17
12			00:00:00	00:02:17	00:09:02
13			00:00:00	00:01:29	00:15:32
14			00:00:03	00:00:08	00:13:54
15			00:00:03	00:10:49	00:17:29
16			00:00:03	00:01:02	00:13:11
17			00:00:00	00:00:10	00:06:59
18			00:00:03	00:09:58	00:10:05
19			00:00:47	00:01:17	00:18:55
20			00:00:03	00:00:02	00:25:21
21			00:00:03	00:00:08	00:11:51
22			00:00:03		00:19:33
23			00:00:06		00:23:23
24					00:16:32

Figure 375 presents the measured sensor events and the computed bed entrances and exits.

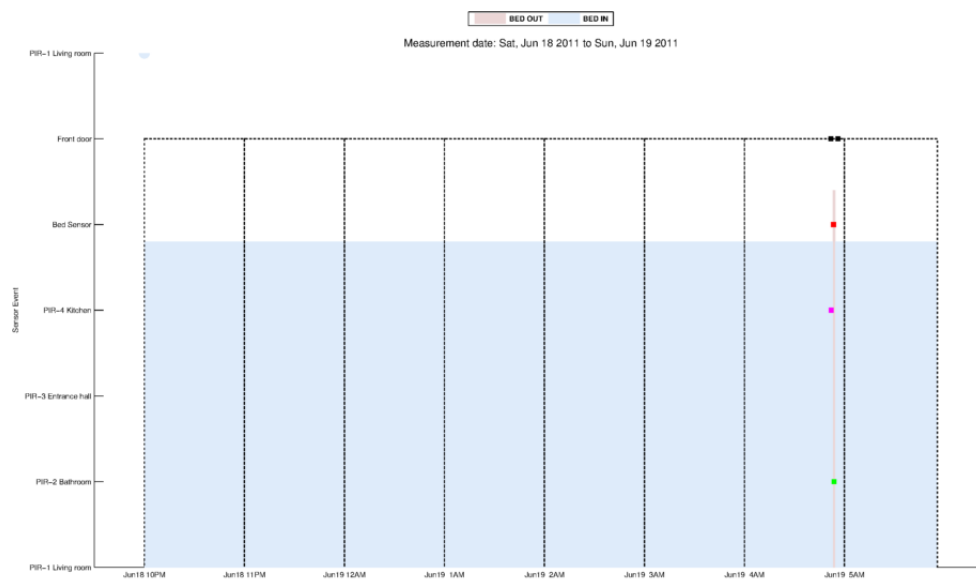


Figure 375: Sensor events and computed bed entrances and exists

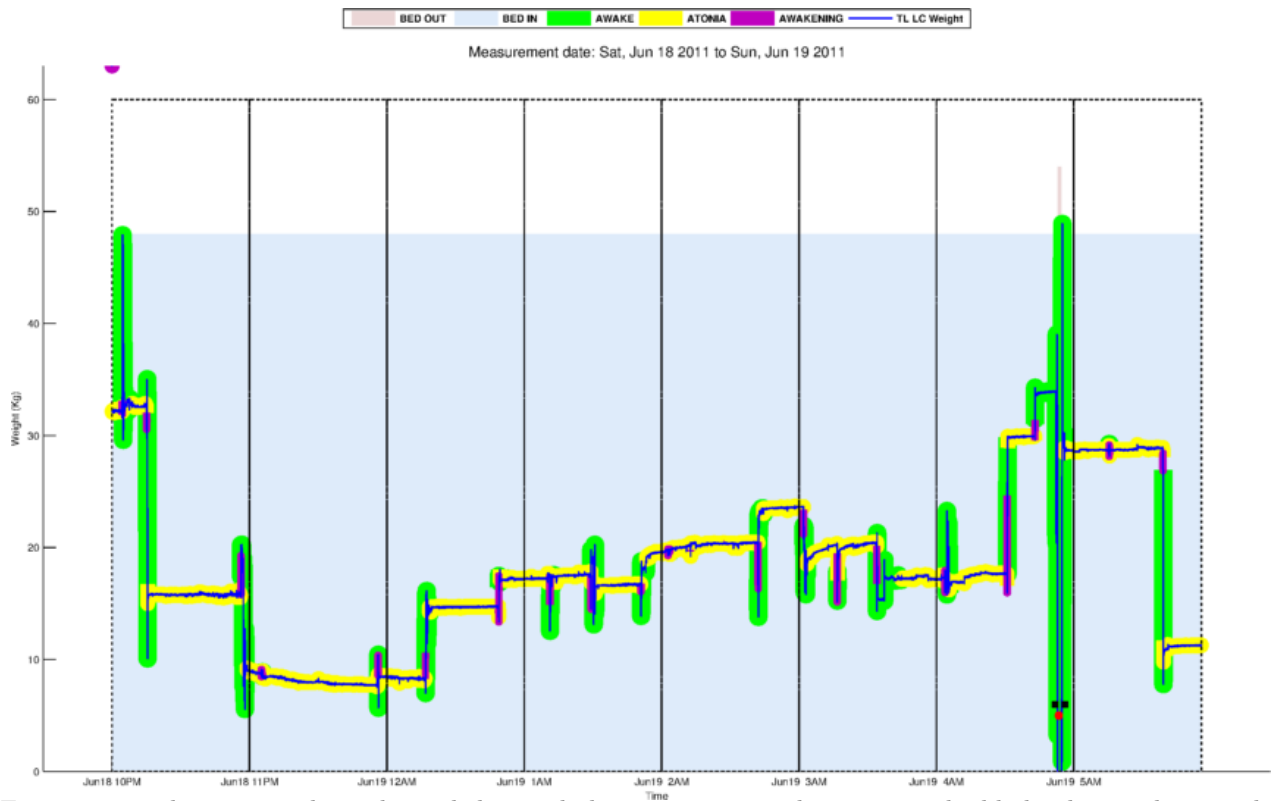


Figure 376: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 376 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 377 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 376).

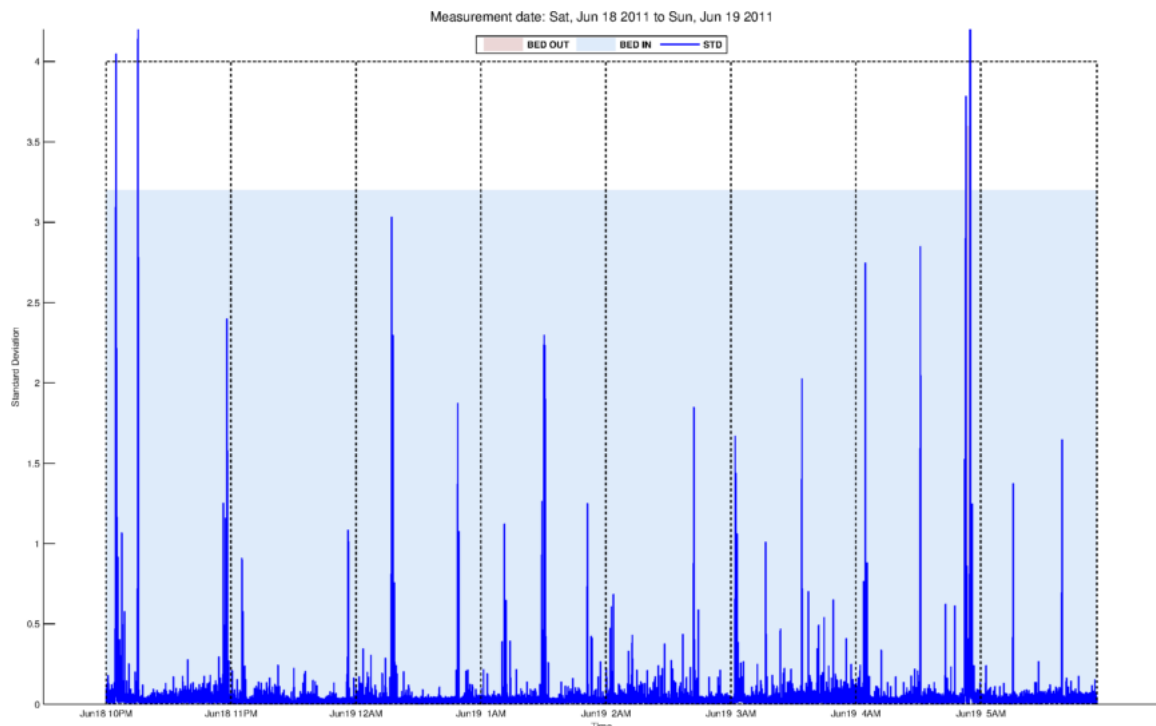


Figure 377: The moving standard deviation for the measured weight.

7.20 19th Night: from Jun 19 2011 to Jun 20 2011

Table 266 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 267 presents the duration of the estimated sleep related activities.

Table 266: Sleep related activities and sensor events measured between Jun 19 and Jun 20

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:18	02:43:40	22:11:34	22:11:38	22:04:18		02:44:30	02:42:05	02:42:15	02:43:51	02:42:04
2	02:46:56		22:32:58	22:33:02	22:22:41		02:47:58			04:10:21	02:49:09
3			23:06:43	23:06:48	22:33:02					04:50:58	
4			23:28:53	23:28:57	23:23:33						
5			23:48:49	23:48:53	23:28:58						
6			00:12:16	00:12:24	23:51:56						
7			00:27:35	00:27:40	00:15:46						
8			00:52:42	00:58:46	00:27:43						
9			00:58:38	01:12:56	00:52:42						
10			01:12:18	01:42:34	00:59:32						
11			01:35:12	02:00:24	01:16:37						
12			01:41:53	02:11:38	01:35:13						
13			01:59:50	02:23:29	01:43:24						
14			02:10:24	02:42:43	02:03:46						
15			02:21:20	02:46:59	02:11:38						
16			02:33:34	03:12:25	02:23:29						
17			02:42:39	03:30:17	02:33:34						
18			03:30:10	03:45:42	02:48:24						
19			03:39:35	04:00:02	03:12:45						
20			03:45:39	04:52:17	03:30:27						
21			03:53:19	05:24:40	03:39:36						
22			03:59:58	05:56:41	03:45:46						
23			04:30:48		03:53:20						
24			04:52:13		04:05:10						
25			05:24:21		04:30:49						
26			05:56:38		04:52:17						
27					05:33:01						

Table 267: Duration of the sleep related activities presented in Table 266

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	04:39:29	00:03:15	00:00:04	00:11:03	00:07:16
2	03:13:08		00:00:03	00:00:00	00:10:17
3			00:00:05	00:16:45	00:33:41
4			00:00:03	00:00:01	00:05:20
5			00:00:03	00:03:03	00:19:52
6			00:00:08	00:03:23	00:20:20
7			00:00:05	00:00:02	00:11:49
8			00:00:00	00:00:45	00:24:59
9			00:00:08	00:03:41	00:05:56
10			00:00:38	00:00:50	00:12:46
11			00:00:01	00:03:21	00:18:35
12			00:00:40	00:00:00	00:06:40
13			00:00:34	00:00:00	00:16:26
14			00:01:14	00:00:57	00:06:38
15			00:02:09	00:01:24	00:09:42
16			00:00:00	00:00:20	00:10:05
17			00:00:04	00:00:10	00:09:04
18			00:00:06	00:00:03	00:24:02
19			00:00:01	00:05:08	00:17:25
20			00:00:03	00:00:00	00:09:08
21			00:00:01	00:08:21	00:06:02
22			00:00:04	00:03:17	00:07:34
23			00:00:01		00:06:37
24			00:00:03		00:25:38
25			00:00:18		00:21:25
26			00:00:03		00:32:05
27					00:23:37

Figure 378 presents the measured sensor events and the computed bed entrances and exits.

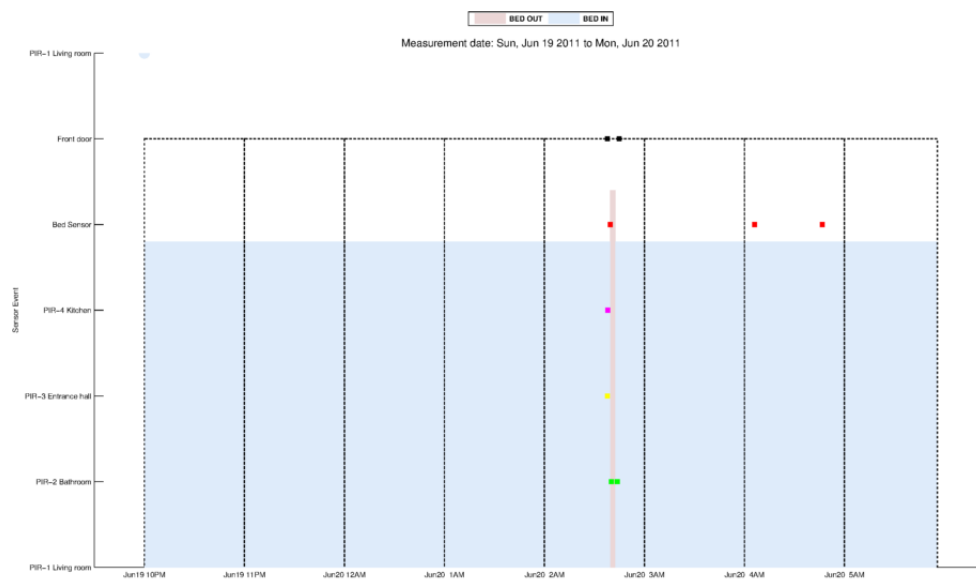


Figure 378: Sensor events and computed bed entrances and exists

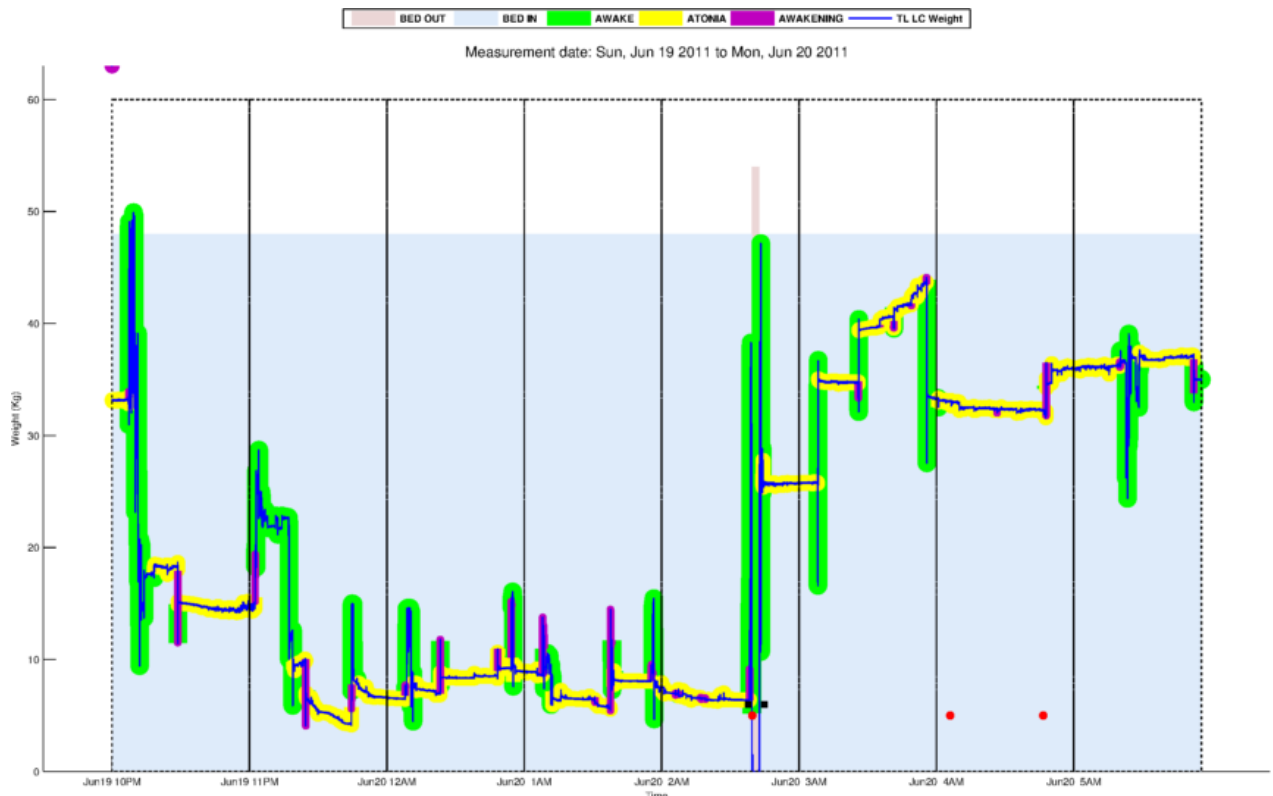


Figure 379: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 379 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 380 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 379).

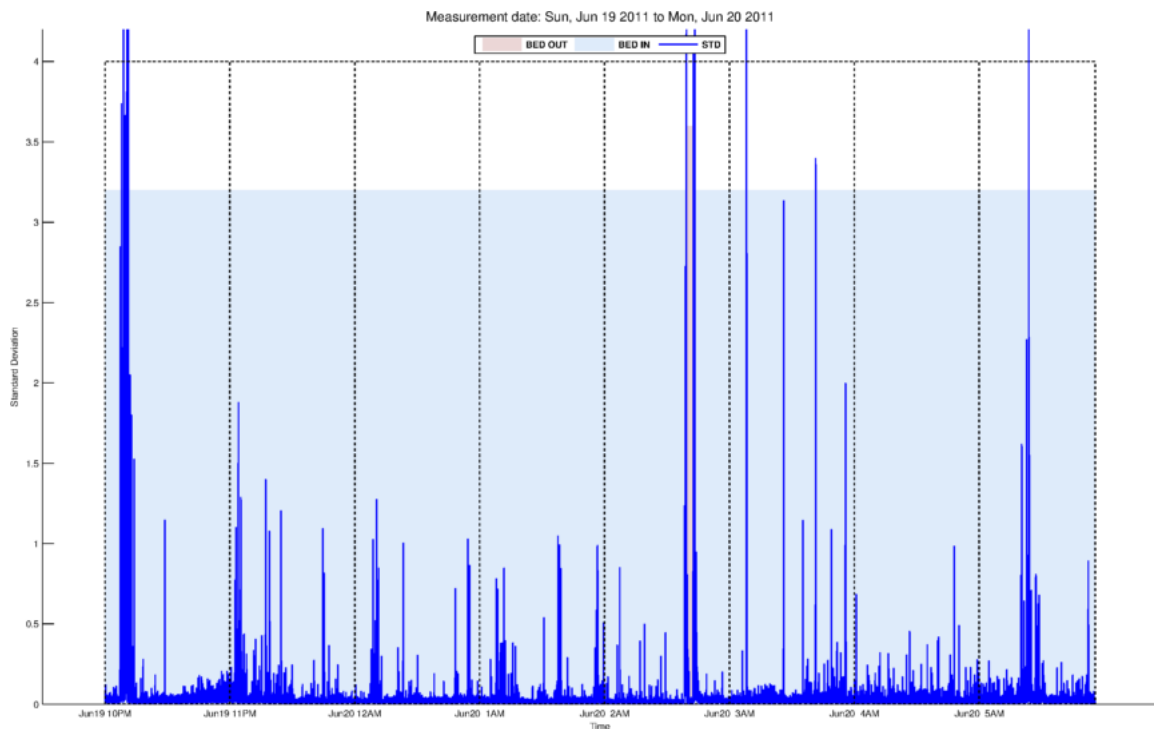


Figure 380: The moving standard deviation for the measured weight.

7.21 20th Night: from Jun 20 2011 to Jun 21 2011

Table 268 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 269 presents the duration of the estimated sleep related activities.

Table 268: Sleep related activities and sensor events measured between Jun 20 and Jun 21

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:18	02:41:50	22:13:24	22:13:30	22:04:18		02:40:48	02:40:44	02:40:53	02:42:04	02:40:43
2	02:45:21		22:34:02	22:34:06	22:15:13		02:45:42	02:45:40			02:46:43
3			22:56:00	22:56:04	22:45:40						
4			23:09:49	23:09:56	22:56:57						
5			23:28:15	23:28:18	23:12:07						
6			23:49:26	23:49:34	23:28:54						
7			00:10:32	00:10:36	23:52:47						
8			01:16:09	01:16:12	00:12:04						
9			01:50:56	01:50:59	01:17:51						
10			02:12:29	02:12:33	01:58:19						
11			02:40:54	02:40:58	02:16:22						
12			02:51:41	02:45:25	02:45:55						
13			03:13:18	02:51:44	02:57:16						
14			04:13:47	03:13:23	03:13:42						
15			05:06:54	04:13:51	04:17:44						
16			05:20:24	05:06:59	05:07:00						
17			05:56:47	05:20:33	05:20:36						
18				05:56:50							

Table 269: Duration of the sleep related activities presented in Table 268

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	04:37:40	00:03:32	00:00:06	00:01:43	00:09:06
2	03:14:44		00:00:03	00:11:34	00:18:49
3			00:00:03	00:00:53	00:10:20
4			00:00:07	00:02:11	00:12:53
5			00:00:03	00:00:36	00:16:08
6			00:00:07	00:03:13	00:20:32
7			00:00:03	00:01:29	00:17:45
8			00:00:03	00:01:39	01:04:06
9			00:00:03	00:07:20	00:33:05
10			00:00:03	00:03:49	00:14:10
11			00:00:04	00:00:51	00:24:32
12			00:00:03	00:00:30	00:05:45
13			00:00:05	00:05:32	00:16:02
14			00:00:03	00:00:19	01:00:07
15			00:00:04	00:03:53	00:49:11
16			00:00:09	00:00:01	00:13:24
17			00:00:03	00:00:03	00:36:12
18				00:03:08	

Figure 381 presents the measured sensor events and the computed bed entrances and exits.

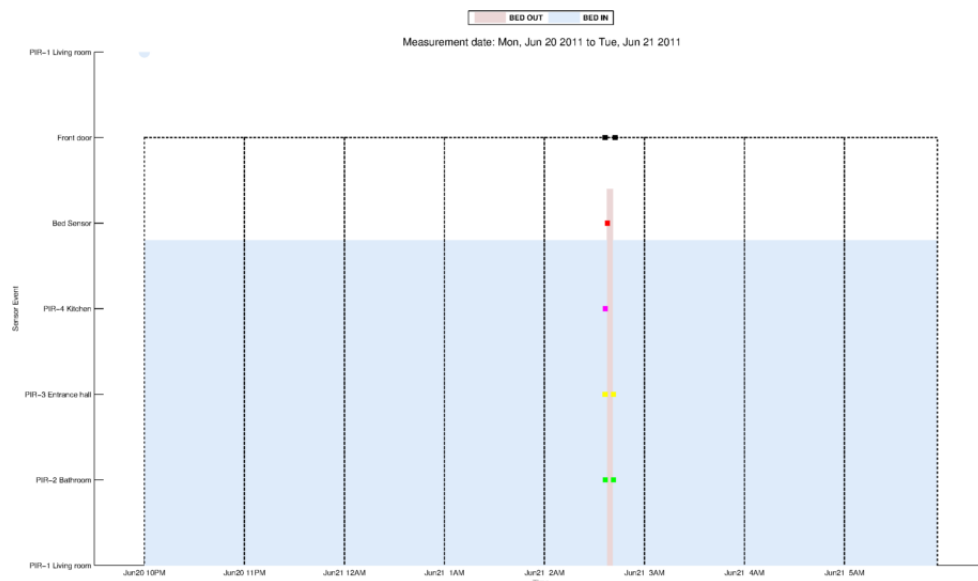


Figure 381: Sensor events and computed bed entrances and exists

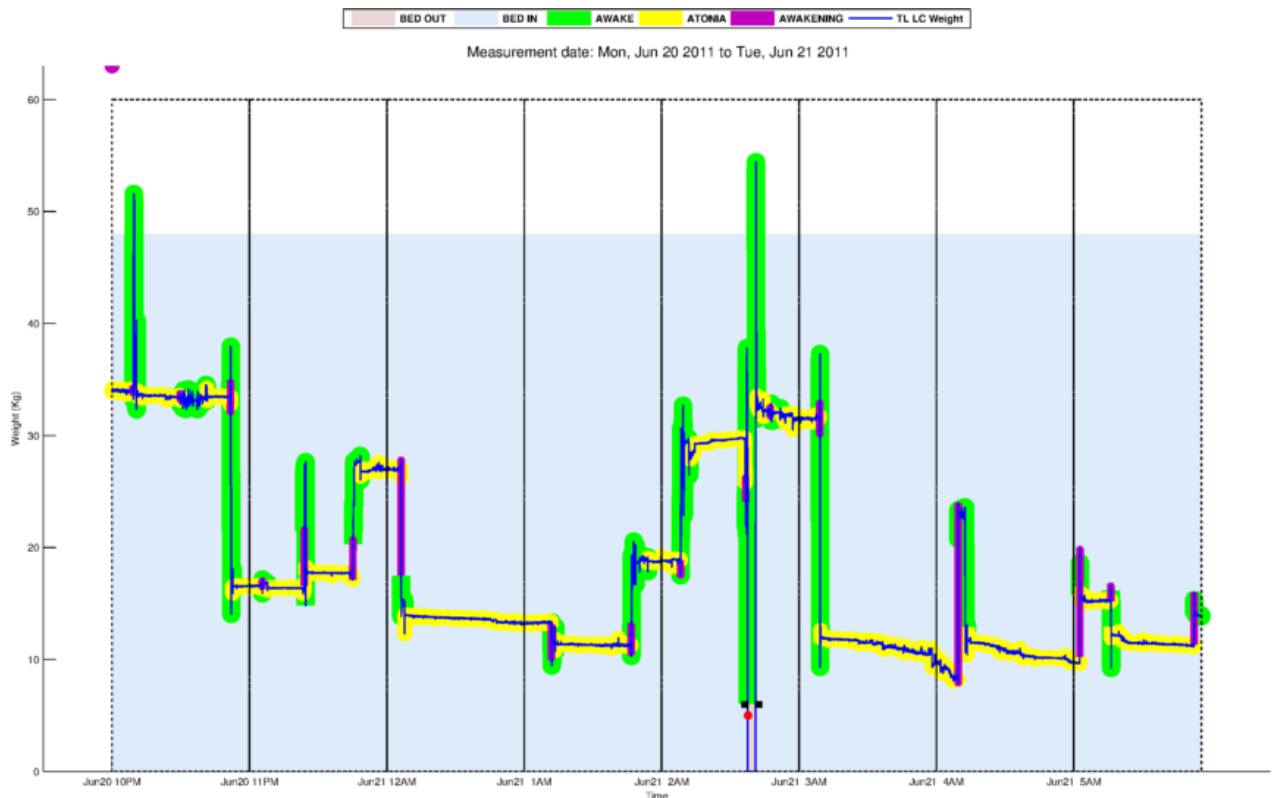


Figure 382: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 382 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 383 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 382).

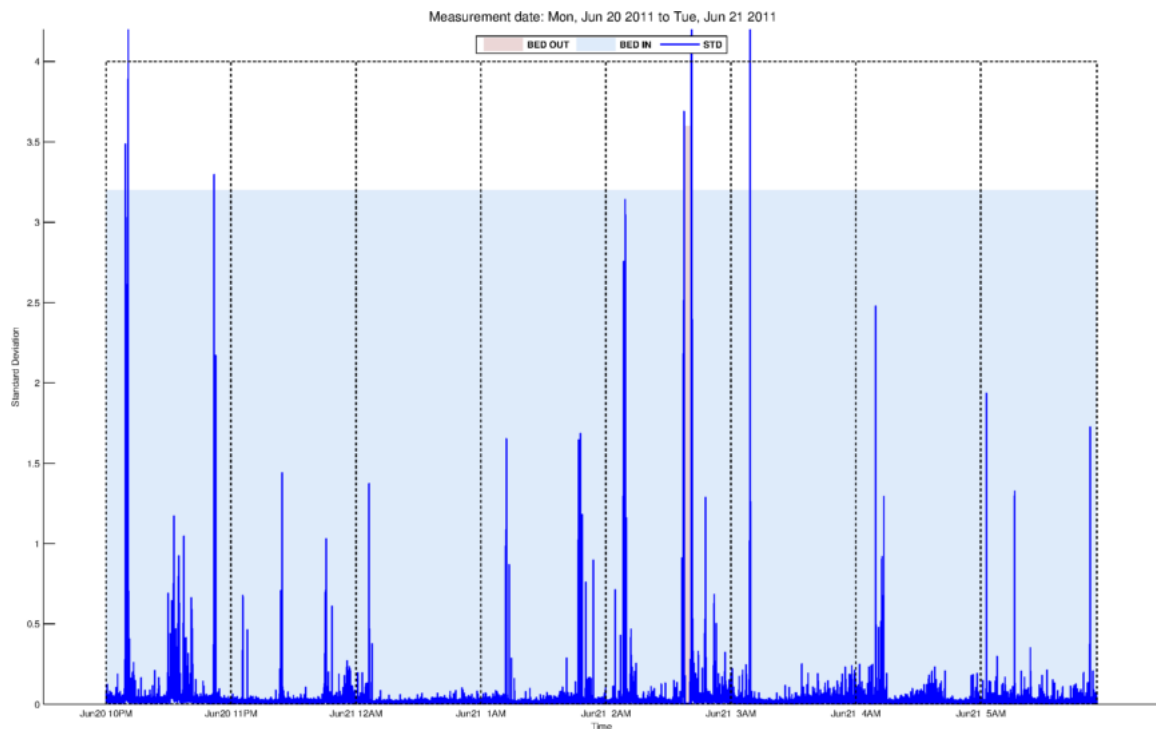


Figure 383: The moving standard deviation for the measured weight.

7.22 21st Night: from Jun 21 2011 to Jun 22 2011

Table 270 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 271 presents the duration of the estimated sleep related activities.

Table 270: Sleep related activities and sensor events measured between Jun 21 and Jun 22

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:18	02:48:18	22:13:26	22:13:31	22:04:18	02:48:48	02:47:11	02:47:07	02:47:19	02:48:27	02:47:06
2	02:50:25		23:12:18	23:12:21	22:21:28						
3			23:57:38	23:57:45	23:15:47						
4			00:04:32	00:19:23	23:59:20						
5			00:18:57	01:03:02	00:04:32						
6			01:02:12	01:18:40	00:21:30						
7			01:17:26	02:02:37	01:05:29						
8			02:02:34	02:41:49	01:20:31						
9			02:33:02	02:47:39	02:06:28						
10			02:38:56	02:50:28	02:33:02						
11			02:47:36	03:13:18	02:41:57						
12			03:13:14	04:31:27	02:50:39						
13			03:22:19	05:11:25	03:13:31						
14			04:31:23	05:24:08	03:22:19						
15			05:11:22		05:01:18						
16			05:24:05		05:12:50						
17					05:24:12						

Table 271: Duration of the sleep related activities presented in Table 270

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	04:44:09	00:02:07	00:00:05	00:07:57	00:09:08
2	03:09:40		00:00:03	00:03:26	00:50:51
3			00:00:07	00:01:35	00:41:52
4			00:00:00	00:02:07	00:05:11
5			00:00:26	00:02:27	00:14:25
6			00:00:50	00:01:51	00:40:43
7			00:01:14	00:03:51	00:11:57
8			00:00:03	00:00:08	00:42:04
9			00:00:00	00:00:38	00:26:34
10			00:02:53	00:00:11	00:05:53
11			00:00:03	00:00:13	00:05:39
12			00:00:03	00:29:52	00:22:36
13			00:00:00	00:01:24	00:08:47
14			00:00:03	00:00:03	01:09:06
15			00:00:03		00:10:04
16			00:00:03		00:11:15
17					00:35:48

Figure 384 presents the measured sensor events and the computed bed entrances and exits.

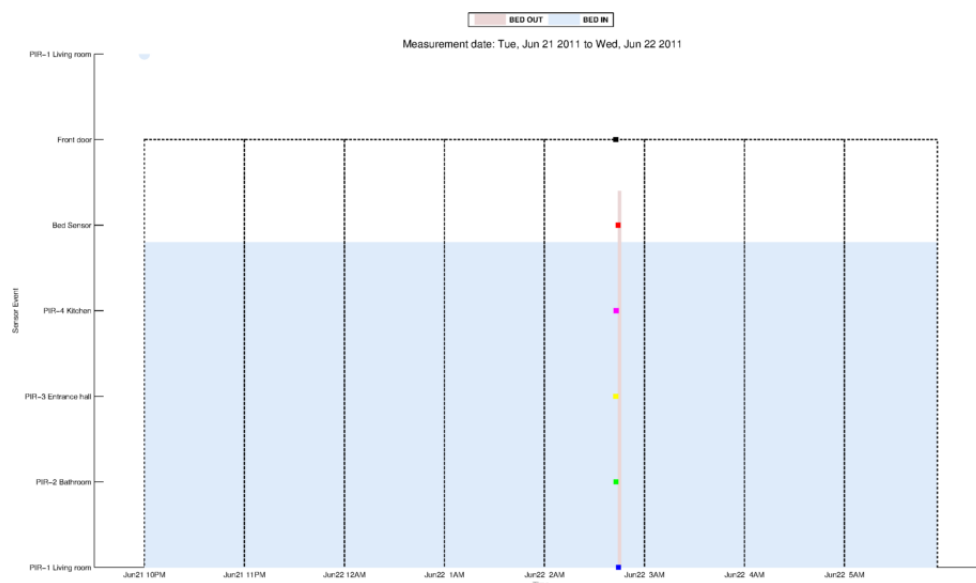


Figure 384: Sensor events and computed bed entrances and exists

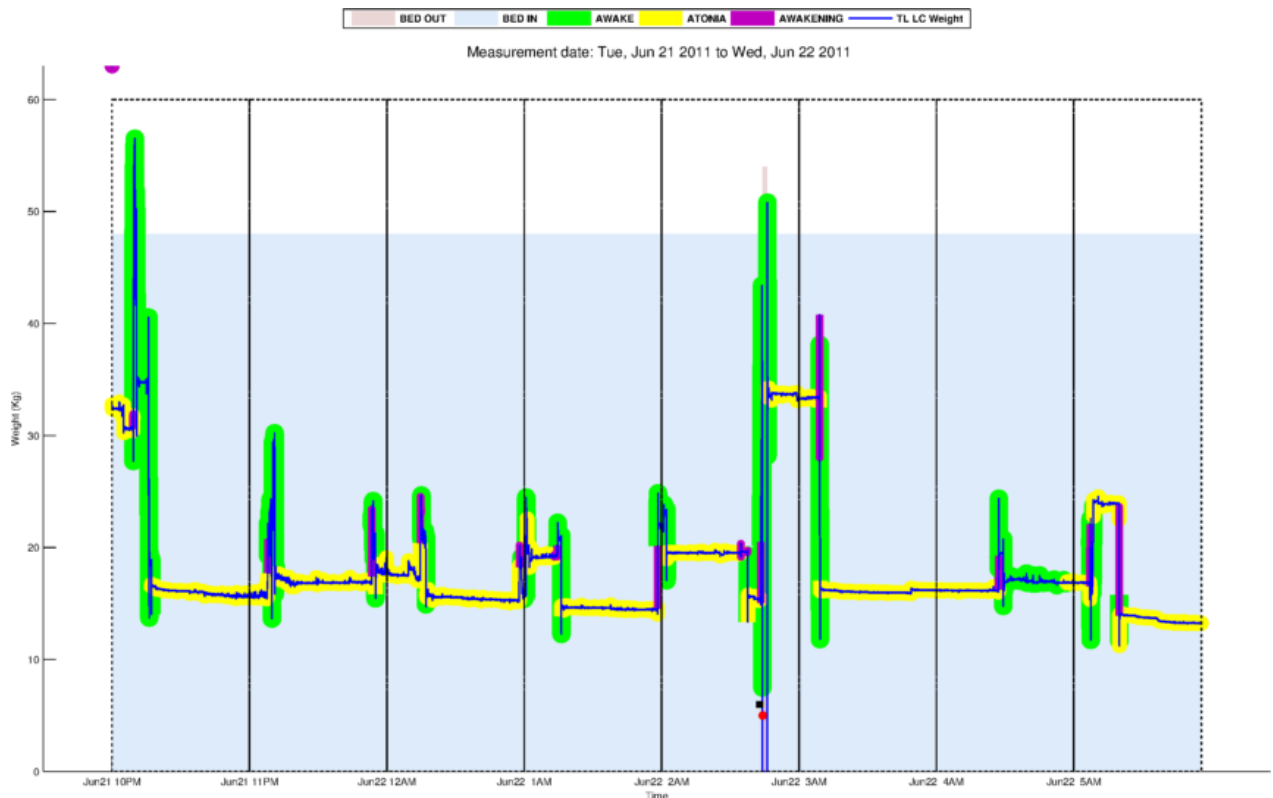


Figure 385: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 385 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 386 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 385).

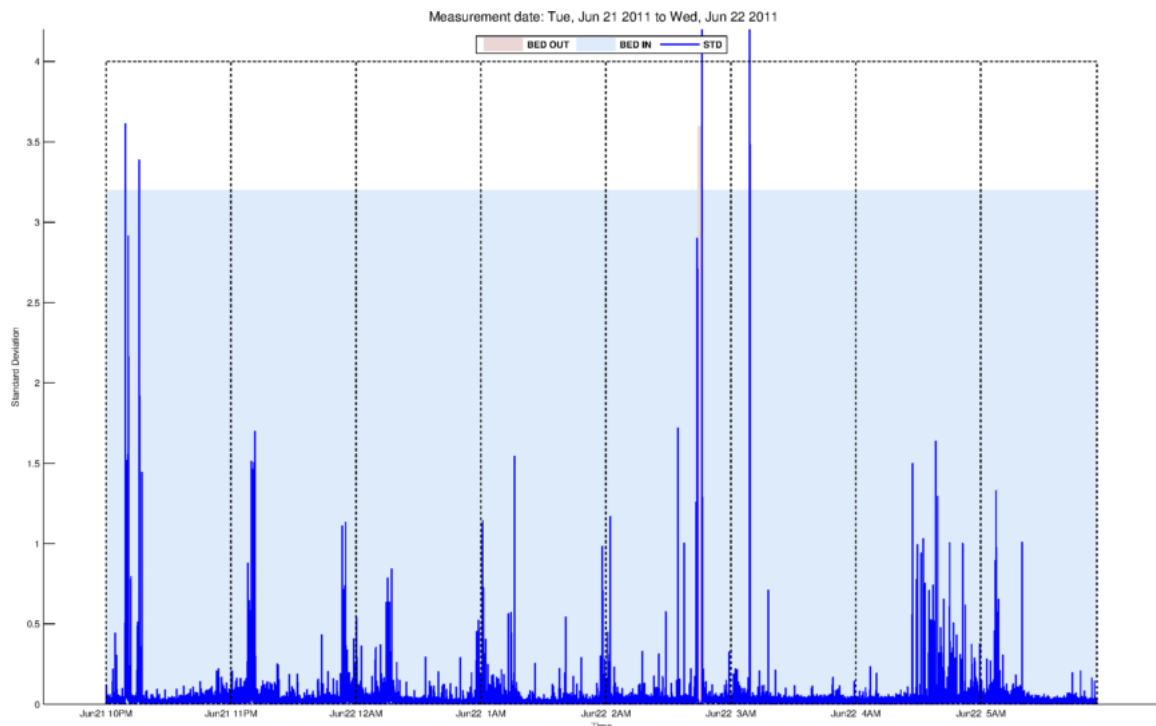


Figure 386: The moving standard deviation for the measured weight.

7.23 22nd Night: from Jun 22 2011 to Jun 23 2011

Table 272 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 273 presents the duration of the estimated sleep related activities.

Table 272: Sleep related activities and sensor events measured between Jun 22 and Jun 23

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:17	01:56:37	22:14:59	22:15:10	22:04:17		01:55:14	01:55:10		01:56:48	01:55:09
2	01:58:01	01:58:08	22:21:50	22:24:32	22:16:27		01:58:32	01:58:30			01:59:30
3	01:58:10		22:47:29	22:47:36	22:24:32						
4			23:32:16	23:32:44	22:50:43						
5			00:11:08	00:11:11	23:38:31						
6			00:42:27	00:42:30	00:12:17						
7			01:09:53	01:14:42	00:42:34						
8			01:39:33	01:39:36	01:15:29						
9			01:55:33	01:55:36	01:42:29						
10			02:29:32	01:58:10	02:01:33						
11			02:56:46	01:58:13	02:30:13						
12			03:05:09	02:29:35	02:57:29						
13			03:13:06	02:56:50	03:05:09						
14			03:24:16	03:14:25	03:14:25						
15			03:30:18	03:30:22	03:24:16						
16			03:41:12	03:41:16	03:35:10						
17			04:04:54	04:26:14	03:48:01						
18			04:23:27	04:39:48	04:04:55						
19			04:39:07	05:06:38	04:26:18						
20			05:05:43	05:26:43	04:44:44						
21			05:18:51	05:32:44	05:13:51						
22			05:26:40		05:18:52						
23			05:32:38		05:26:47						
24			05:58:55		05:32:53						

Table 273: Duration of the sleep related activities presented in Table 272

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	03:52:25	00:01:24	00:00:10	00:01:17	00:10:42
2	00:00:06	00:00:02	00:02:42	00:00:00	00:05:23
3	04:01:55		00:00:06	00:03:07	00:22:57
4			00:00:28	00:05:46	00:41:34
5			00:00:03	00:01:05	00:32:37
6			00:00:03	00:00:03	00:30:11
7			00:04:49	00:00:47	00:27:19
8			00:00:03	00:02:53	00:24:04
9			00:00:03	00:01:01	00:13:03
10			00:00:03	00:00:01	00:27:59
11			00:00:03	00:03:21	00:26:33
12			00:00:00	00:00:38	00:07:40
13			00:01:18	00:00:39	00:07:57
14			00:00:00	00:00:00	00:09:51
15			00:00:03	00:04:48	00:06:02
16			00:00:03	00:06:45	00:06:03
17			00:00:00	00:00:04	00:16:53
18			00:02:47	00:04:56	00:18:32
19			00:00:41	00:07:13	00:12:49
20			00:00:55	00:00:04	00:20:59
21			00:00:01	00:00:09	00:05:00
22			00:00:03		00:07:47
23			00:00:05		00:05:51
24			00:01:04		00:26:02

Figure 387 presents the measured sensor events and the computed bed entrances and exits.

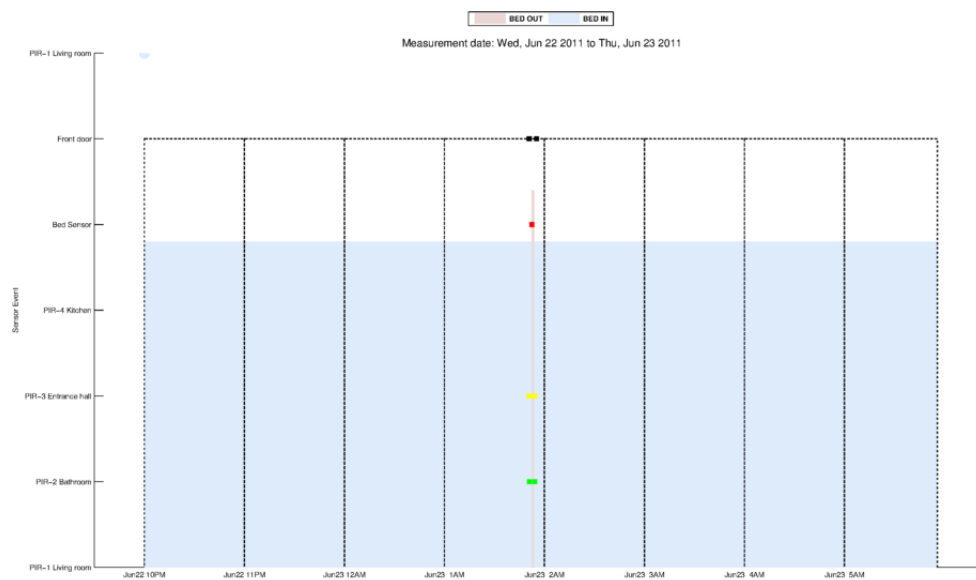


Figure 387: Sensor events and computed bed entrances and exists

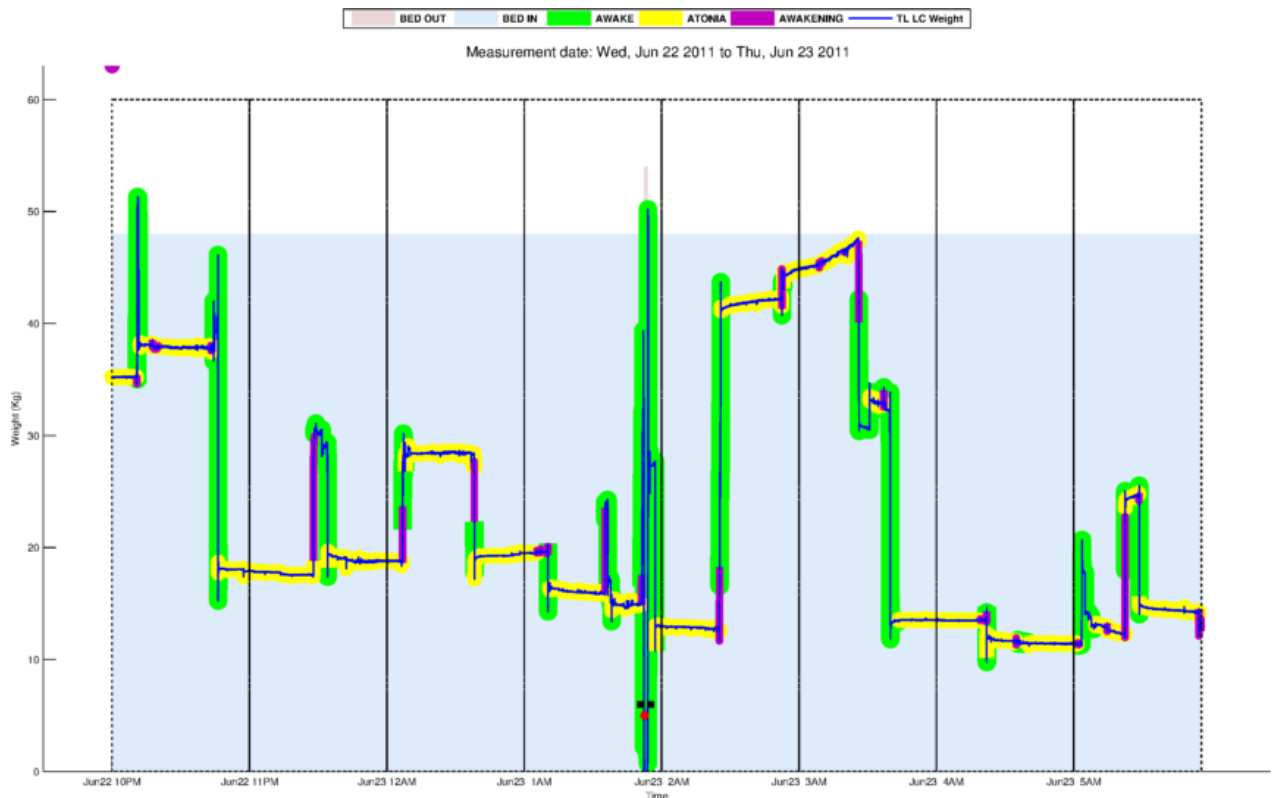


Figure 388: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 388 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 389 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 388).

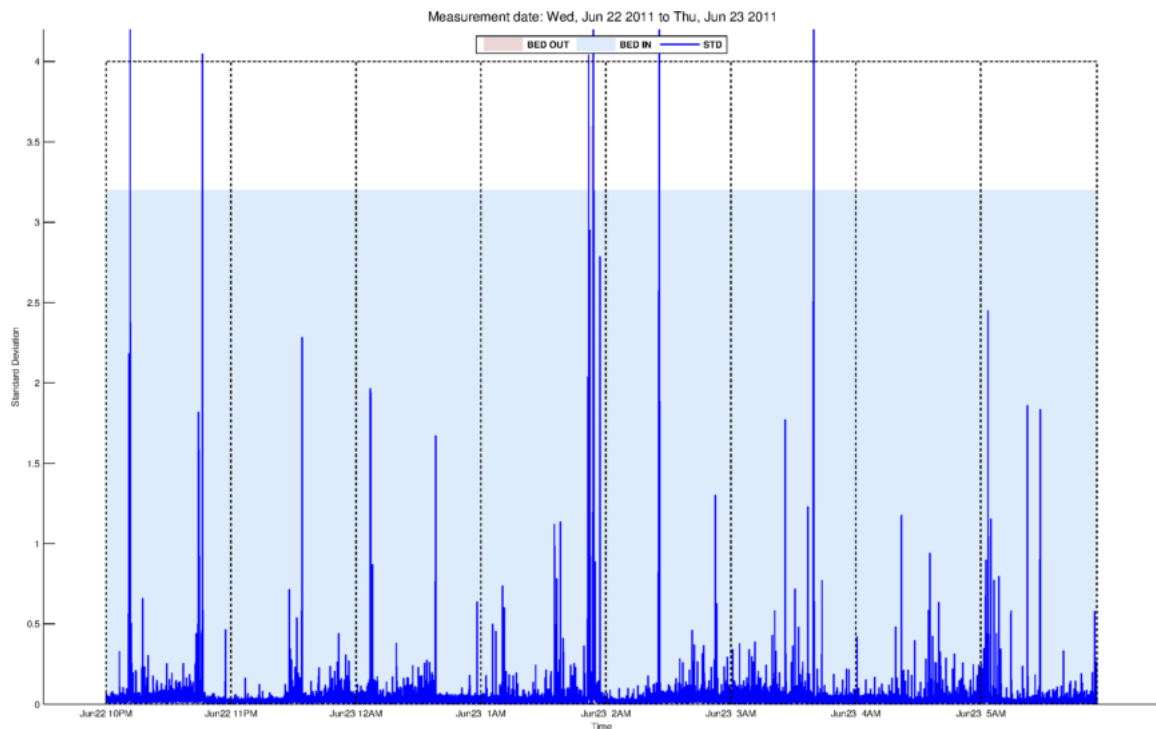


Figure 389: The moving standard deviation for the measured weight.

7.24 23rd Night: from Jun 23 2011 to Jun 24 2011

Table 274 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 275 presents the duration of the estimated sleep related activities.

Table 274: Sleep related activities and sensor events measured between Jun 23 and Jun 24

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:18	02:40:41	22:10:13	22:10:16	22:04:18		02:42:22			02:35:36	02:39:42
2	02:42:03	02:42:03	22:59:22	22:59:38	22:10:58					02:40:54	02:43:14
3	02:42:04		23:25:12	23:25:16	22:59:53						
4			23:54:56	23:55:12	23:25:42						
5			00:19:37	00:19:41	23:56:25						
6			00:30:26	00:30:32	00:24:37						
7			01:21:03	01:21:06	00:34:40						
8			01:27:54	02:05:44	01:21:58						
9			02:03:23	02:31:16	01:27:55						
10			02:31:13	02:40:09	02:06:10						
11			02:40:03	02:42:07	02:31:30						
12			03:25:53	03:25:56	02:43:08						
13			04:12:05	05:18:50	03:26:06						
14			04:47:40	05:53:34	04:12:06						
15			05:12:35		04:47:41						
16			05:17:54		05:12:40						
17			05:52:52		05:19:08						

Table 275: Duration of the sleep related activities presented in Table 274

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	04:36:28	00:01:22	00:00:03	00:00:41	00:05:55
2	00:00:00	00:00:01	00:00:15	00:00:15	00:48:25
3	03:17:58		00:00:04	00:00:26	00:25:19
4			00:00:16	00:01:13	00:29:14
5			00:00:03	00:04:56	00:23:13
6			00:00:06	00:04:08	00:05:48
7			00:00:03	00:00:51	00:46:23
8			00:00:00	00:00:26	00:05:56
9			00:02:21	00:00:13	00:35:28
10			00:00:03	00:00:31	00:25:03
11			00:00:06	00:01:01	00:08:33
12			00:00:03	00:00:10	00:42:45
13			00:00:00	00:00:18	00:46:00
14			00:00:01	00:06:24	00:35:35
15			00:00:05		00:24:54
16			00:00:55		00:05:14
17			00:00:42		00:33:45

Figure 390 presents the measured sensor events and the computed bed entrances and exits.

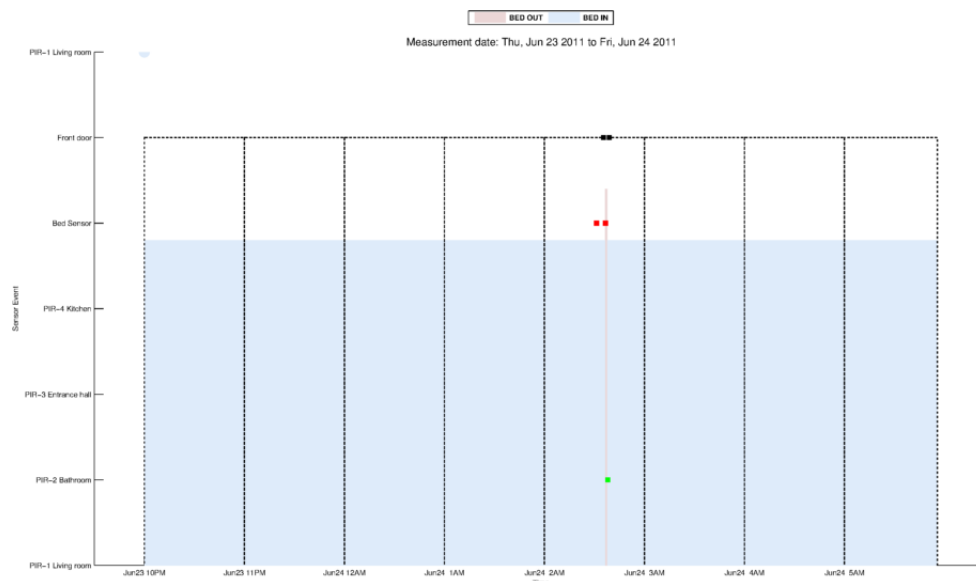


Figure 390: Sensor events and computed bed entrances and exists

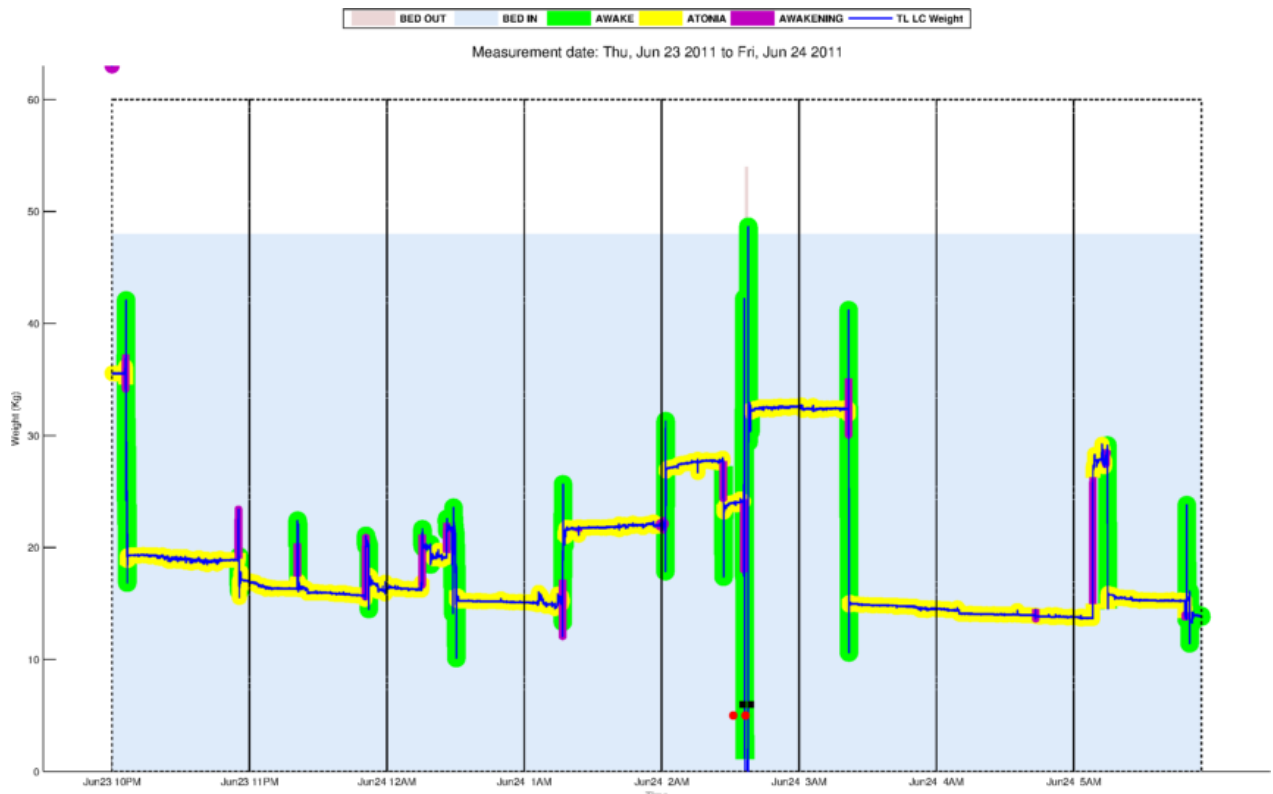


Figure 391: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 391 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 392 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 391).

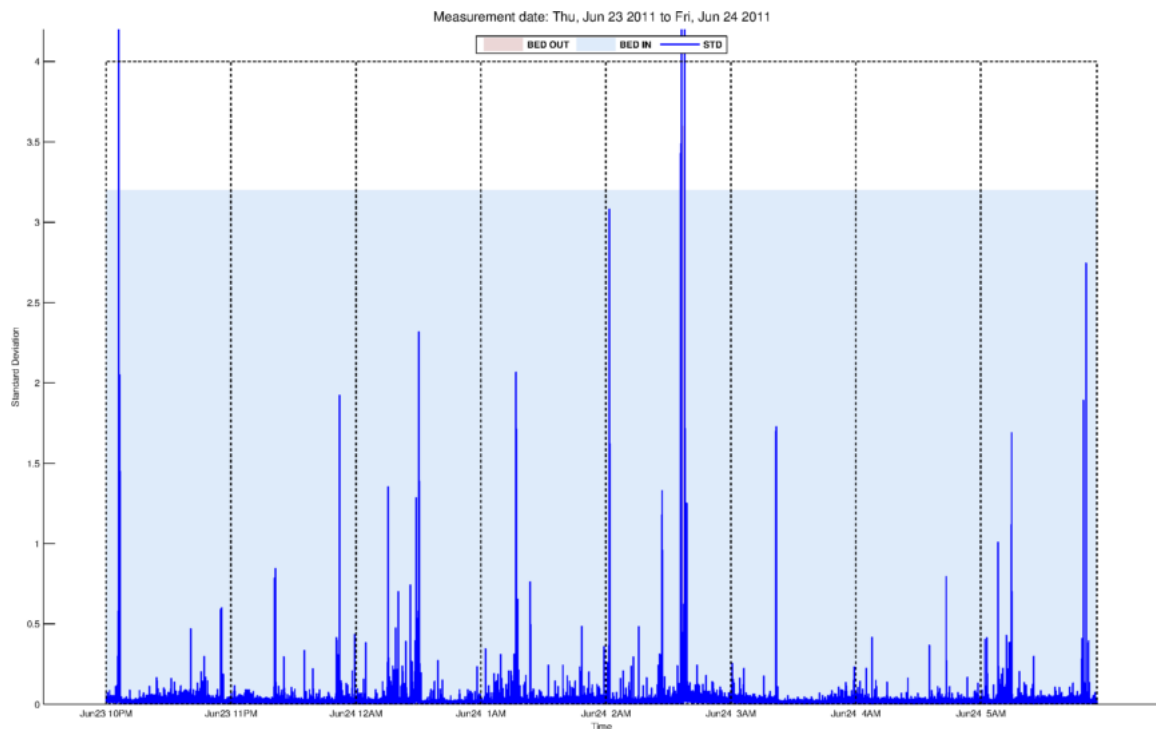


Figure 392: The moving standard deviation for the measured weight.

7.25 24th Night: from Jun 24 2011 to Jun 25 2011

Table 276 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 277 presents the duration of the estimated sleep related activities.

Table 276: Sleep related activities and sensor events measured between Jun 24 and Jun 25

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:18	02:40:34	22:09:50	22:09:56	22:04:18	02:39:30	02:41:21	02:37:56	02:38:13	02:40:50	02:37:55
2	02:43:20		22:40:51	22:40:59	22:12:07	02:44:13		02:41:18	02:41:13		02:45:00
3			23:44:07	23:44:10	22:42:24						
4			00:18:36	23:50:50	23:44:17						
5			00:25:28	00:18:40	23:52:02						
6			01:01:41	00:25:32	00:20:07						
7			01:18:04	01:01:50	00:31:35						
8			01:26:08	01:26:14	01:04:33						
9			02:06:34	02:30:17	01:18:05						
10			02:30:13	02:38:59	01:26:43						
11			02:38:50	02:43:24	02:06:34						
12			02:55:16	02:55:34	02:32:58						
13			03:20:50	03:48:51	02:46:57						
14			03:48:47	04:05:10	03:05:13						
15			04:05:06	04:42:49	03:20:53						
16			04:11:39	04:57:12	03:49:07						
17			04:40:37	05:18:38	04:05:23						
18			04:57:09	05:53:58	04:11:41						
19			05:18:35		04:42:50						
20			05:53:54		05:04:18						
21					05:28:27						

Table 277: Duration of the sleep related activities presented in Table 276

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	04:36:23	00:02:46	00:00:05	00:02:11	00:05:33
2	03:16:44		00:00:08	00:01:24	00:28:44
3			00:00:03	00:00:06	01:01:44
4			00:00:03	00:01:12	00:06:33
5			00:00:04	00:01:27	00:26:35
6			00:00:08	00:06:03	00:05:21
7			00:00:01	00:02:43	00:30:07
8			00:00:06	00:00:28	00:13:30
9			00:00:00	00:02:41	00:08:03
10			00:00:03	00:01:34	00:39:52
11			00:00:09	00:03:33	00:23:39
12			00:00:18	00:09:39	00:05:52
13			00:00:03	00:00:16	00:08:19
14			00:00:03	00:00:13	00:15:38
15			00:00:03	00:00:00	00:27:54
16			00:00:02	00:07:06	00:16:00
17			00:02:12	00:09:49	00:06:16
18			00:00:03	00:06:01	00:28:57
19			00:00:03		00:14:19
20			00:00:03		00:14:17
21					00:25:27

Figure 393 presents the measured sensor events and the computed bed entrances and exits.

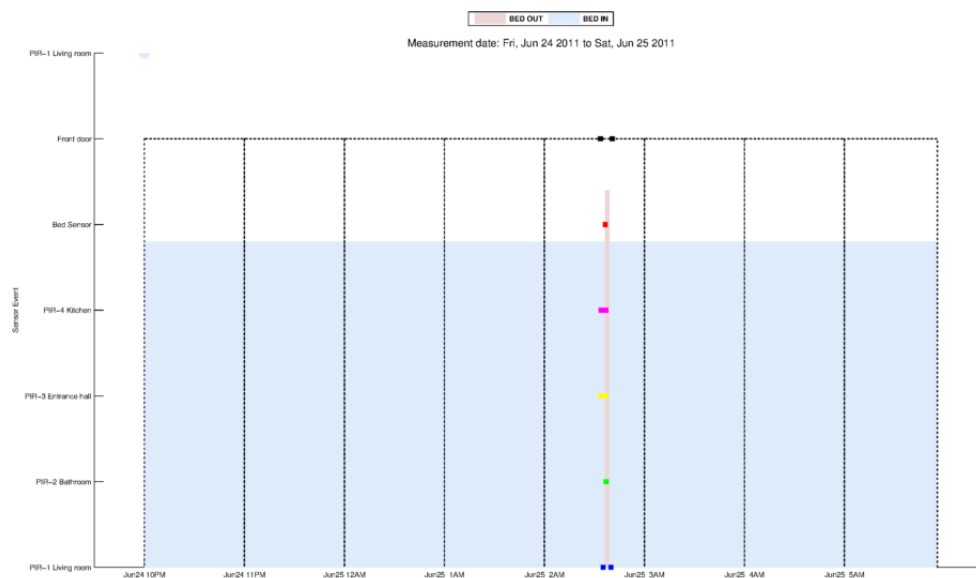


Figure 393: Sensor events and computed bed entrances and exists

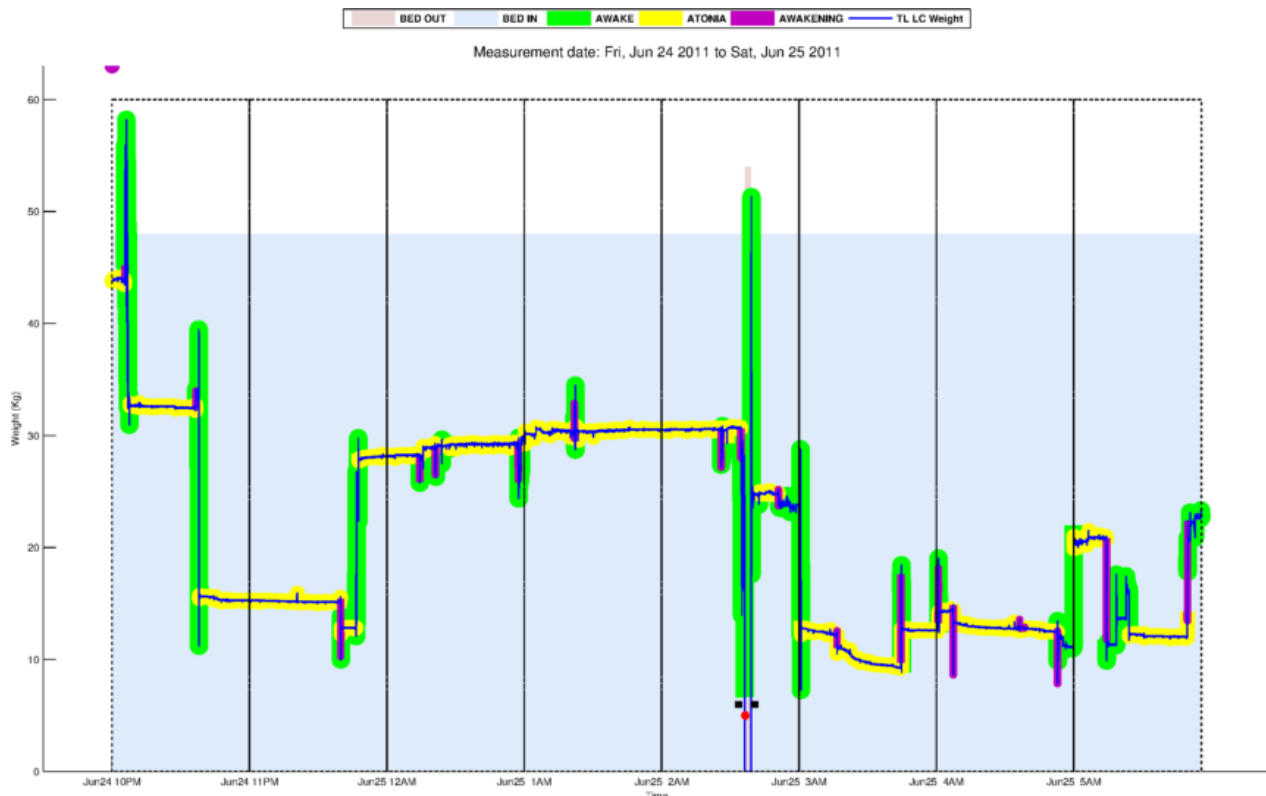


Figure 394: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 394 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 395 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 394).

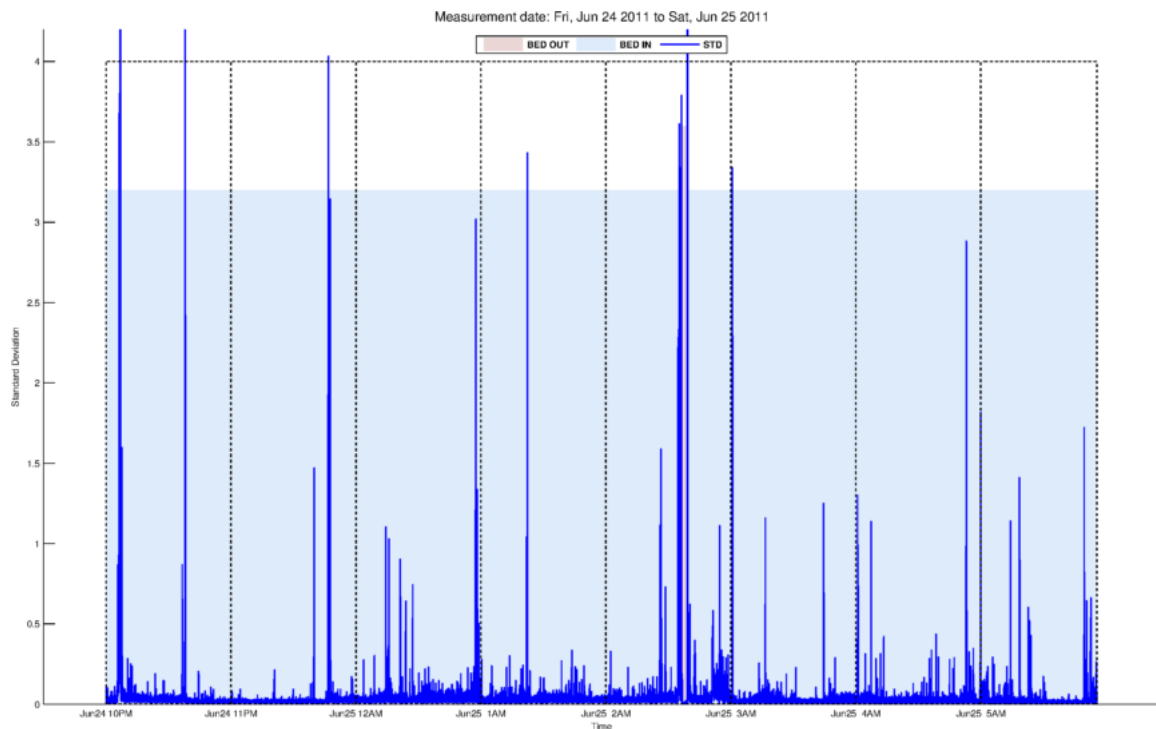


Figure 395: The moving standard deviation for the measured weight.

7.26 25th Night: from Jun 25 2011 to Jun 26 2011

Table 278 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 279 presents the duration of the estimated sleep related activities.

Table 278: Sleep related activities and sensor events measured between Jun 25 and Jun 26

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:18		22:06:56	22:11:24	22:04:18			03:52:52			03:52:51
2			22:28:51	22:43:57	22:20:11						03:54:02
3			22:43:53	23:00:08	22:28:56						
4			23:00:04	23:36:41	22:44:35						
5			23:36:37	00:14:58	23:02:18						
6			00:13:26	01:08:05	23:39:41						
7			01:08:01	01:30:29	00:14:59						
8			01:27:12	02:22:54	01:08:18						
9			02:22:35	02:52:40	01:32:04						
10			02:52:34	03:14:44	02:24:32						
11			03:14:39	04:32:59	02:57:25						
12			03:33:49	04:44:23	03:22:16						
13			03:46:12	04:53:20	03:33:49						
14			04:32:49	05:07:08	03:46:12						
15			04:43:40	05:45:55	04:38:12						
16			04:52:47		04:45:42						
17			05:07:04		05:01:46						
18			05:45:52		05:09:32						

Table 279: Duration of the sleep related activities presented in Table 278

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	07:55:57		00:04:28	00:08:47	00:02:38
2			00:00:04	00:00:37	00:08:40
3			00:00:04	00:02:10	00:14:57
4			00:00:04	00:03:00	00:15:29
5			00:00:03	00:00:00	00:34:20
6			00:01:32	00:00:13	00:33:46
7			00:00:03	00:01:35	00:53:04
8			00:03:17	00:01:38	00:18:55
9			00:00:18	00:04:45	00:50:33
10			00:00:06	00:07:32	00:28:03
11			00:00:04	00:05:13	00:17:15
12			00:00:00	00:01:20	00:11:33
13			00:00:00	00:08:26	00:12:23
14			00:00:09	00:02:24	00:46:39
15			00:00:42	00:14:04	00:05:28
16			00:00:33		00:07:04
17			00:00:04		00:05:18
18			00:00:03		00:36:21

Figure 396 presents the measured sensor events and the computed bed entrances and exits.

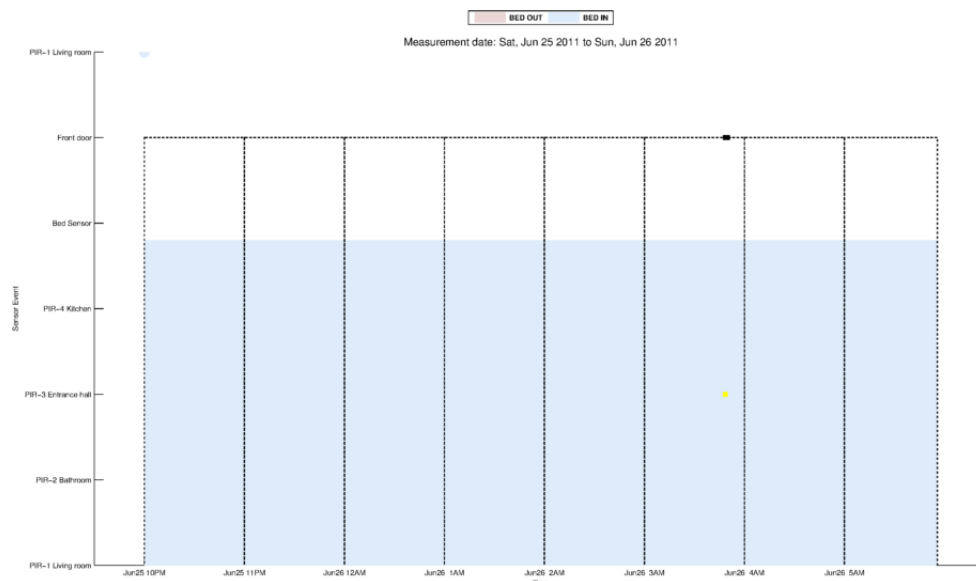


Figure 396: Sensor events and computed bed entrances and exists

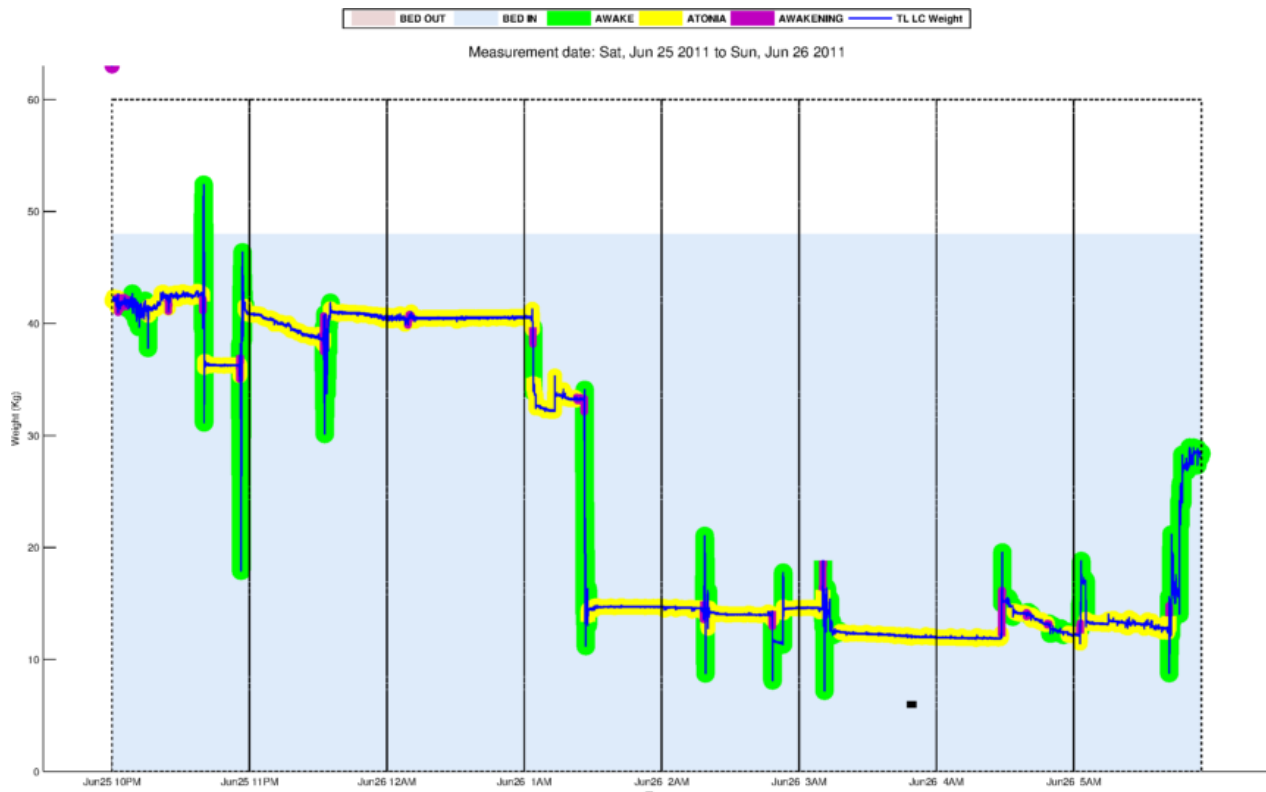


Figure 397: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 397 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 398 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 397).

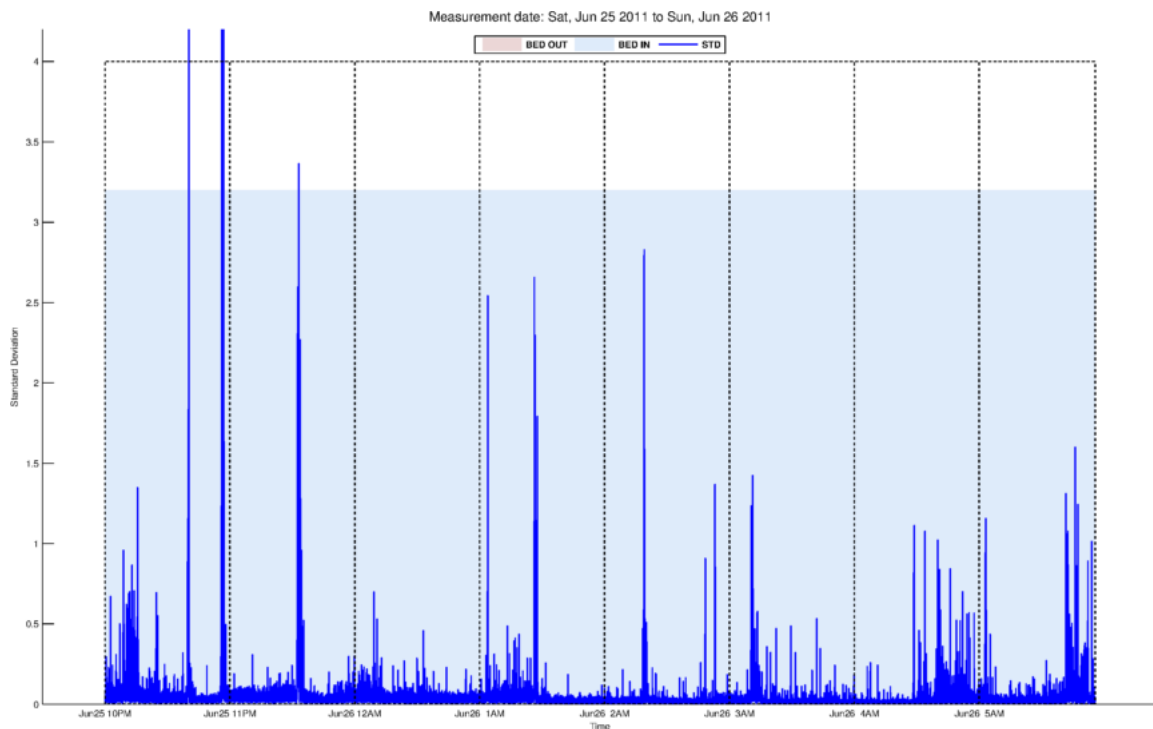


Figure 398: The moving standard deviation for the measured weight.

7.27 26th Night: from Jun 26 2011 to Jun 27 2011

Table 280 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 281 presents the duration of the estimated sleep related activities.

Table 280: Sleep related activities and sensor events measured between Jun 26 and Jun 27

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:17	02:53:18	22:30:33	22:32:52	22:04:17		02:54:09	02:52:12	02:52:25	02:53:48	02:52:09
2	02:54:56	02:54:58	23:43:48	23:43:52	22:32:53						02:56:12
3	02:54:59		23:57:43	00:26:01	23:49:46						02:56:25
4			00:25:58	01:04:54	23:57:43						
5			01:04:50	01:33:53	00:27:17						
6			01:14:49	01:45:08	01:05:27						
7			01:33:50	02:05:58	01:14:50						
8			01:41:38	02:28:06	01:35:12						
9			02:04:39	02:52:29	01:46:08						
10			02:28:03	02:55:00	02:06:02						
11			02:52:25	03:33:54	02:30:04						
12			03:13:17	04:30:35	02:55:51						
13			03:20:58	04:37:25	03:13:18						
14			03:28:35	05:12:30	03:20:59						
15			04:30:27	05:49:34	03:28:35						
16			04:37:21		03:34:17						
17			05:09:46		04:31:41						
18			05:46:24		04:44:06						
19			05:55:54		05:28:18						
20					05:49:35						

Table 281: Duration of the sleep related activities presented in Table 280

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	04:49:08	00:01:37	00:02:19	00:00:00	00:26:16
2	00:00:02	00:00:01	00:00:03	00:05:54	01:10:57
3	03:05:05		00:00:00	00:01:15	00:07:56
4			00:00:03	00:00:33	00:28:15
5			00:00:03	00:01:18	00:37:34
6			00:00:00	00:01:00	00:09:23
7			00:00:03	00:00:04	00:19:00
8			00:03:30	00:01:58	00:06:26
9			00:01:19	00:00:49	00:18:31
10			00:00:03	00:00:51	00:22:01
11			00:00:04	00:00:23	00:22:21
12			00:00:00	00:01:05	00:17:26
13			00:00:00	00:06:41	00:07:41
14			00:00:00	00:15:49	00:07:36
15			00:00:08	00:00:01	00:05:18
16			00:00:03		00:56:12
17			00:02:44		00:05:40
18			00:03:10		00:25:40
19			00:04:05		00:18:06
20					00:06:19

Figure 399 presents the measured sensor events and the computed bed entrances and exits.

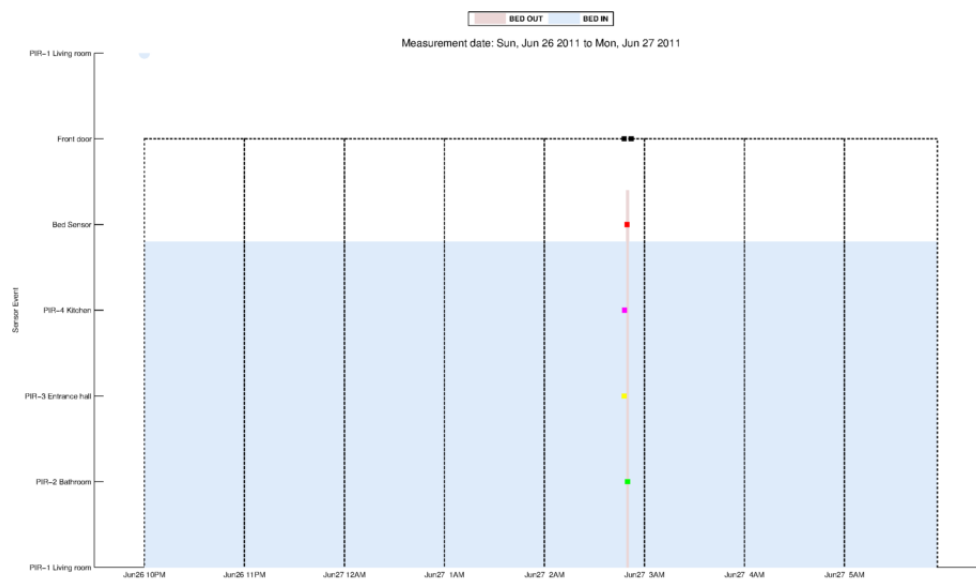


Figure 399: Sensor events and computed bed entrances and exists

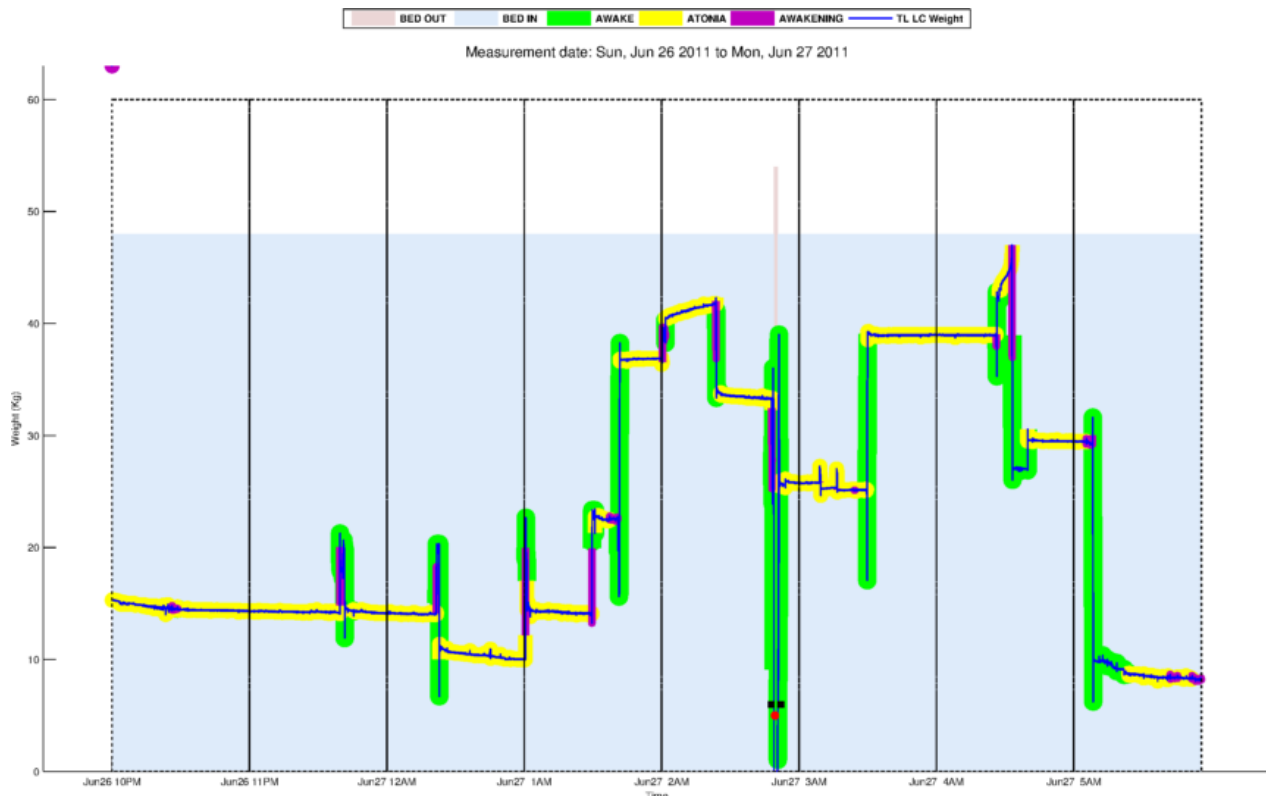


Figure 400: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 400 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 401 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 400).

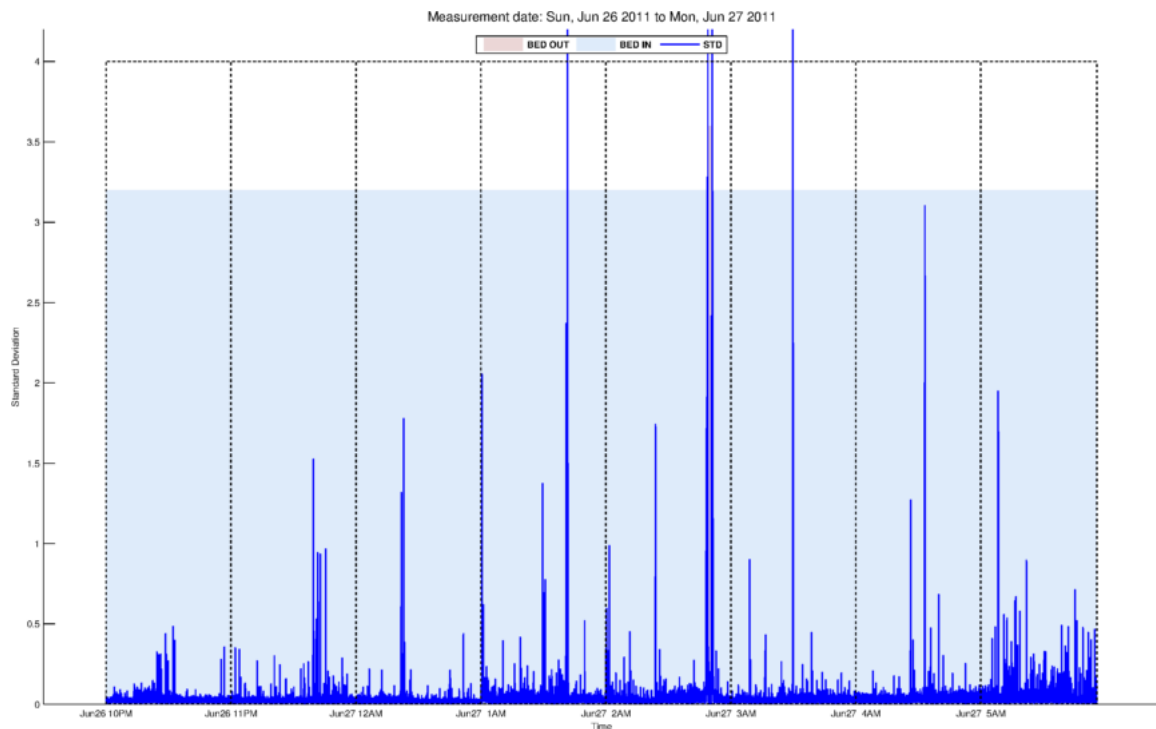


Figure 401: The moving standard deviation for the measured weight.

7.28 27th Night: from Jun 27 2011 to Jun 28 2011

Table 282 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 283 presents the duration of the estimated sleep related activities.

Table 282: Sleep related activities and sensor events measured between Jun 27 and Jun 28

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 Living room	PIR-2 Bathroom	PIR-3 Entrance hall	PIR-4 Kitchen	Bed Sensor	Front door
1	22:04:17	03:29:19	22:16:16	22:31:13	22:04:17		03:29:53	03:28:09		03:29:35	03:28:07
2	03:30:19	03:31:10	22:31:09	23:22:16	22:16:18					03:31:24	03:33:05
3	03:31:31		23:22:12	23:38:37	22:33:48						
4			23:38:34	00:37:47	23:22:16						
5			00:09:22	00:55:44	23:39:10						
6			00:34:01	01:12:33	00:09:23						
7			00:55:40	01:25:56	00:40:32						
8			01:12:29	01:36:52	00:56:43						
9			01:25:53	01:43:01	01:14:03						
10			01:35:02	02:14:43	01:27:11						
11			01:42:57	02:24:11	01:37:04						
12			01:57:51	03:16:25	01:43:53						
13			02:11:36	03:28:36	01:57:51						
14			02:22:02	03:30:22	02:14:46						
15			02:39:34	03:31:34	02:30:52						
16			02:45:47	04:08:46	02:39:35						
17			02:56:49	05:20:48	02:45:47						
18			03:04:11	05:37:51	02:56:50						
19			03:16:22	05:51:33	03:04:12						
20			03:28:33		03:17:18						
21			03:49:04		03:34:08						
22			04:08:43		03:49:05						
23			05:19:55		04:09:01						
24			05:37:47		05:32:24						
25			05:51:30		05:42:42						
26					05:51:50						

Table 283: Duration of the sleep related activities presented in Table 282

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	05:25:06	00:01:00	00:00:02	00:02:35	00:11:58
2	00:00:52	00:00:20	00:00:03	00:00:00	00:14:52
3	02:28:31		00:00:03	00:00:33	00:48:25
4			00:00:03	00:02:44	00:16:18
5			00:00:01	00:00:59	00:30:11
6			00:03:46	00:01:30	00:24:38
7			00:00:03	00:01:15	00:15:09
8			00:00:03	00:00:11	00:15:46
9			00:00:03	00:00:52	00:11:50
10			00:01:50	00:00:03	00:07:50
11			00:00:03	00:06:40	00:05:53
12			00:00:00	00:00:52	00:13:58
13			00:03:06	00:00:43	00:13:45
14			00:02:09	00:00:48	00:07:17
15			00:00:00	00:02:34	00:08:42
16			00:00:00	00:00:14	00:06:12
17			00:00:01	00:11:36	00:11:02
18			00:00:00	00:04:51	00:07:21
19			00:00:03	00:00:17	00:12:10
20			00:00:02		00:11:15
21			00:00:00		00:14:56
22			00:00:03		00:19:38
23			00:00:53		01:10:56
24			00:00:03		00:05:23
25			00:00:03		00:08:47
26					00:08:08

Figure 402 presents the measured sensor events and the computed bed entrances and exits.

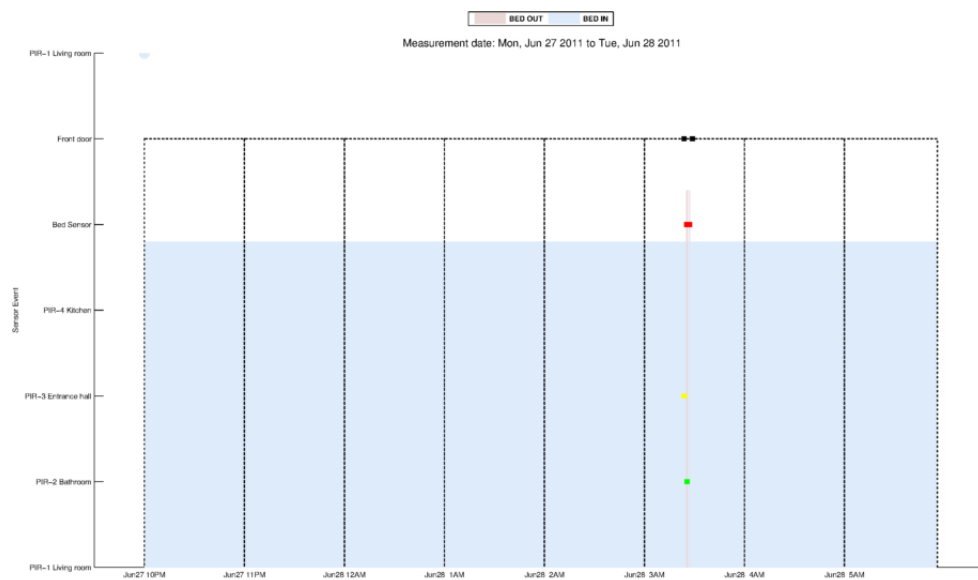


Figure 402: Sensor events and computed bed entrances and exists

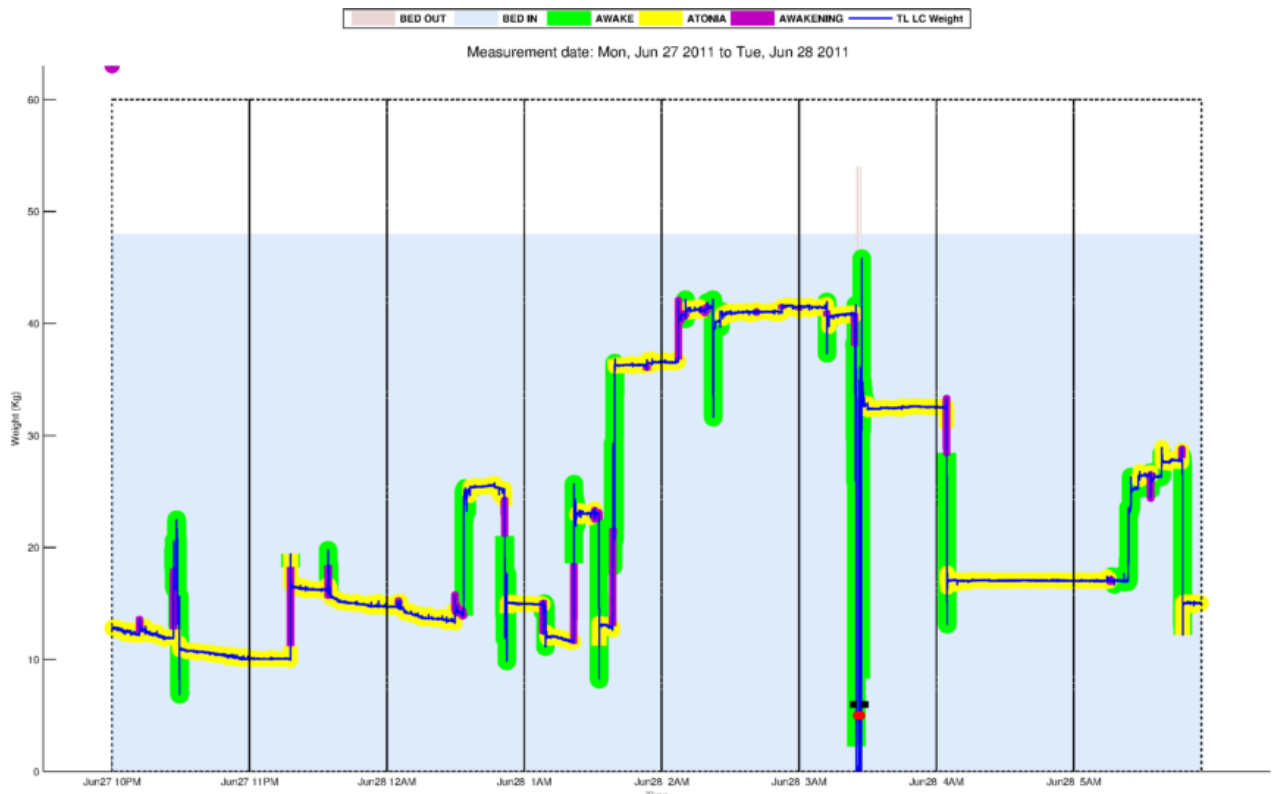


Figure 403: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 403 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 404 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 403).

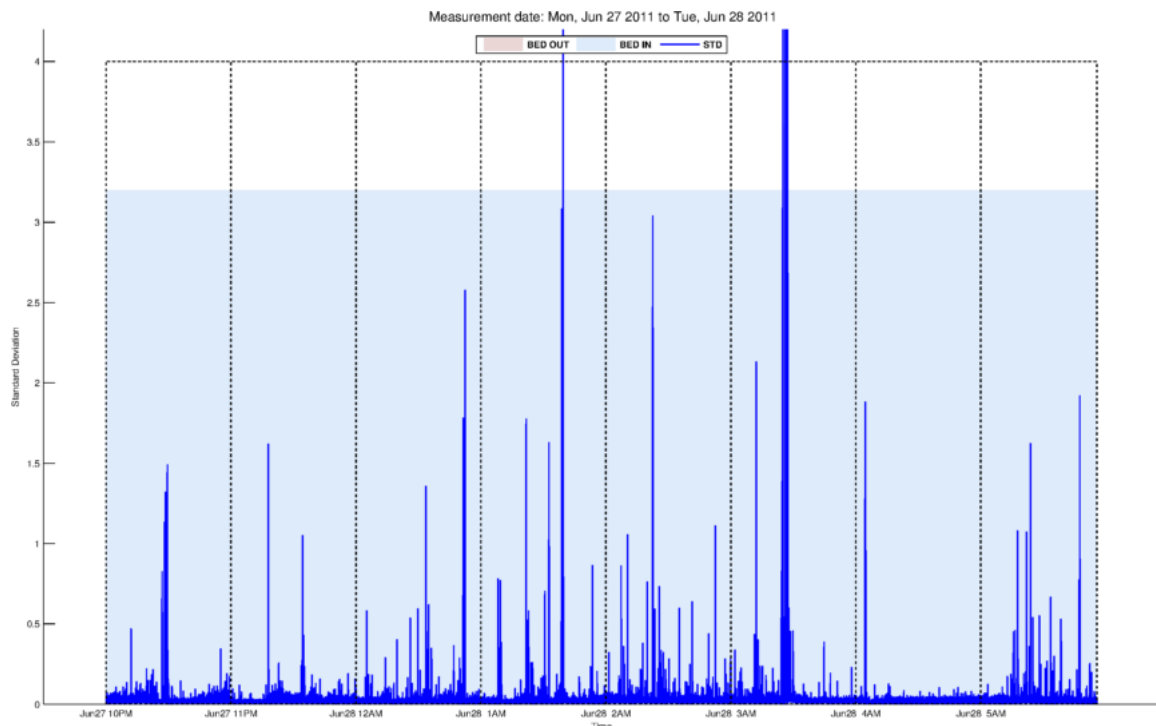


Figure 404: The moving standard deviation for the measured weight.

8 Participant 7: *PersonZ*

8.1 Summary

Start of data collection: May 19 2011.

End of data collection: Jun 20 2011.

Total Number of nights: 31.

A summary of estimated sleep activities and measured sensor events for each night are presented in Table 284.

Table 284: A summary of detected activities and sensor events. **Sleep efficiency** is the ratio of the estimated time asleep (**Time in Atonia**) to the estimated **Time in Bed**

Date	Bed Exits	Bed Entrances	Awake	Atonia	Awanening	Bed Sensor	Visits	Time in Bed	Time in Atonia	Sleep Efficiency
May 19-May 20	4	3	12	10	10	3	2	05:41:55	03:35:58	63%
May 25-May 26	6	6	14	13	12	4	0	06:30:38	02:14:32	34%
May 26-May 27	7	7	16	10	10	4	1	06:05:02	01:40:47	28%
May 27-May 28	7	7	15	8	8	5	1	06:13:18	00:57:45	15%
May 28-May 29	9	9	15	8	8	5	0	06:39:36	01:11:50	18%
May 29-May 30	1	0	0	0	0	6	0	00:00:00	00:00:00	NaN%
May 30-May 31	9	9	12	5	4	4	0	05:37:46	00:52:48	16%
May 31-Jun 01	6	5	12	10	10	4	0	02:53:17	01:20:22	46%
Jun 01-Jun 02	10	9	13	5	5	7	0	02:36:11	00:36:14	23%
Jun 02-Jun 03	6	5	8	3	3	3	0	02:52:24	00:23:50	14%
Jun 03-Jun 04	2	2	5	3	3	1	0	02:17:08	00:17:20	13%
Jun 04-Jun 05	4	4	8	5	5	1	1	01:49:09	01:17:42	71%
Jun 05-Jun 06	5	4	8	4	4	2	0	01:44:38	00:42:43	41%
Jun 06-Jun 07	8	8	11	6	6	5	1	02:24:23	01:08:14	47%
Jun 07-Jun 08	5	4	9	6	6	3	0	02:55:58	00:52:08	30%
Jun 08-Jun 09	4	3	4	1	1	2	2	01:54:46	00:05:46	5%
Jun 09-Jun 10	6	6	14	11	10	2	0	03:23:07	02:04:30	61%
Jun 10-Jun 11	8	8	16	12	11	3	0	04:00:27	02:31:27	63%
Jun 11-Jun 12	4	3	10	8	8	2	0	02:56:12	01:14:02	42%
Jun 12-Jun 13	6	6	14	12	12	4	2	03:20:08	01:14:50	37%
Jun 13-Jun 14	2	1	5	4	4	1	2	01:30:14	00:24:52	28%
Jun 14-Jun 15	4	4	10	9	9	2	1	03:54:06	01:26:49	37%
Jun 15-Jun 16	4	3	11	9	9	3	1	04:13:18	01:13:40	29%
Jun 16-Jun 17	6	5	14	10	10	3	1	03:40:53	01:28:13	40%
Jun 17-Jun 18	9	8	15	11	11	6	2	04:36:10	01:32:33	34%
Jun 18-Jun 19	6	6	17	12	12	4	1	04:06:51	01:58:54	48%
Jun 19-Jun 20	5	5	15	12	12	3	1	04:04:22	02:05:28	51%

8.2 1st Night: from May 19 2011 to May 20 2011

Table 285 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 286 presents the duration of the estimated sleep related activities.

Table 285: Sleep related activities and sensor events measured between May 19 and May 20

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	23:55:27	22:08:57	00:25:49	23:55:31	00:04:46	23:42:42	23:42:49	22:32:15	23:49:48	02:36:50	05:39:21
2	02:39:26	02:36:45	01:04:48	00:25:52	00:33:09	23:49:33	04:12:44	23:40:57	04:14:09	04:12:12	05:46:00
3	04:16:27	04:12:07	01:54:43	01:05:26	01:09:16	02:37:10	05:40:33	23:52:11	05:47:29	05:44:58	
4		05:44:53	02:36:06	01:54:47	02:22:55	04:12:32	05:45:48	02:36:08			
5			03:06:16	02:36:13	02:51:16	05:39:25		04:11:27			
6			03:34:06	02:39:26	03:06:17	05:45:33		04:16:00			
7			03:52:45	03:34:09	03:41:21			05:14:43			
8			04:06:01	03:54:09	04:00:13			05:39:34			
9			05:12:26	04:06:04	04:37:47						
10			05:32:16	04:16:44	05:21:59						
11				05:12:29							
12				05:32:34							

Table 286: Duration of the sleep related activities presented in Table 285

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	02:41:04	01:46:21	00:00:03	00:09:14	00:21:00
2	01:32:33	00:02:40	00:00:38	00:07:16	00:31:36
3	01:28:18	00:03:45	00:00:04	00:03:50	00:45:23
4		00:15:05	00:00:07	00:28:05	00:13:10
5			00:00:00	00:00:32	00:14:58
6			00:00:03	00:11:50	00:27:46
7			00:01:24	00:07:11	00:11:23
8			00:00:03	00:06:03	00:05:47
9			00:00:03	00:06:02	00:34:36
10			00:00:18	00:21:00	00:10:16
11				00:09:28	
12				00:12:17	

Figure 405 presents the measured sensor events and the computed bed entrances and exits.

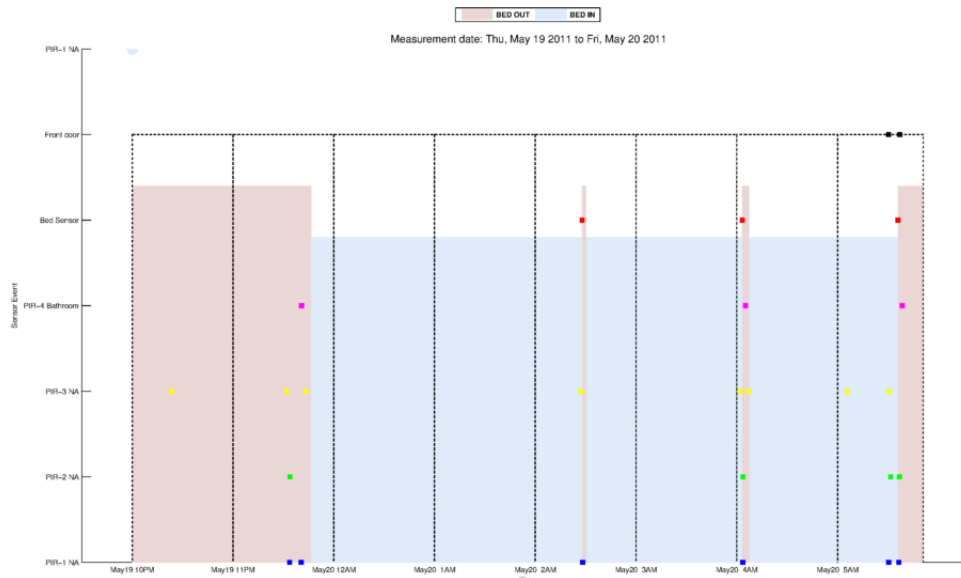


Figure 405: Sensor events and computed bed entrances and exists

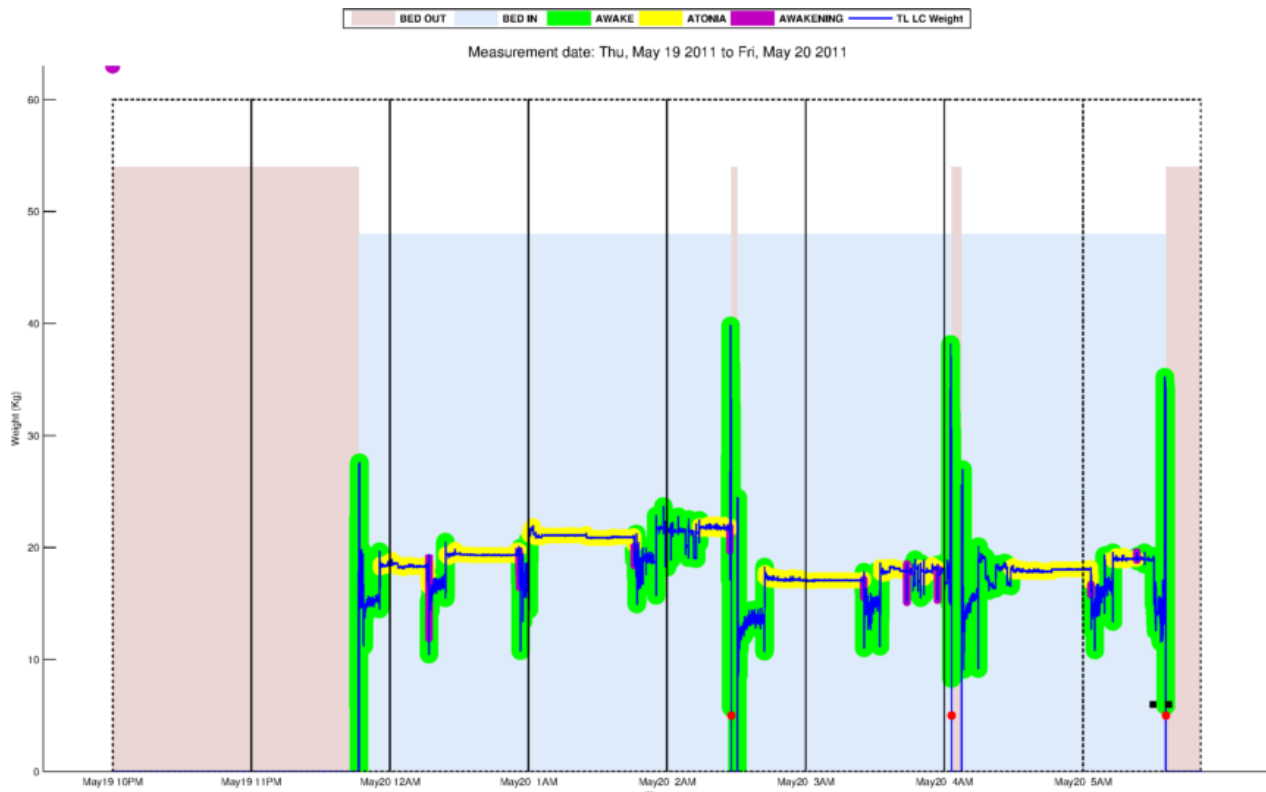


Figure 406: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 406 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 407 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 406).

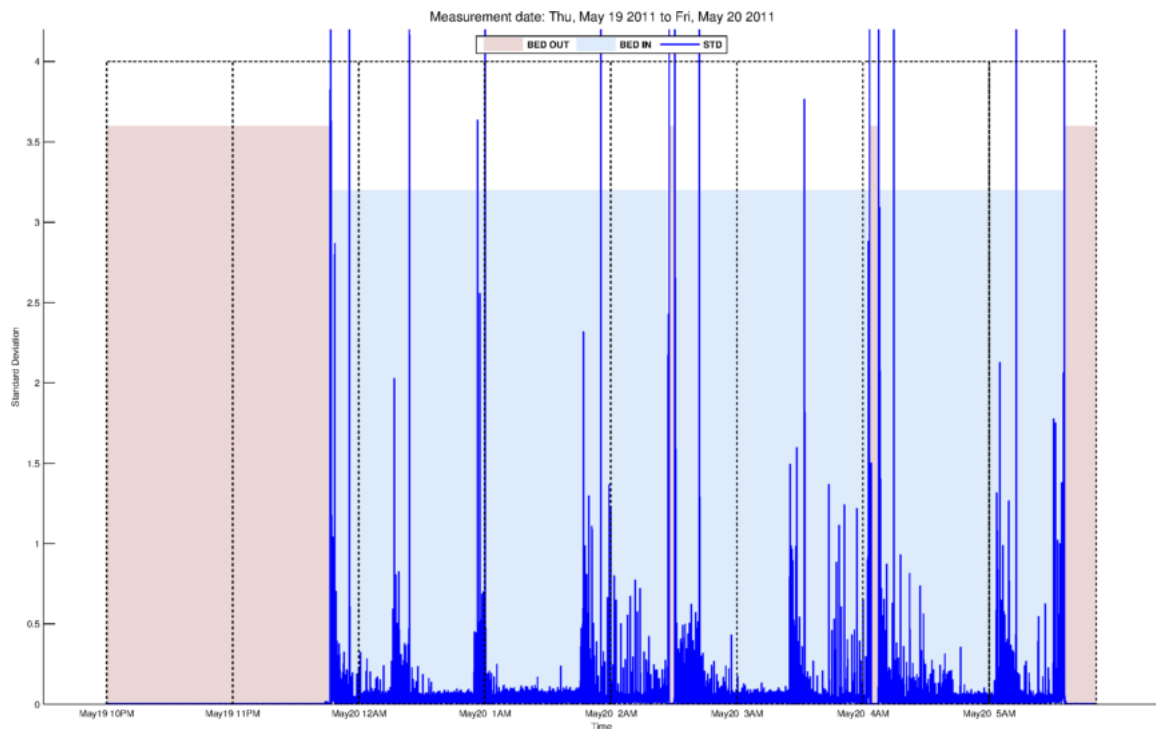


Figure 407: The moving standard deviation for the measured weight.

8.3 7th Night: from May 25 2011 to May 26 2011

Table 287 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 288 presents the duration of the estimated sleep related activities.

Table 287: Sleep related activities and sensor events measured between May 25 and May 26

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	23:18:29	22:08:50	00:17:30	23:18:32	00:09:15	23:03:10	23:03:27	22:04:47	23:16:04	02:08:30	
2	02:11:15	02:08:24	01:02:49	00:18:06	00:26:23	23:15:50	23:08:24	22:27:23	02:09:01	03:57:02	
3	03:59:54	03:56:56	01:09:09	01:09:56	01:02:50	02:08:47	05:08:52	22:48:11	03:57:33	04:01:11	
4	04:01:15	04:01:03	01:39:52	01:39:56	01:31:28	05:06:12		22:59:15	05:06:28	05:05:56	
5	04:02:23	04:02:22	02:47:00	02:11:39	02:37:40			23:17:47			
6	05:11:33	05:05:50	03:07:34	02:47:07	02:50:57			00:22:52			
7			03:16:13	03:17:39	03:07:34			02:07:22			
8			03:33:35	03:39:16	03:23:15			02:15:40			
9			03:38:57	03:50:50	03:33:35			03:56:25			
10			03:44:42	03:59:58	03:39:17			05:01:22			
11			03:50:10	04:02:16	03:44:43			05:04:25			
12			05:47:34	04:02:23	05:39:15			05:11:03			
13				05:11:37	05:54:36			05:23:53			
14				05:51:29							

Table 288: Duration of the sleep related activities presented in Table 287

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	02:50:18	01:09:47	00:00:36	00:50:50	00:08:15
2	01:45:56	00:02:51	00:00:00	00:08:18	00:36:31
3	00:01:08	00:02:58	00:00:47	00:21:35	00:06:20
4	00:01:07	00:00:12	00:00:03	00:28:32	00:08:25
5	01:03:35	00:00:01	00:00:07	00:26:04	00:09:21
6	00:48:32	00:05:44	00:00:00	00:03:50	00:16:39
7			00:01:26	00:05:37	00:08:40
8			00:00:00	00:00:00	00:10:21
9			00:00:19	00:06:07	00:05:22
10			00:00:01	00:01:05	00:05:26
11			00:00:40	00:00:06	00:05:27
12			00:03:56	01:03:35	00:08:20
13				00:27:42	00:05:24
14				00:03:07	

Figure 408 presents the measured sensor events and the computed bed entrances and exits.

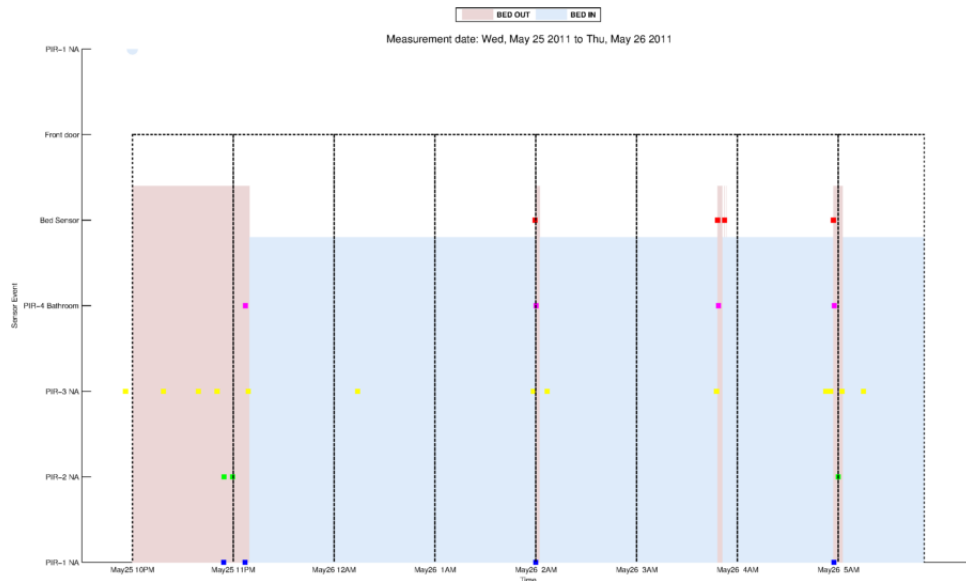


Figure 408: Sensor events and computed bed entrances and exists

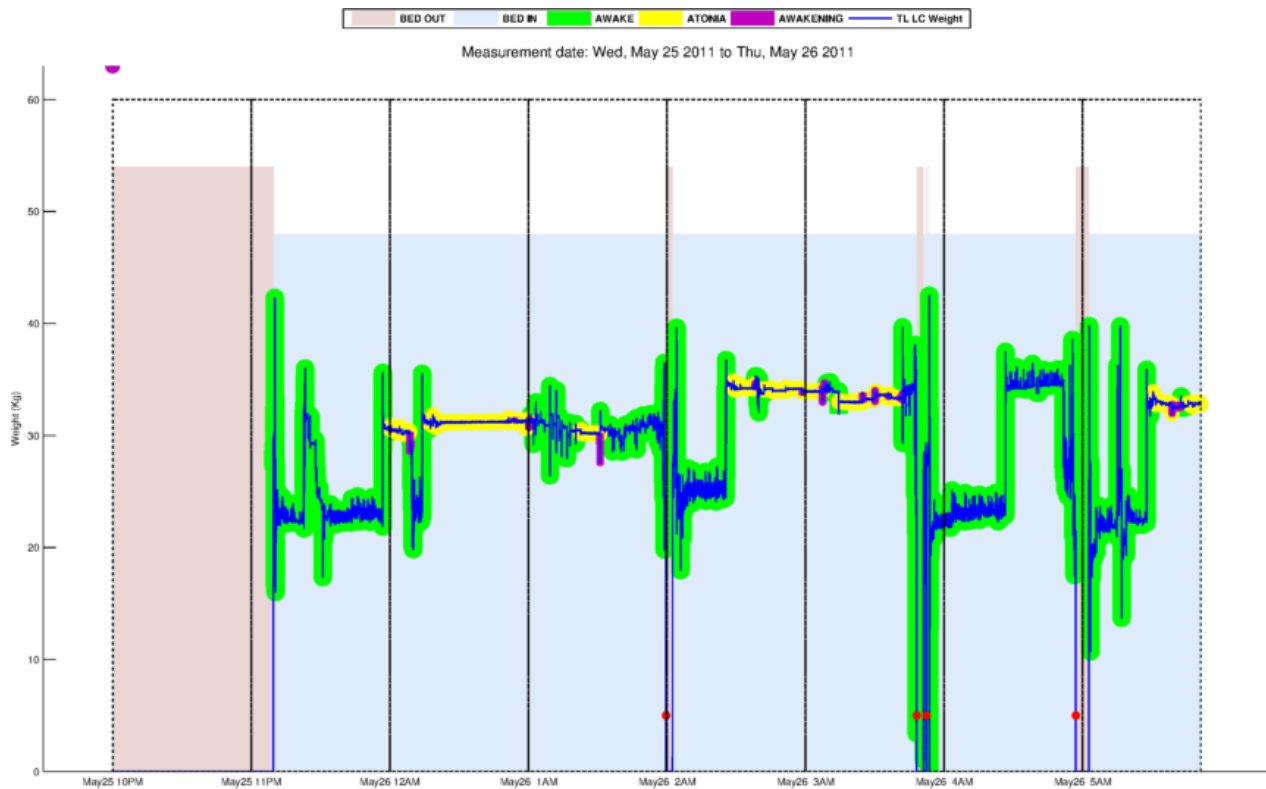


Figure 409: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 409 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 410 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 409).

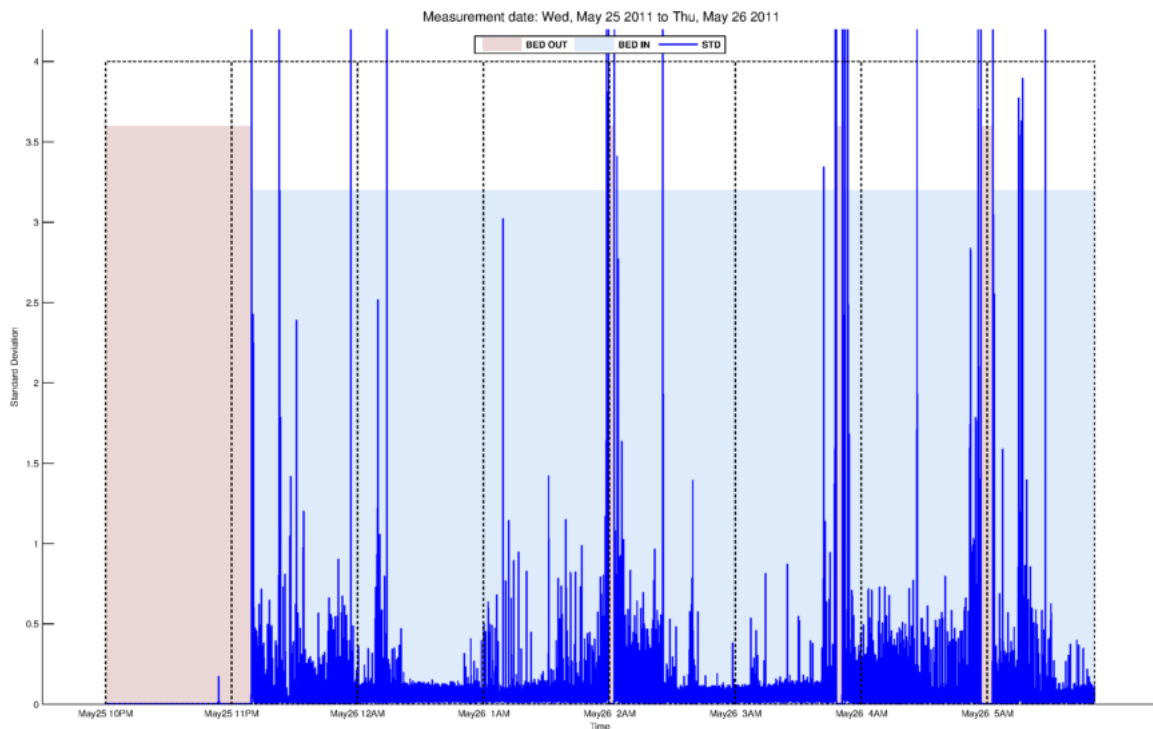


Figure 410: The moving standard deviation for the measured weight.

8.4 8th Night: from May 26 2011 to May 27 2011

Table 289 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 290 presents the duration of the estimated sleep related activities.

Table 289: Sleep related activities and sensor events measured between May 26 and May 27

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	23:30:34	22:08:51	23:58:46	23:30:38	23:51:33	22:37:36	22:37:44	22:00:09	23:28:53	02:27:22	23:40:42
2	23:31:39	23:31:38	00:31:22	23:31:39	00:16:46	22:57:22	22:57:28	22:10:48	02:27:54	04:00:29	
3	02:32:36	02:27:14	00:43:06	23:58:49	00:33:09	23:28:42	23:05:18	22:25:20	04:01:01	04:18:27	
4	02:32:46	02:32:45	01:10:26	00:32:43	00:57:47	02:27:40	23:15:31	22:29:34	05:56:54	05:56:30	
5	04:17:11	04:00:21	01:34:27	00:44:37	01:11:43	04:00:47	23:21:23	22:36:39			
6	04:18:29	04:18:18	01:43:06	01:11:43	01:34:28	04:15:34	23:27:21	22:54:58			
7	05:59:10	05:56:23	01:52:54	01:43:09	01:47:40	05:56:42	02:29:34	23:30:09			
8			02:58:10	01:53:38	02:52:29		04:02:31	01:44:53			
9			03:14:38	02:32:43	03:06:08		04:10:16	02:23:39			
10			05:36:27	02:32:46	05:31:07		04:13:46	02:31:58			
11				02:59:53				03:59:32			
12				03:18:06				04:15:51			
13				04:17:14				04:19:21			
14				04:18:51				04:22:17			
15				05:39:45				04:25:14			
16				05:59:13				04:48:24			
17								05:55:58			

Table 290: Duration of the sleep related activities presented in Table 289

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:01:04	01:21:54	00:00:03	00:00:59	00:07:13
2	02:55:59	00:00:01	00:01:20	00:19:56	00:14:38
3	00:00:08	00:05:23	00:01:30	00:17:59	00:09:58
4	01:27:47	00:00:01	00:01:17	00:00:26	00:12:40
5	00:01:07	00:16:08	00:00:01	00:13:12	00:22:46
6	01:38:07	00:00:11	00:00:03	00:00:00	00:08:39
7	00:00:49	00:02:47	00:00:44	00:04:31	00:05:15
8			00:01:43	00:33:40	00:05:41
9			00:03:28	00:00:01	00:08:31
10			00:03:17	00:19:46	00:05:21
11				00:06:16	
12				00:42:21	
13				00:01:03	
14				01:12:25	
15				00:16:40	
16				00:00:45	

Figure 411 presents the measured sensor events and the computed bed entrances and exits.

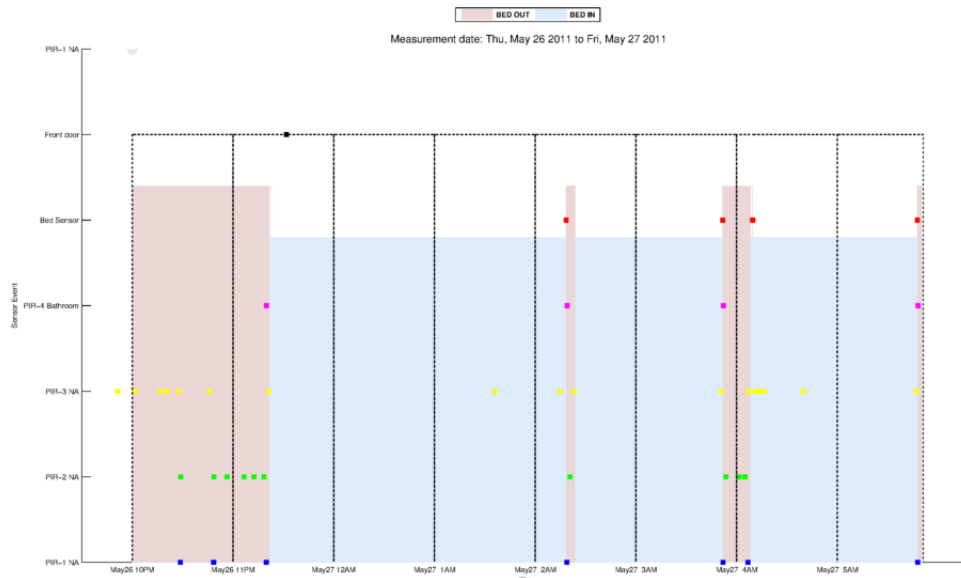


Figure 411: Sensor events and computed bed entrances and exists

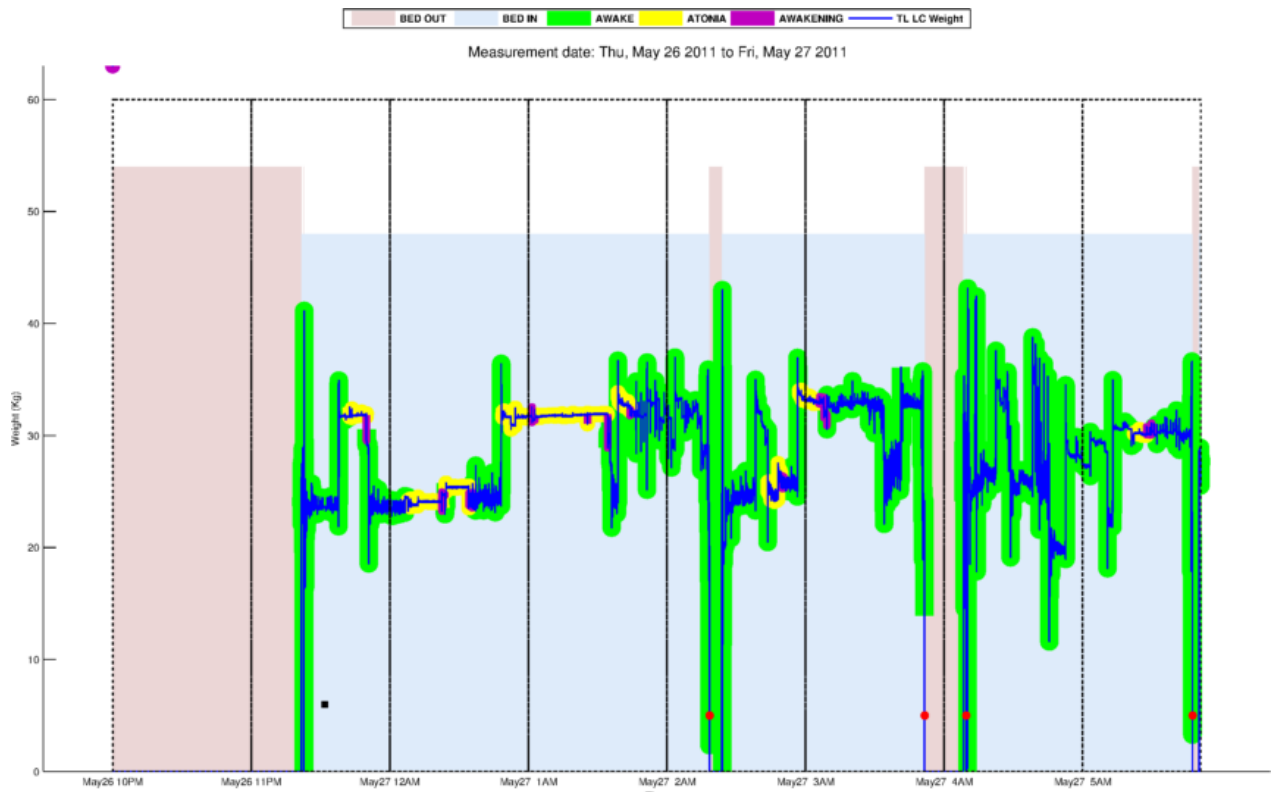


Figure 412: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 412 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 413 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 412).

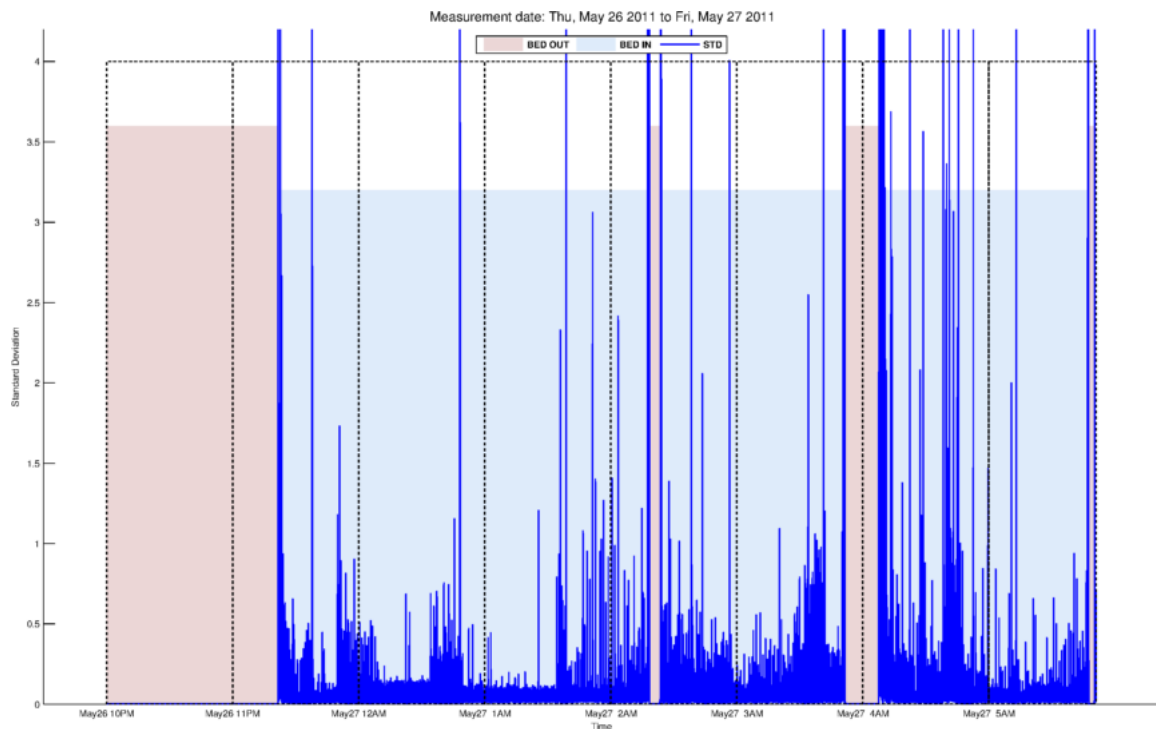


Figure 413: The moving standard deviation for the measured weight.

8.5 9th Night: from May 27 2011 to May 28 2011

Table 291 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 292 presents the duration of the estimated sleep related activities.

Table 291: Sleep related activities and sensor events measured between May 27 and May 28

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	23:00:11	22:07:12	23:27:32	23:00:32	23:21:32	22:35:52	22:11:47	22:57:06	22:36:03	01:10:52	22:40:39
2	01:09:09	01:09:08	23:38:59	23:31:17	23:31:19	22:55:53	22:32:00	01:08:39	22:56:01	01:57:59	
3	01:13:41	01:10:43	23:53:52	23:41:20	23:45:39	01:58:15	22:35:37	01:56:44	01:11:22	02:28:35	
4	02:27:00	01:57:50	00:18:58	23:53:56	00:10:34	02:21:54	22:38:45	02:33:29	01:58:31	04:17:56	
5	02:33:51	02:28:25	00:27:10	00:20:07	00:20:08	02:33:19	22:41:33	02:44:59	02:21:56	05:21:33	
6	04:23:02	04:17:46	01:28:05	00:28:03	01:23:01	04:18:10	22:44:33	04:17:01	05:22:20		
7	05:25:53	05:21:24	01:45:20	01:09:09	01:38:02	05:22:07	22:49:00	04:22:41			
8			03:31:07	01:13:55	03:23:10		22:54:12	05:14:41			
9				01:28:08			02:00:42	05:20:36			
10				01:45:54			02:06:30	05:25:27			
11				02:27:04			02:11:25	05:29:57			
12				02:33:57			02:19:30				
13				03:31:55			02:29:06				
14				04:23:09			02:32:09				
15				05:26:22			04:21:11				
16							05:24:30				

Table 292: Duration of the sleep related activities presented in Table 291

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	02:09:14	00:53:07	00:03:45	00:21:02	00:06:00
2	00:01:34	00:00:01	00:02:22	00:00:02	00:07:41
3	00:44:15	00:02:58	00:00:03	00:04:19	00:08:15
4	00:01:24	00:29:14	00:01:09	00:16:40	00:08:25
5	01:44:09	00:05:27	00:00:54	00:00:01	00:07:02
6	00:58:30	00:05:16	00:00:03	00:41:10	00:05:04
7	00:34:10	00:04:29	00:00:34	00:01:34	00:07:18
8			00:00:48	00:09:07	00:07:58
9				00:09:55	
10				00:11:58	
11				00:01:21	
12				00:49:19	
13				00:45:57	
14				00:58:23	
15				00:33:41	

Figure 414 presents the measured sensor events and the computed bed entrances and exits.

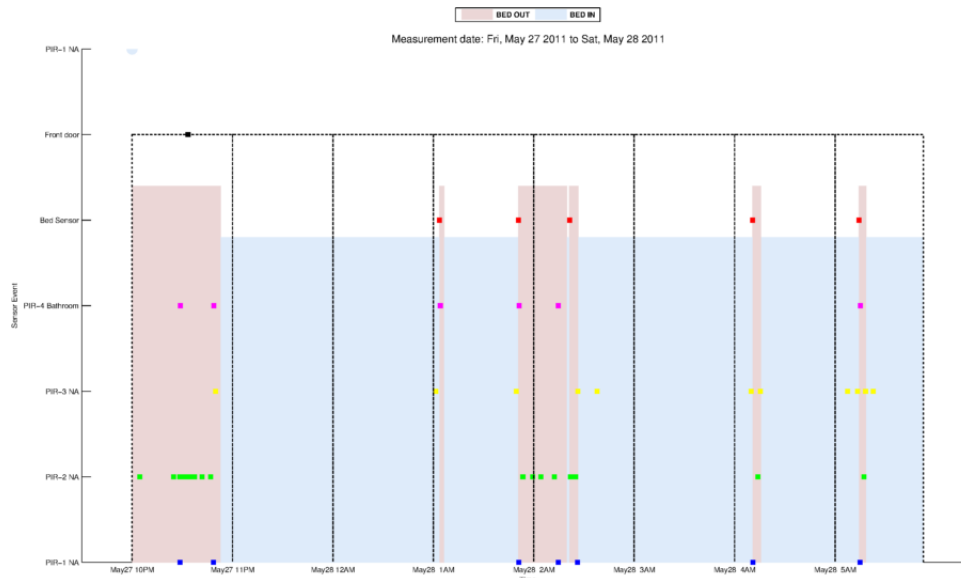


Figure 414: Sensor events and computed bed entrances and exists

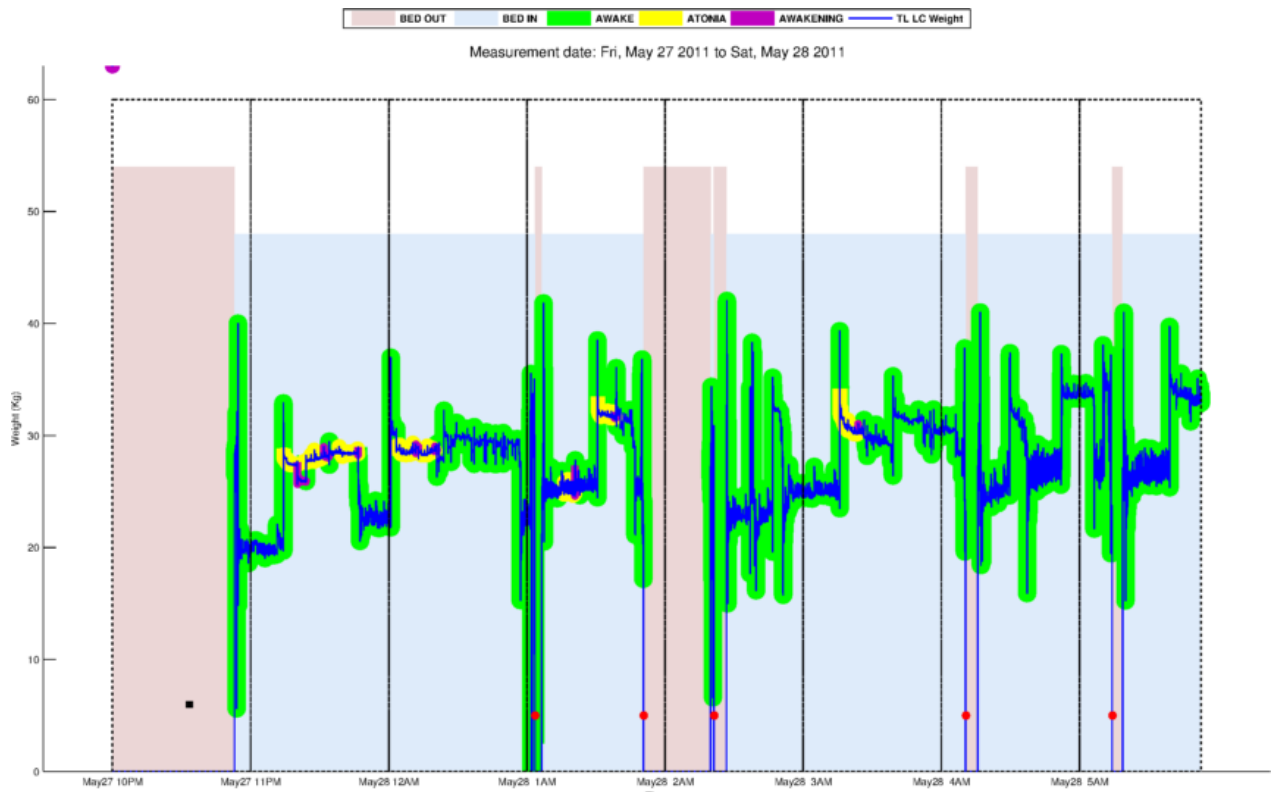


Figure 415: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 415 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 416 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 415).

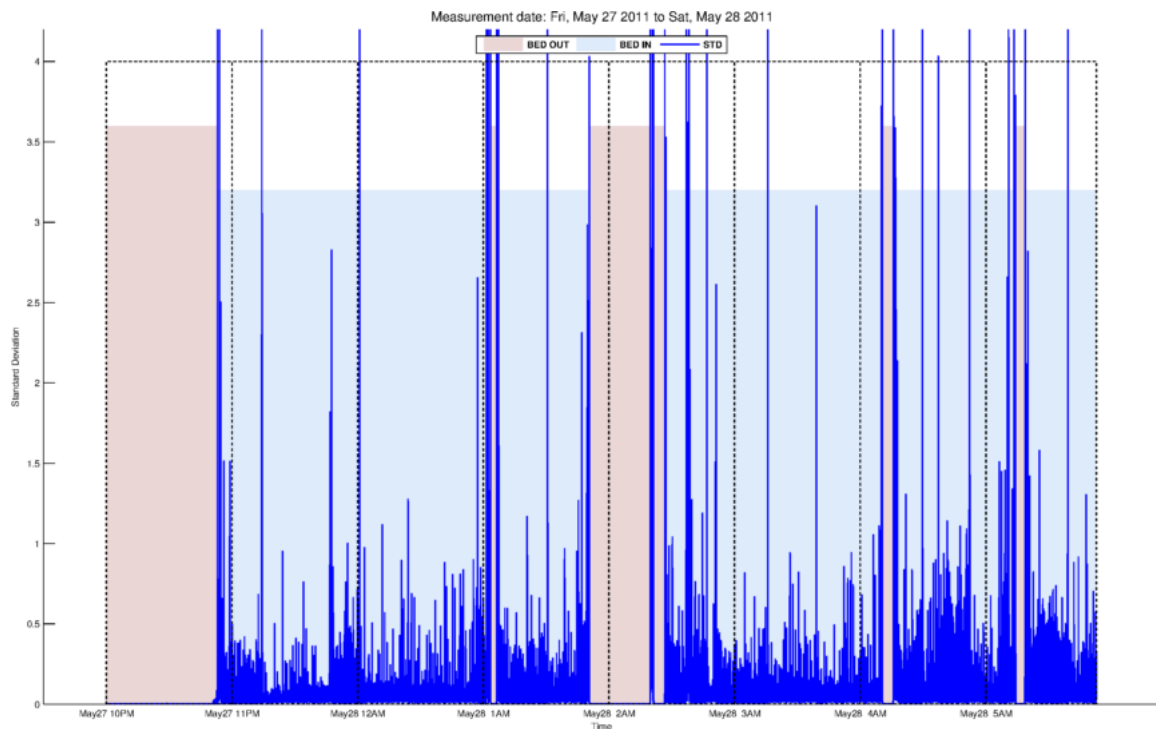


Figure 416: The moving standard deviation for the measured weight.

8.6 10th Night: from May 28 2011 to May 29 2011

Table 293 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 294 presents the duration of the estimated sleep related activities.

Table 293: Sleep related activities and sensor events measured between May 28 and May 29

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	22:30:19	22:04:41	23:02:04	22:30:25	22:50:08	22:02:20	22:02:28	22:29:46	22:27:48	00:44:57	
2	00:47:09	00:44:47	23:37:29	23:05:53	23:24:55	22:27:29	22:14:18	00:42:02	00:45:23	02:29:28	
3	03:07:33	02:29:18	23:44:07	23:46:38	23:37:29	00:45:10	22:26:03	00:54:22	04:50:22	03:08:58	
4	03:09:05	03:08:46	01:54:22	00:47:16	01:48:19	02:30:05	02:32:22	01:37:24	05:55:01	04:49:35	
5	03:09:33	03:09:27	02:11:30	01:59:04	01:59:05	03:01:30	02:38:45	02:23:55		05:53:01	
6	04:53:53	04:49:26	03:26:03	02:13:12	03:19:14	04:50:09	02:59:41	02:28:24			
7	04:54:20	04:54:13	03:48:16	03:07:51	03:41:48	05:53:46	05:53:57	03:07:14			
8	04:54:26	04:54:21	04:22:44	03:09:09	04:13:57			04:45:18			
9	05:58:10	05:52:51		03:09:36				04:53:26			
10				03:26:06				05:13:52			
11				03:49:37				05:24:31			
12				04:26:44				05:38:24			
13				04:54:03				05:42:02			
14				04:54:31				05:50:07			
15				05:58:16				05:57:37			

Table 294: Duration of the sleep related activities presented in Table 293

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	02:14:47	00:25:42	00:03:49	00:19:45	00:11:58
2	01:42:24	00:02:21	00:00:00	00:19:04	00:12:35
3	00:01:12	00:38:20	00:02:31	00:58:17	00:06:39
4	00:00:21	00:00:19	00:04:43	01:01:12	00:06:03
5	01:40:07	00:00:06	00:01:41	00:00:00	00:12:27
6	00:00:20	00:04:27	00:00:03	00:16:09	00:06:50
7	00:00:01	00:00:07	00:01:20	00:00:55	00:06:29
8	00:58:34	00:00:04	00:04:00	00:00:17	00:08:49
9	00:01:49	00:05:19		00:09:39	
10				00:15:44	
11				00:24:23	
12				00:22:44	
13				00:00:10	
14				00:58:29	
15				00:01:43	

Figure 417 presents the measured sensor events and the computed bed entrances and exits.

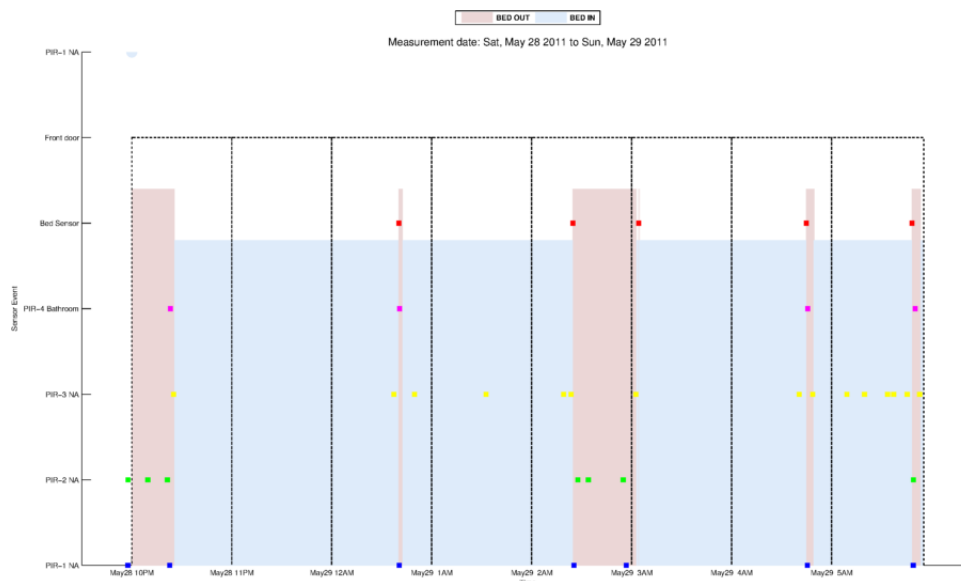


Figure 417: Sensor events and computed bed entrances and exists

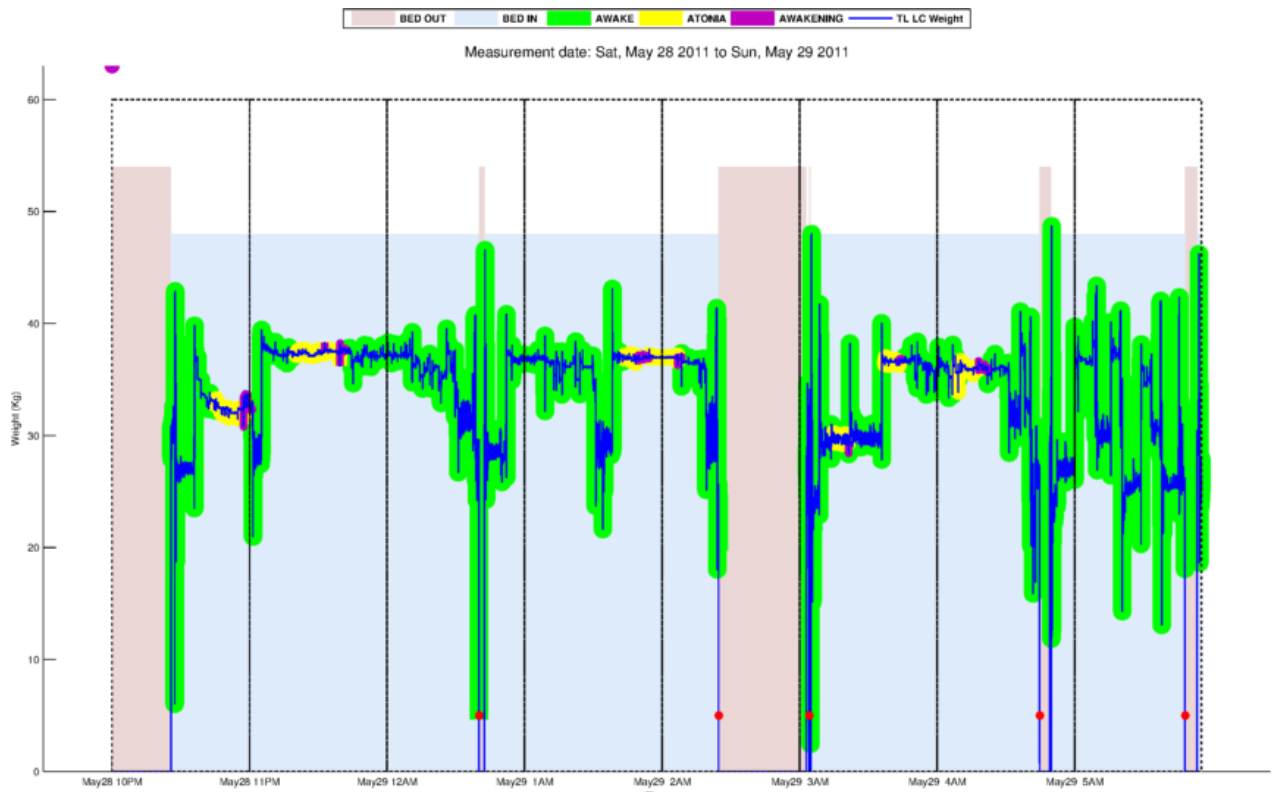


Figure 418: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 418 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 419 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 418).

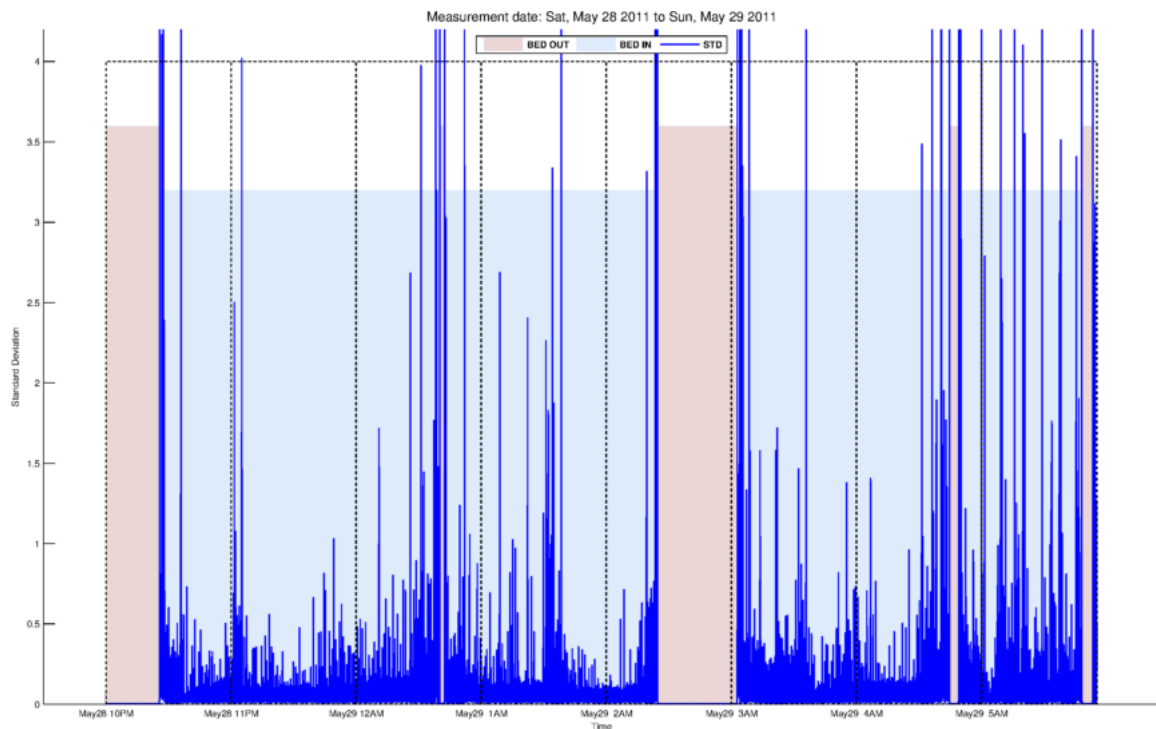


Figure 419: The moving standard deviation for the measured weight.

8.7 11th Night: from May 29 2011 to May 30 2011

Table 295 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 296 presents the duration of the estimated sleep related activities.

Table 295: Sleep related activities and sensor events measured between May 29 and May 30

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1		22:09:21				22:25:10	22:30:01	22:13:04	00:20:21	00:02:52	
2						22:34:34	22:33:47	22:36:19	01:39:34	01:05:05	
3						00:03:12	00:03:28	23:43:59	03:11:42	02:28:37	
4						01:05:18	00:19:43	00:00:41	05:27:07	03:15:42	
5						01:39:20	01:05:30	00:21:38		04:35:21	
6						02:28:52	02:34:26	00:54:46		05:26:16	
7						03:11:25	03:01:51	01:04:22			
8						04:35:56	03:10:34	01:40:48			
9						05:26:51	05:32:18	02:27:37			
10						05:39:51		03:12:59			
11								04:34:35			
12								05:23:58			
13								05:40:01			

Table 296: Duration of the sleep related activities presented in Table 295

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1		07:51:44			

Figure 420 presents the measured sensor events and the computed bed entrances and exits.

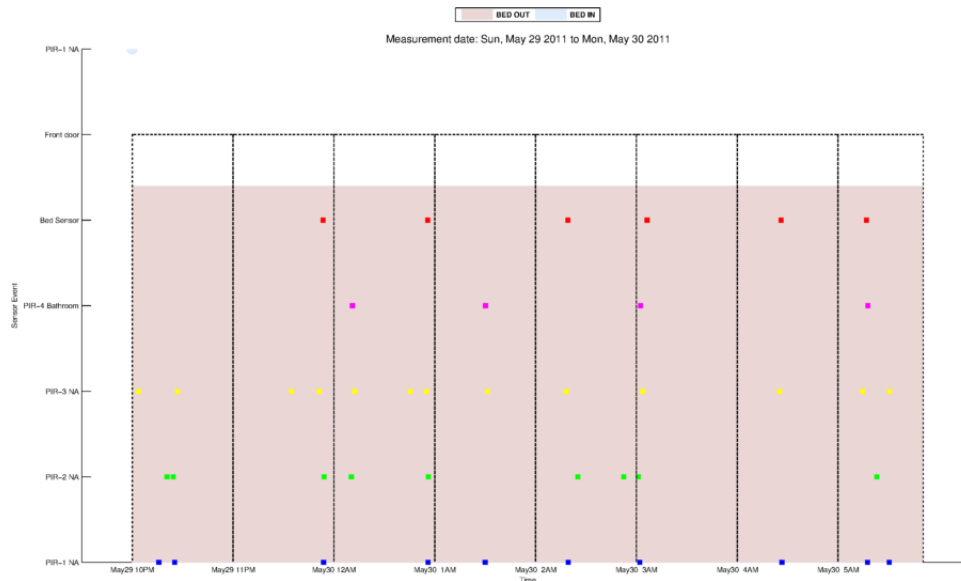


Figure 420: Sensor events and computed bed entrances and exists

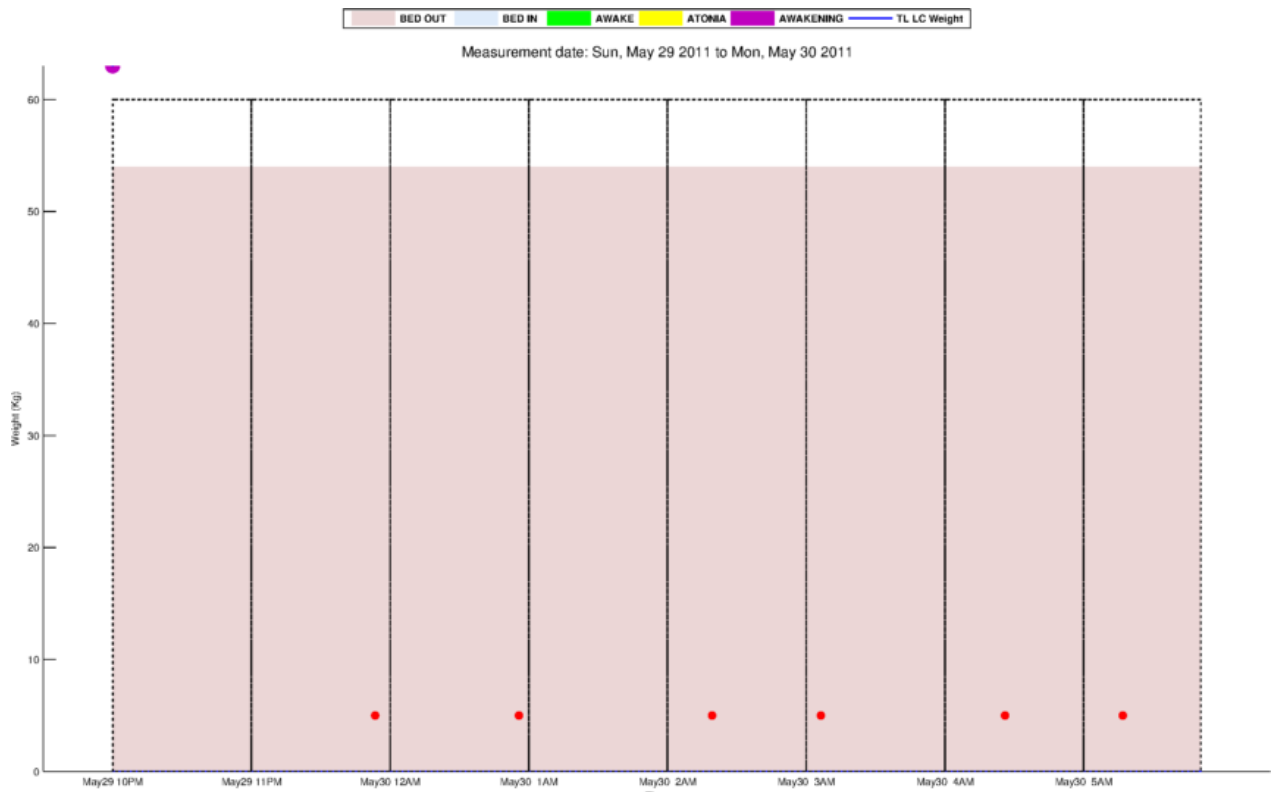


Figure 421: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 421 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 422 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 421).

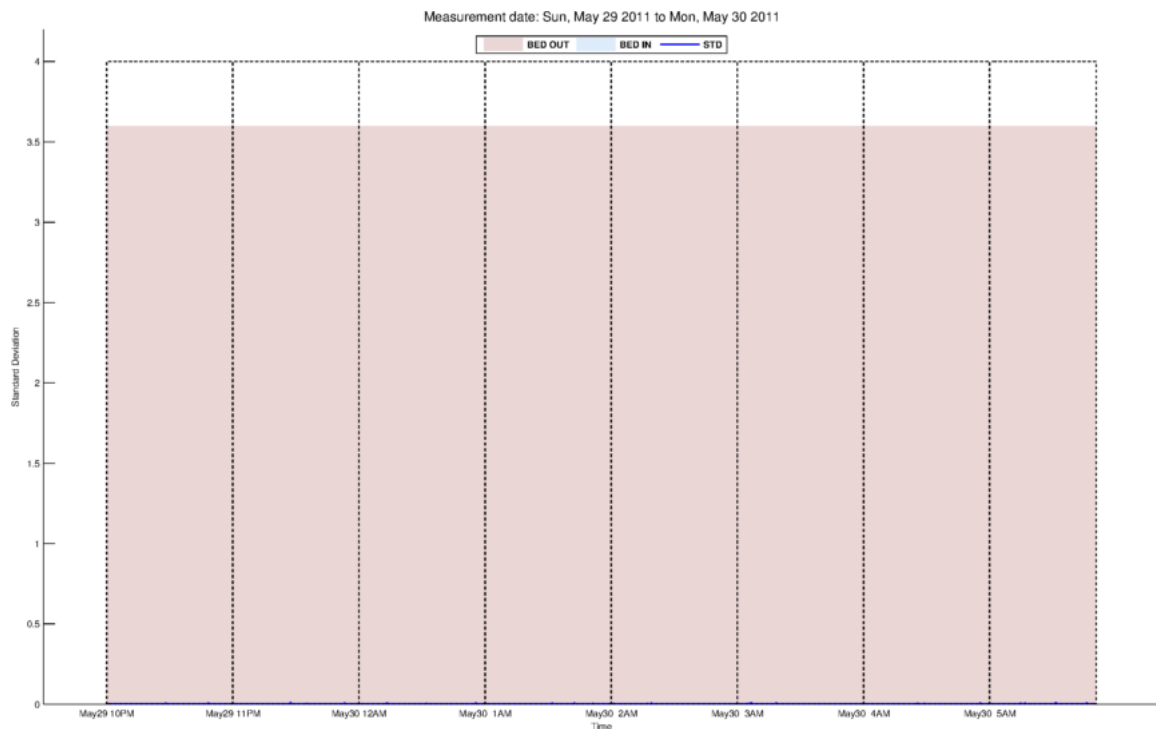


Figure 422: The moving standard deviation for the measured weight.

8.8 12th Night: from May 30 2011 to May 31 2011

Table 297 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 298 presents the duration of the estimated sleep related activities.

Table 297: Sleep related activities and sensor events measured between May 30 and May 31

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	23:39:45	22:09:22	01:44:18	23:39:49	01:39:13	23:29:36	23:29:44	23:38:04	23:36:09	00:56:52	
2	23:40:34	23:39:50	01:59:58	23:40:39	01:54:24	23:35:50	23:34:34	00:05:41	00:57:30	02:17:49	
3	23:40:51	23:40:49	03:11:12	23:40:51	02:55:01	00:57:14	02:20:05	00:54:59	02:44:20	04:11:31	
4	00:59:51	00:56:42	05:30:59	00:59:54	05:24:30	02:18:09	02:27:44	02:14:03		05:14:39	
5	02:48:56	02:17:33		01:45:05	05:40:37	02:44:15	02:32:09	04:10:21			
6	04:14:55	04:11:22		02:00:15		04:12:12	02:39:13	05:18:03			
7	04:16:32	04:16:27		02:49:00		05:15:04	02:42:57	05:24:02			
8	04:16:44	04:16:35		03:13:02			02:46:55	05:33:00			
9	05:18:32	05:14:28		04:14:59			05:17:15				
10				04:17:06							
11				05:18:36							
12				05:32:44							

Table 298: Duration of the sleep related activities presented in Table 297

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:05	01:30:35	00:00:47	00:00:01	00:05:05
2	00:00:15	00:00:44	00:00:17	00:00:10	00:05:34
3	01:16:00	00:00:02	00:01:50	01:16:00	00:16:14
4	01:17:52	00:03:09	00:01:45	00:39:24	00:06:30
5	01:22:35	00:30:16		00:09:21	00:19:24
6	00:01:32	00:03:34		00:17:20	
7	00:00:02	00:00:05		00:06:00	
8	00:57:51	00:00:09		00:58:27	
9	00:41:32	00:04:04		00:01:28	
10				00:57:29	
11				00:05:55	
12				00:07:54	

Figure 423 presents the measured sensor events and the computed bed entrances and exits.

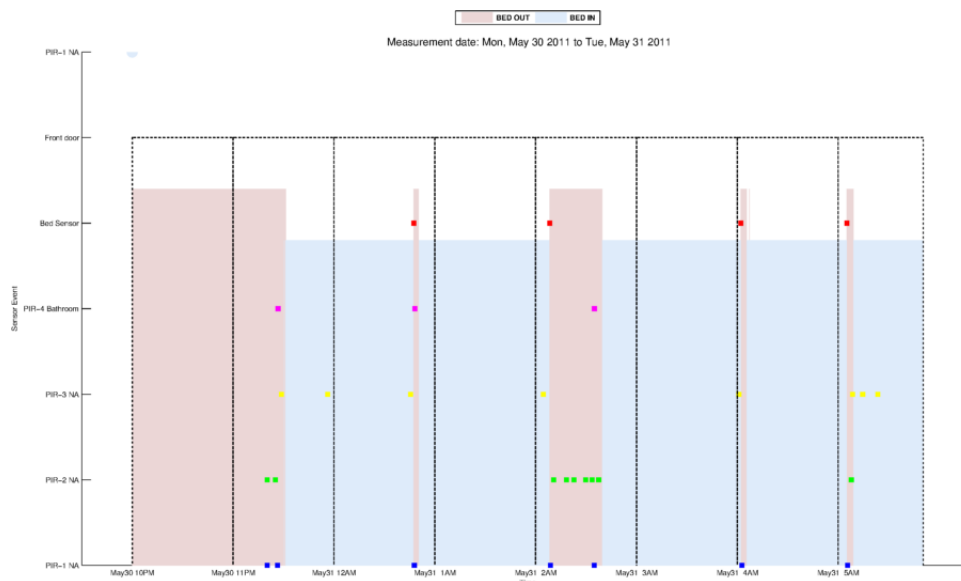


Figure 423: Sensor events and computed bed entrances and exists

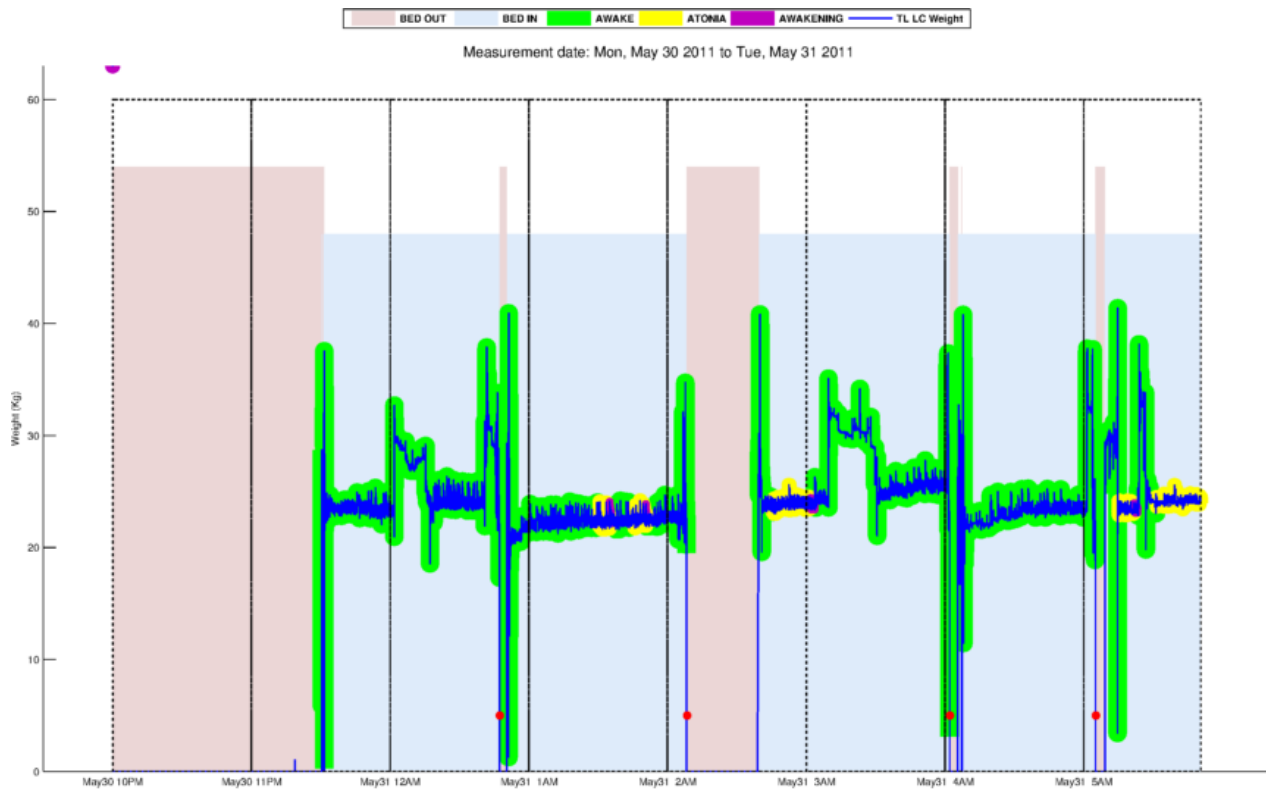


Figure 424: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 424 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 425 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 424).

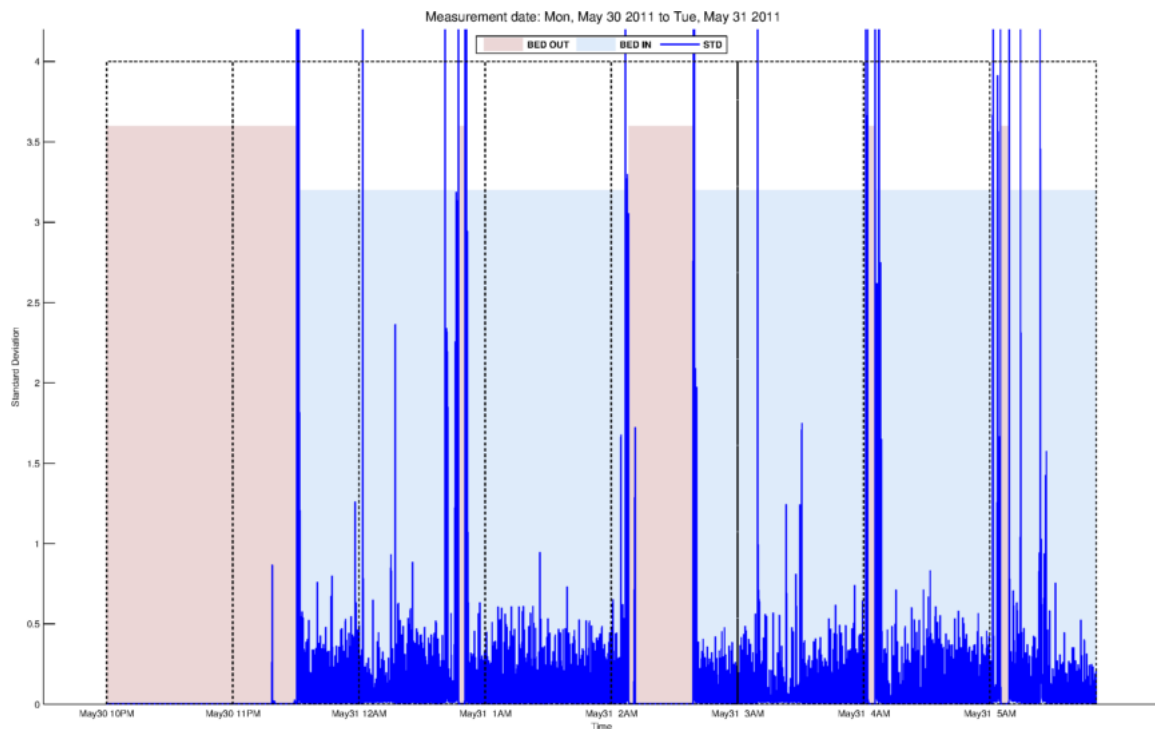


Figure 425: The moving standard deviation for the measured weight.

8.9 13th Night: from May 31 2011 to Jun 01 2011

Table 299 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 300 presents the duration of the estimated sleep related activities.

Table 299: Sleep related activities and sensor events measured between May 31 and Jun 01

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	02:48:38	22:06:14	03:39:17	02:48:41	03:30:18	02:28:29	02:28:40	22:01:30	02:35:58	03:02:04	
2	03:03:34	03:01:55	03:51:04	03:03:50	03:44:22	02:35:36	02:34:10	22:07:28	03:02:38	04:57:06	
3	05:08:39	04:56:56	03:59:48	03:40:43	03:51:05	02:47:15	02:41:04	22:14:28	04:57:57	05:12:32	
4	05:10:04	05:09:54	04:04:56	04:04:59	03:59:51	03:02:25	05:00:15	22:20:40		05:56:45	
5	05:13:16	05:12:22	04:21:06	04:30:42	04:05:08	04:57:42	05:05:55	22:23:34			
6		05:56:35	04:28:25	04:42:33	04:21:07	05:06:31		22:26:37			
7			04:41:11	04:53:45	04:30:44	05:56:55		22:43:07			
8			04:51:08	05:08:49	04:44:59			22:49:56			
9			05:27:39	05:10:08	05:21:53			23:08:23			
10			05:53:01	05:13:55	05:47:56			23:15:50			
11				05:27:43				23:21:13			
12				05:56:16				23:24:55			
13								23:28:50			
14								23:39:25			
15								23:44:05			
16								23:49:20			
17								00:10:13			
18								00:17:28			
19								00:55:22			
20								01:14:08			
21								01:17:43			
22								01:22:21			
23								02:40:30			
24								03:01:11			
25								04:54:18			
26								05:06:48			

Table 300: Duration of the sleep related activities presented in Table 299

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:13:18	04:42:59	00:01:26	00:13:15	00:09:00
2	01:53:36	00:01:39	00:00:01	00:26:31	00:06:43
3	00:01:15	00:11:45	00:00:03	00:03:39	00:08:44
4	00:02:18	00:00:10	00:00:03	00:00:09	00:05:05
5	00:42:48	00:00:54	00:00:01	00:00:02	00:15:59
6		00:03:24	00:02:17	00:02:25	00:07:19
7			00:01:23	00:03:10	00:10:27
8			00:02:37	00:01:05	00:06:10
9			00:00:03	00:02:14	00:05:47
10			00:03:15	00:07:58	00:05:05
11				00:20:16	
12				00:00:19	

Figure 426 presents the measured sensor events and the computed bed entrances and exits.

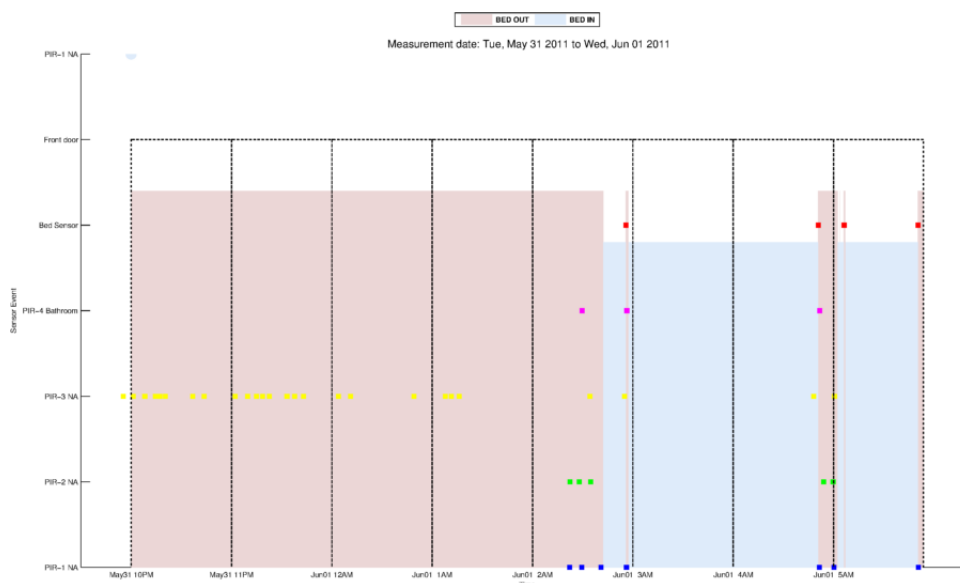


Figure 426: Sensor events and computed bed entrances and exists

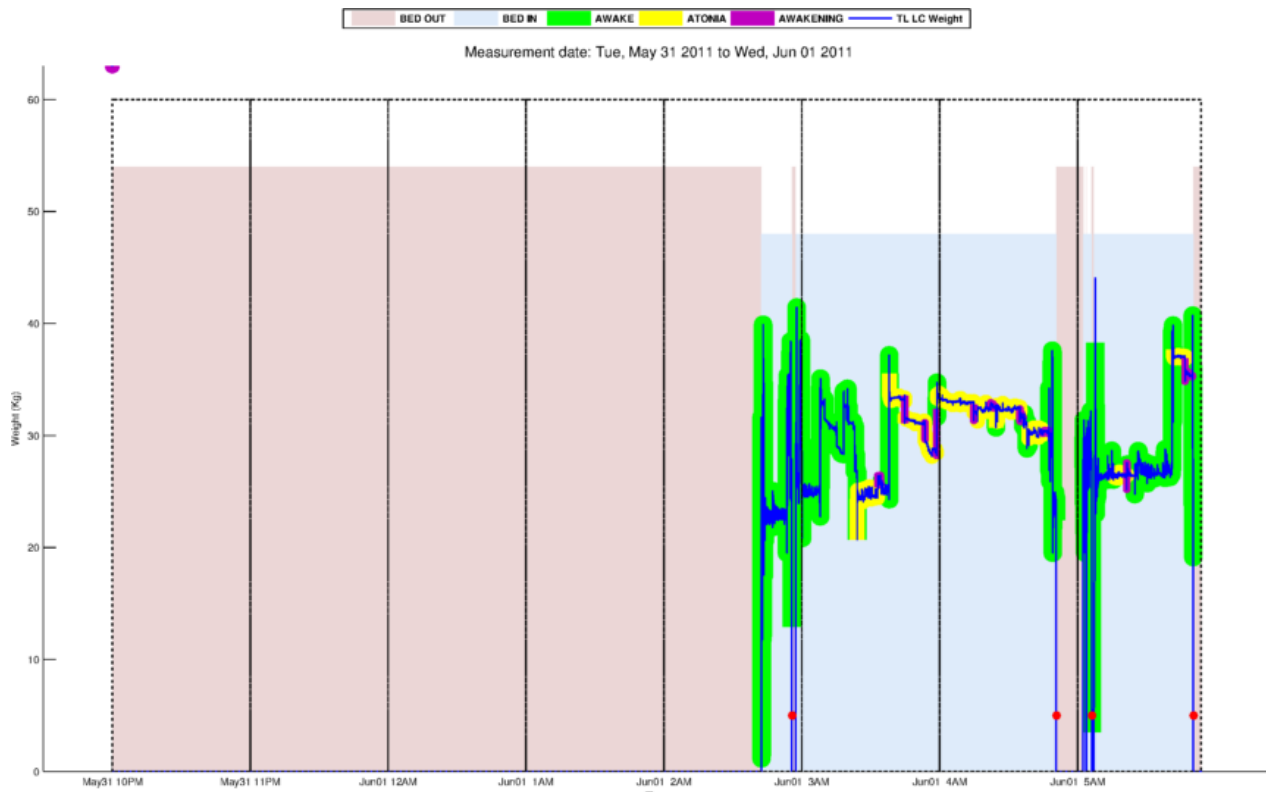


Figure 427: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 427 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 428 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 427).

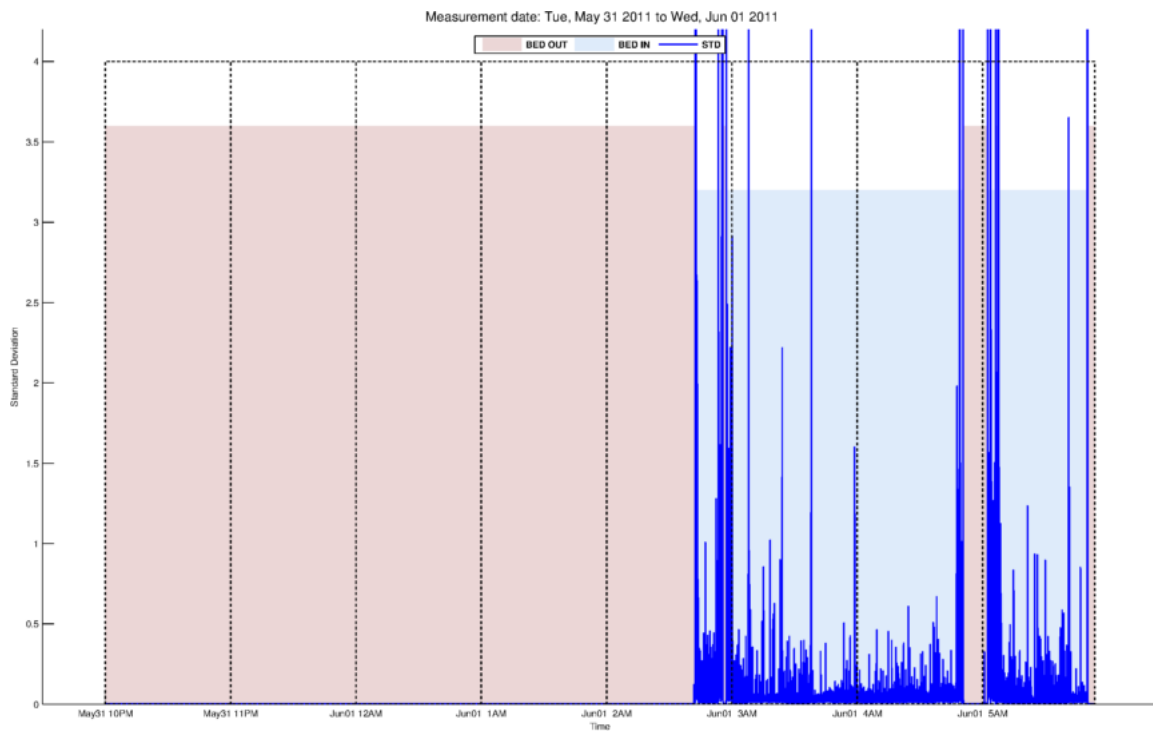


Figure 428: The moving standard deviation for the measured weight.

8.10 14th Night: from Jun 01 2011 to Jun 02 2011

Table 301 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 302 presents the duration of the estimated sleep related activities.

Table 301: Sleep related activities and sensor events measured between Jun 01 and Jun 02

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	01:21:54	22:04:55	01:57:05	01:38:23	01:51:27	01:33:42	01:22:27	01:18:50	04:14:38	02:31:15	
2	01:38:19	01:21:55	02:22:44	01:57:09	02:16:23	03:36:17	02:34:07	01:37:38	04:40:56	03:35:39	
3	03:13:03	02:31:02	04:32:58	02:22:47	04:23:51	04:14:20	02:45:55	02:29:13	05:09:08	04:40:03	
4	03:33:37	03:33:36	05:01:43	03:13:07	04:56:38	04:40:38	02:51:36	03:12:25		05:03:14	
5	04:16:27	03:35:29	05:34:03	03:33:37	05:24:04	05:08:55	03:02:58	03:33:06		05:05:36	
6	04:50:20	04:39:53		04:16:30			03:36:32	04:15:53		05:08:31	
7	05:03:55	05:03:05		04:33:01			03:41:09	04:36:36		05:53:02	
8	05:05:39	05:05:27		04:50:23			04:03:34	04:49:50			
9	05:12:34	05:08:21		05:01:49			04:12:57	05:02:29			
10		05:52:52		05:04:07			04:48:18	05:08:28			
11				05:05:46				05:12:06			
12				05:12:37				05:19:58			
13				05:34:06				05:47:55			
14								05:57:01			

Table 302: Duration of the sleep related activities presented in Table 301

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:01	03:17:25	00:00:04	00:13:06	00:05:38
2	00:52:50	00:16:26	00:00:03	00:19:16	00:06:22
3	00:20:35	00:42:06	00:00:03	00:08:16	00:09:08
4	00:01:52	00:00:01	00:00:05	00:20:32	00:05:05
5	00:23:29	00:41:03	00:00:03	00:01:52	00:10:00
6	00:12:46	00:10:28		00:07:21	
7	00:01:31	00:00:51		00:06:52	
8	00:02:42	00:00:12		00:06:16	
9	00:40:23	00:04:13		00:01:16	
10		00:07:08		00:01:20	
11				00:02:35	
12				00:11:28	
13				00:18:48	

Figure 429 presents the measured sensor events and the computed bed entrances and exits.

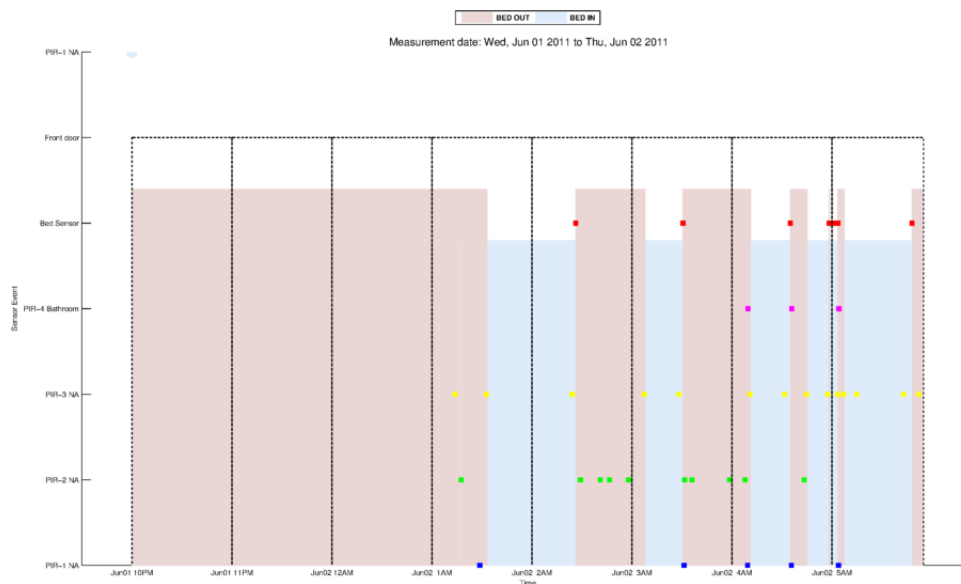


Figure 429: Sensor events and computed bed entrances and exists

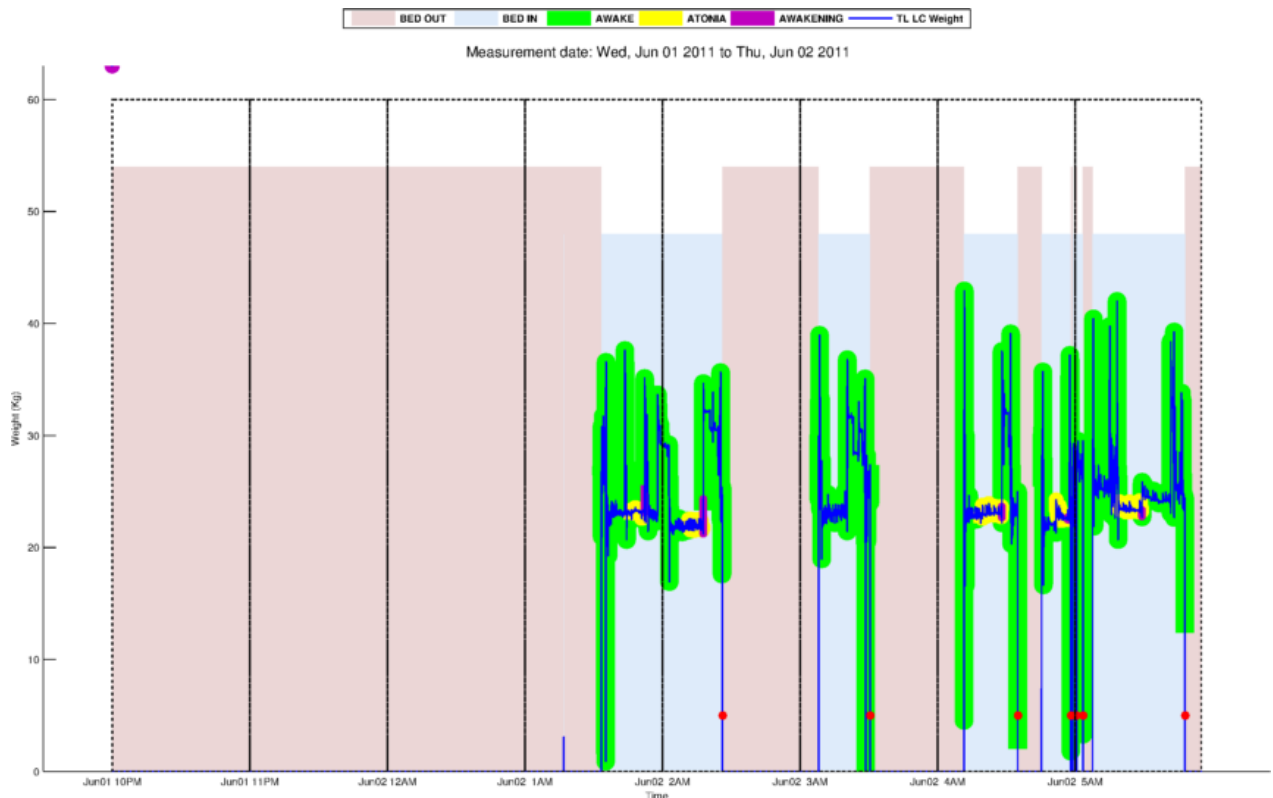


Figure 430: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 430 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 431 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 430).

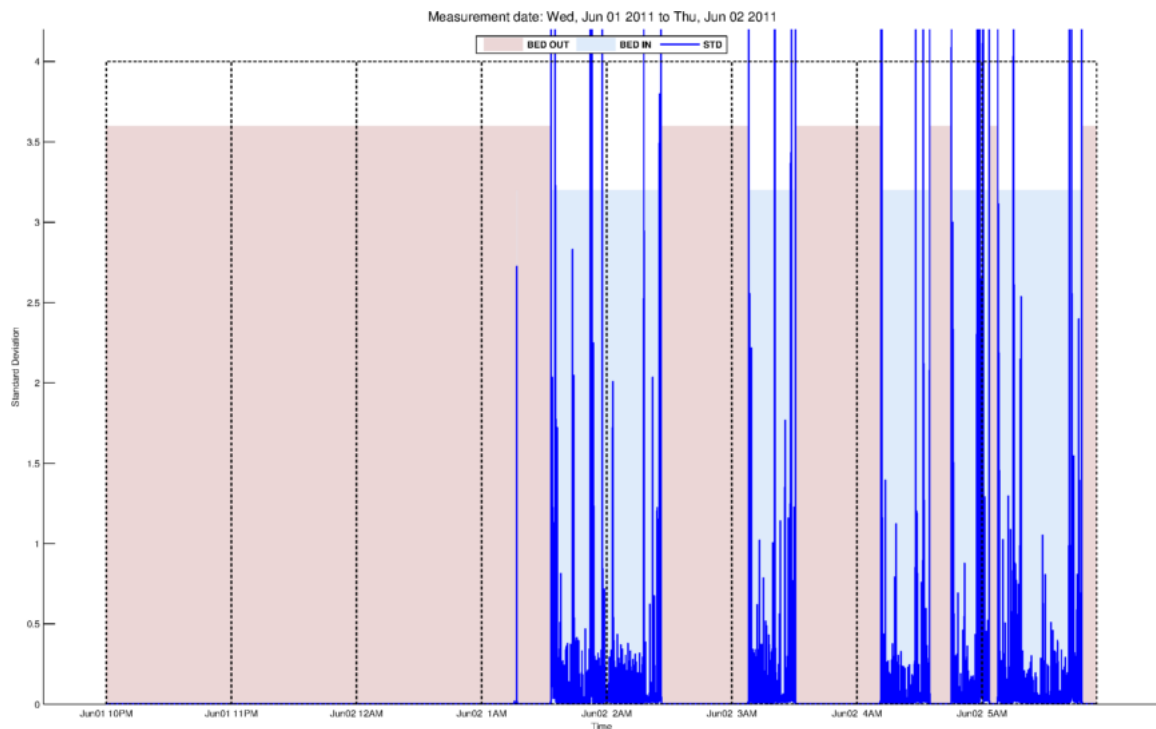


Figure 431: The moving standard deviation for the measured weight.

8.11 15th Night: from Jun 02 2011 to Jun 03 2011

Table 303 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 304 presents the duration of the estimated sleep related activities.

Table 303: Sleep related activities and sensor events measured between Jun 02 and Jun 03

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	00:20:05	22:01:21	01:11:41	00:20:09	01:03:15	23:59:07	23:59:15	22:00:21	00:17:00	01:16:10	
2	01:12:19	01:12:18	03:15:56	01:11:44	03:06:11	00:15:59	00:05:43	22:14:53	01:25:51	02:23:46	
3	01:45:19	01:16:00	04:05:09	01:12:19	03:59:33	01:25:36	00:14:17	22:21:01	02:24:12	04:12:36	
4	02:54:33	02:23:36		01:45:23		01:44:42	01:16:49	22:42:58	02:47:33		
5	02:54:50	02:54:48		02:54:45		02:23:58	01:25:24	22:55:32	04:13:37		
6		04:12:26		02:54:50		02:47:28	01:37:55	23:03:46	04:41:47		
7				03:17:53		04:13:24	01:44:25	23:16:52	05:15:46		
8				04:05:13		04:39:23	02:24:51	23:50:49			
9						05:20:55	02:30:27	00:19:42			
10						05:54:10	02:46:33	00:58:04			
11							04:17:06	01:02:10			
12							04:38:46	01:11:55			
13							05:57:46	01:15:16			
14								01:58:59			
15								02:23:11			
16								03:28:36			
17								04:05:16			
18								04:39:32			
19								05:04:48			
20								05:08:00			
21								05:11:00			
22								05:21:14			
23								05:46:17			
24								05:54:17			

Table 304: Duration of the sleep related activities presented in Table 303

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:52:20	02:19:02	00:00:03	00:43:12	00:08:27
2	00:03:41	00:00:01	00:01:57	00:00:34	00:09:46
3	00:38:22	00:29:22	00:00:03	00:03:41	00:05:37
4	00:00:14	00:31:01		00:38:18	
5	01:17:46	00:00:02		00:00:03	
6		01:47:47		00:11:23	
7				00:41:45	
8				00:07:14	

Figure 432 presents the measured sensor events and the computed bed entrances and exits.

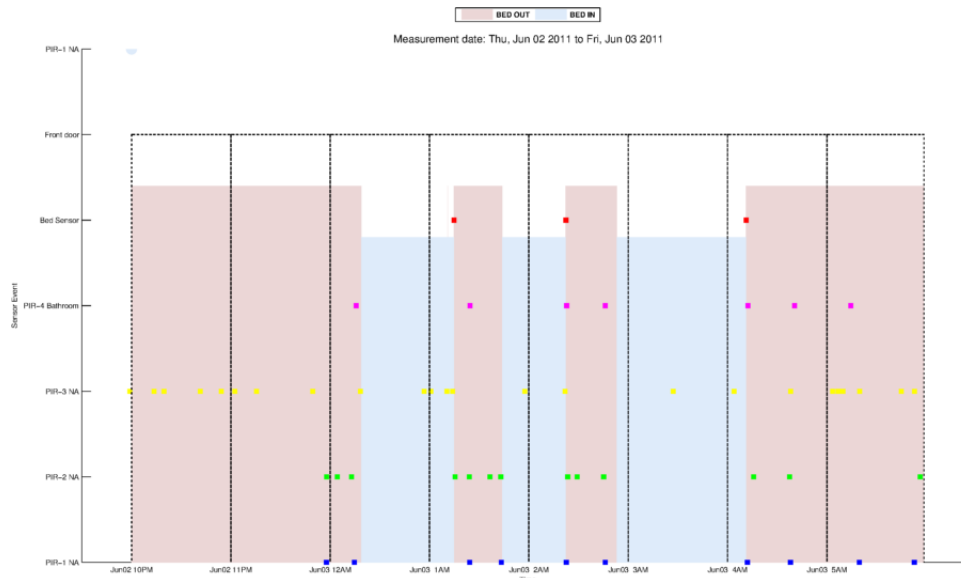


Figure 432: Sensor events and computed bed entrances and exists

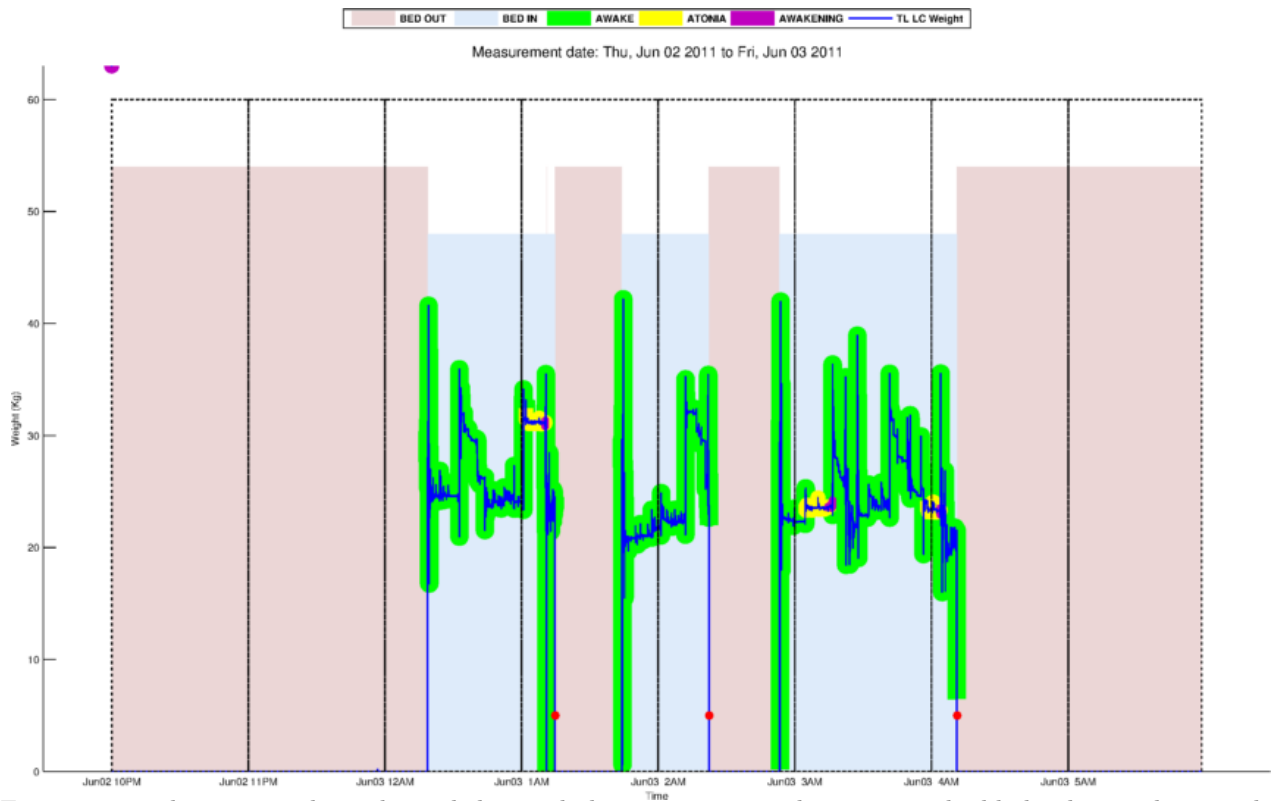


Figure 433: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 433 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 434 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 433).

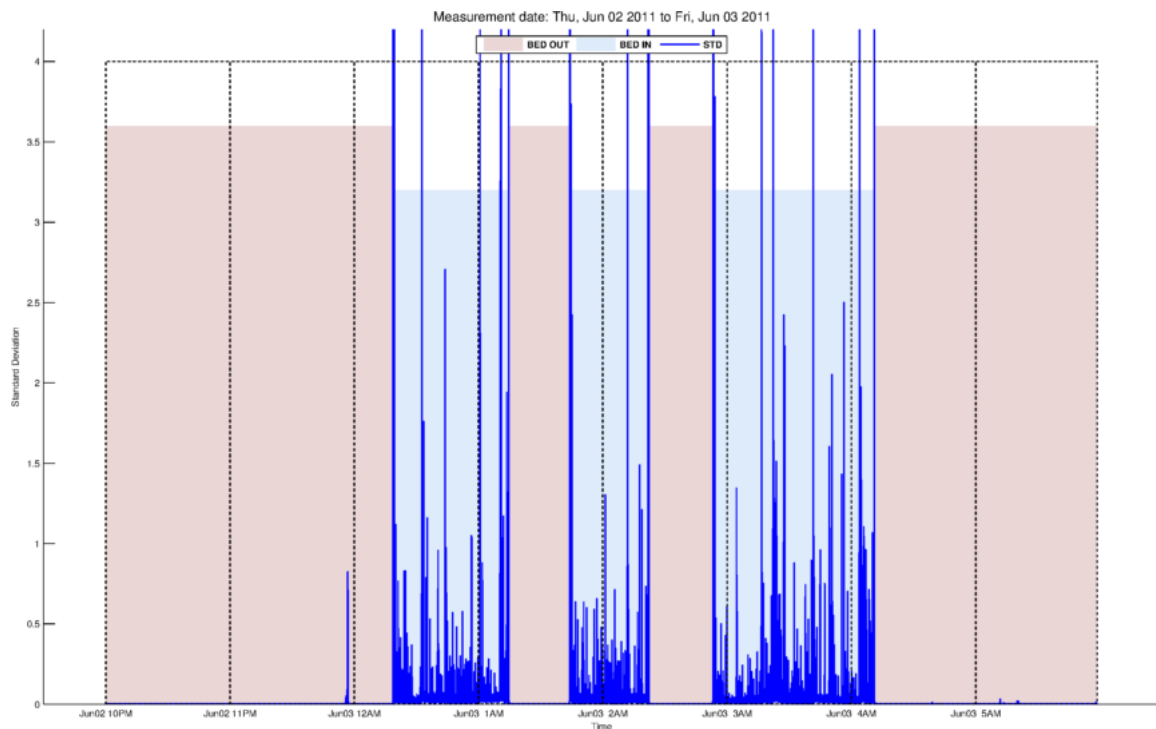


Figure 434: The moving standard deviation for the measured weight.

8.12 16th Night: from Jun 03 2011 to Jun 04 2011

Table 305 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 306 presents the duration of the estimated sleep related activities.

Table 305: Sleep related activities and sensor events measured between Jun 03 and Jun 04

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	22:22:35	22:01:21	23:07:46	22:22:41	23:02:38	22:17:08	22:01:14	22:20:22	22:17:15	23:32:05	
2	04:52:26	23:31:53	23:28:30	23:07:50	23:23:24	23:35:14	22:08:50	23:28:37	23:35:54		
3			05:24:52	23:28:33	05:17:47	00:15:29	22:14:26	00:31:17	04:30:14		
4				04:52:29		04:30:00	23:38:10	01:01:51			
5				05:26:04		04:48:37	23:43:18	03:02:57			
6							23:52:07	03:10:49			
7							00:12:58	04:20:59			
8							04:35:38	04:49:23			

Table 306: Duration of the sleep related activities presented in Table 305

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	01:09:26	00:21:17	00:00:03	00:40:02	00:05:08
2	01:07:42	05:21:14	00:00:03	00:15:36	00:05:06
3			00:01:12	00:03:20	00:07:06
4				00:25:21	
5				00:33:59	

Figure 435 presents the measured sensor events and the computed bed entrances and exits.

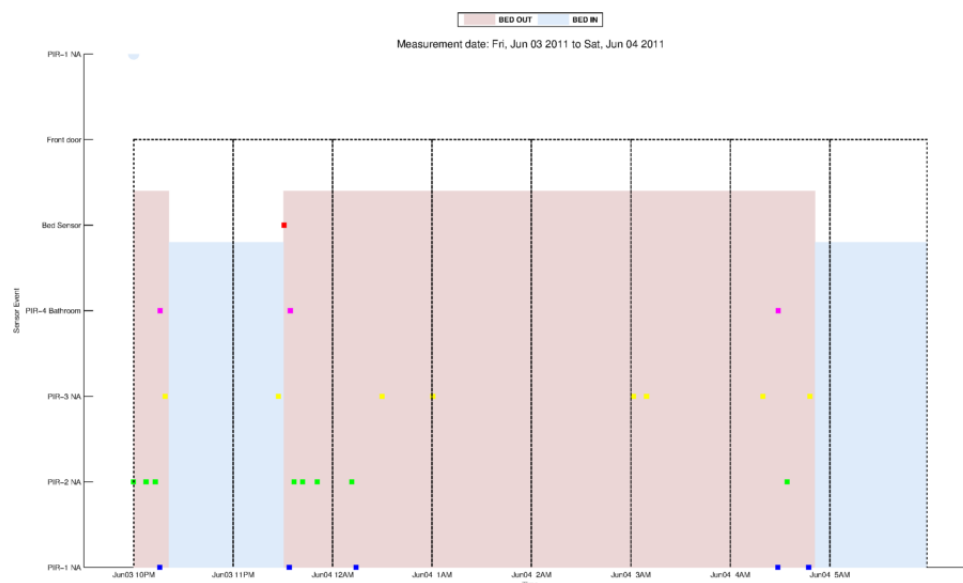


Figure 435: Sensor events and computed bed entrances and exists

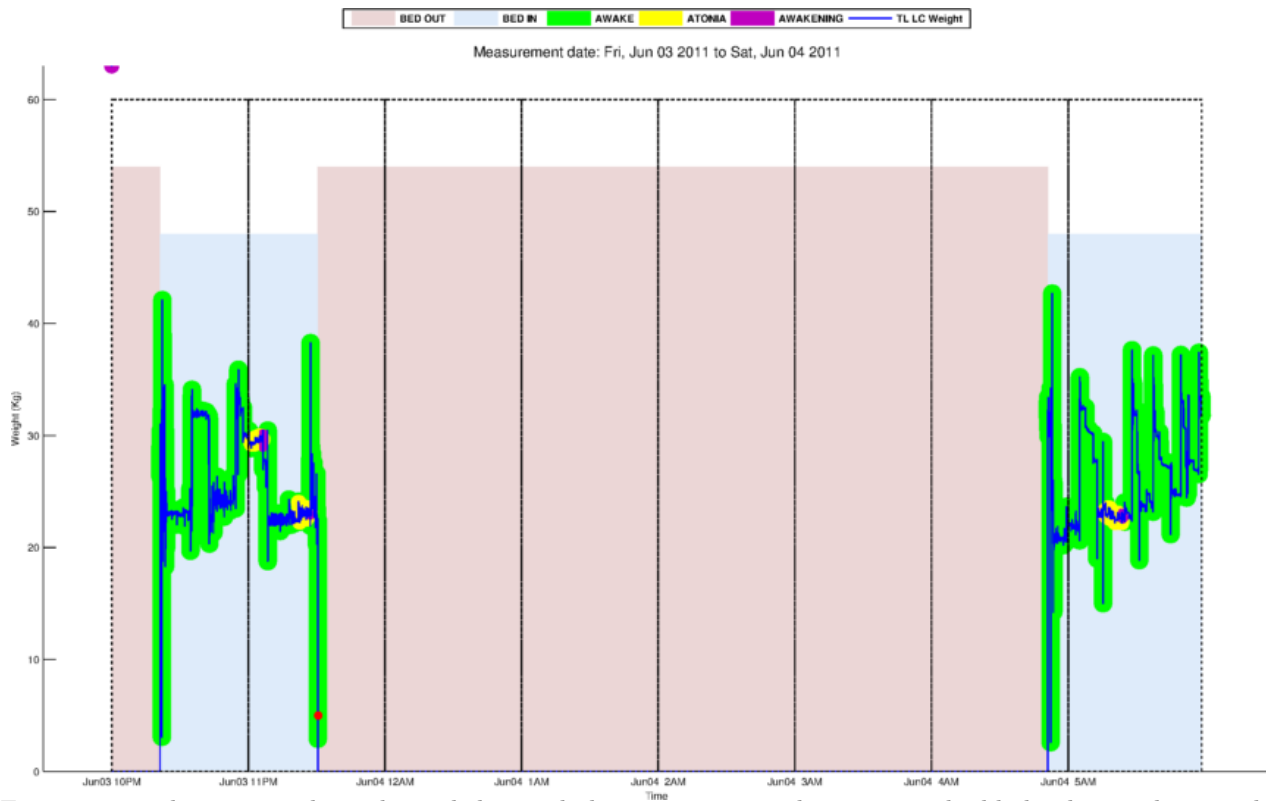


Figure 436: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 436 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 437 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 436).

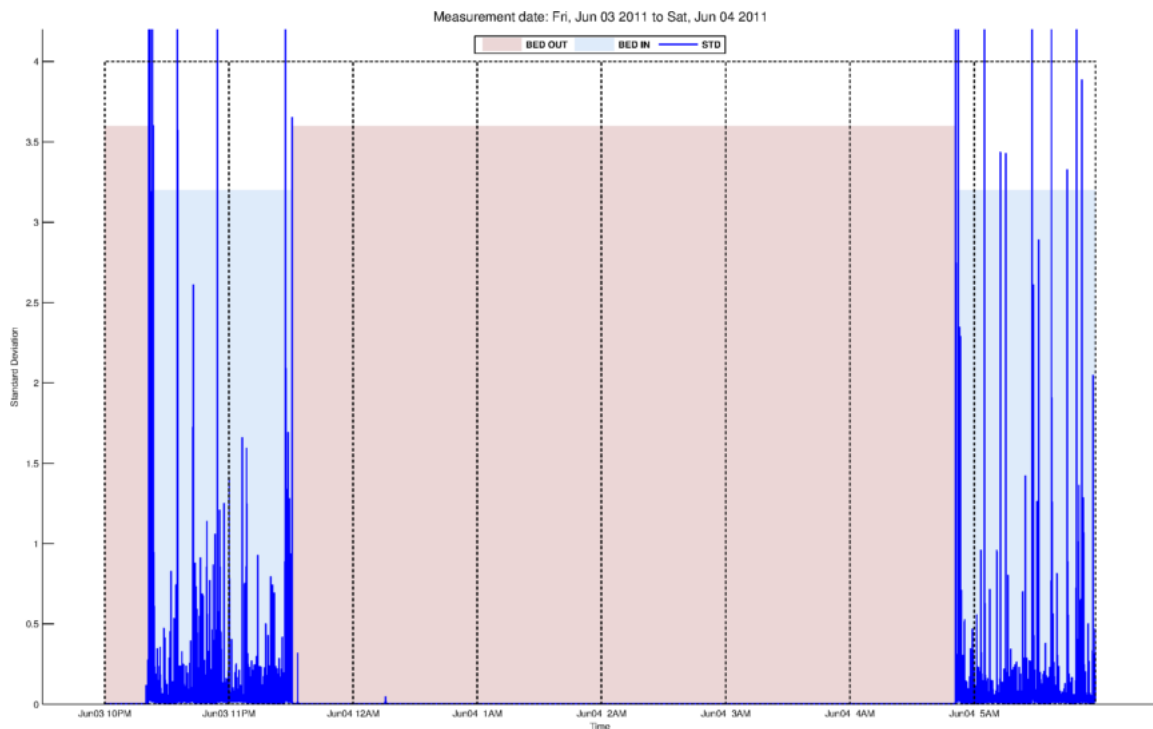


Figure 437: The moving standard deviation for the measured weight.

8.13 17th Night: from Jun 04 2011 to Jun 05 2011

Table 307 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 308 presents the duration of the estimated sleep related activities.

Table 307: Sleep related activities and sensor events measured between Jun 04 and Jun 05

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	03:44:00	22:09:22	03:55:34	03:44:03	03:50:24	22:43:30	22:43:37	22:26:05	03:34:09	05:08:13	05:59:44
2	05:34:59	05:08:03	04:41:39	03:56:32	03:56:33	23:02:01	22:57:00	22:35:24	05:09:06		
3	05:36:06	05:36:02	04:49:19	04:57:36	04:41:41	03:33:52	03:37:22	23:02:13	05:31:18		
4	05:37:05	05:37:02	04:57:32	05:35:06	04:49:23	03:42:18	05:12:09	00:26:07			
5			05:50:03	05:36:13	05:38:35	05:08:51	05:30:23	00:29:18			
6				05:37:05		05:31:12		00:33:10			
7				05:37:08				00:43:21			
8				05:53:28				00:48:25			
9								01:03:44			
10								01:10:18			
11								01:19:10			
12								01:33:25			
13								01:40:28			
14								01:46:18			
15								01:52:00			
16								02:45:38			
17								03:30:49			
18								03:39:04			
19								05:07:03			
20								05:11:27			
21								05:33:08			

Table 308: Duration of the sleep related activities presented in Table 307

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	01:24:14	05:34:36	00:00:58	00:06:21	00:05:10
2	00:01:02	00:26:59	00:00:01	00:00:00	00:45:12
3	00:00:56	00:00:04	00:00:03	00:10:29	00:07:39
4	00:22:57	00:00:02	00:00:03	00:00:55	00:08:10
5			00:03:25	00:00:49	00:11:29
6				00:00:00	
7				00:01:27	
8				00:06:31	

Figure 438 presents the measured sensor events and the computed bed entrances and exits.

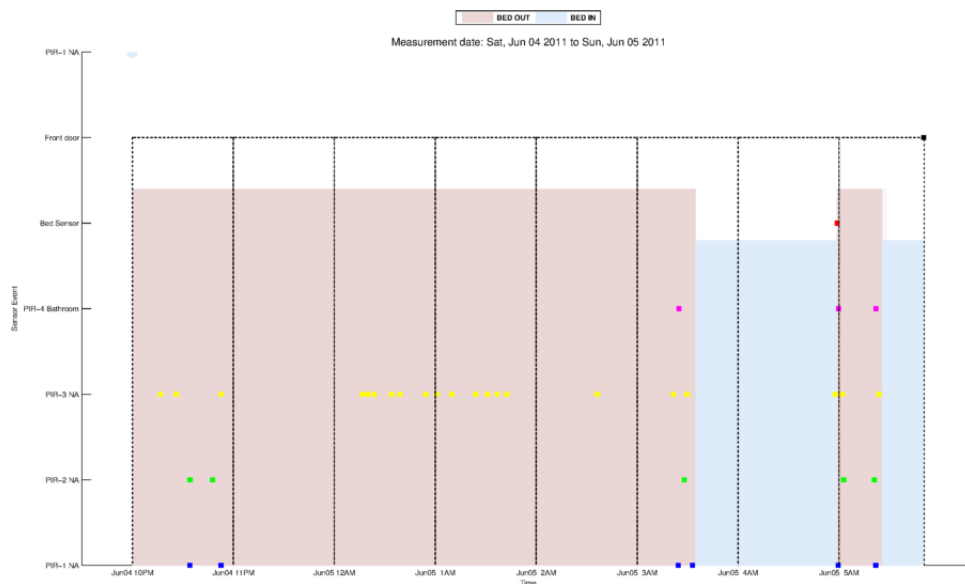


Figure 438: Sensor events and computed bed entrances and exists

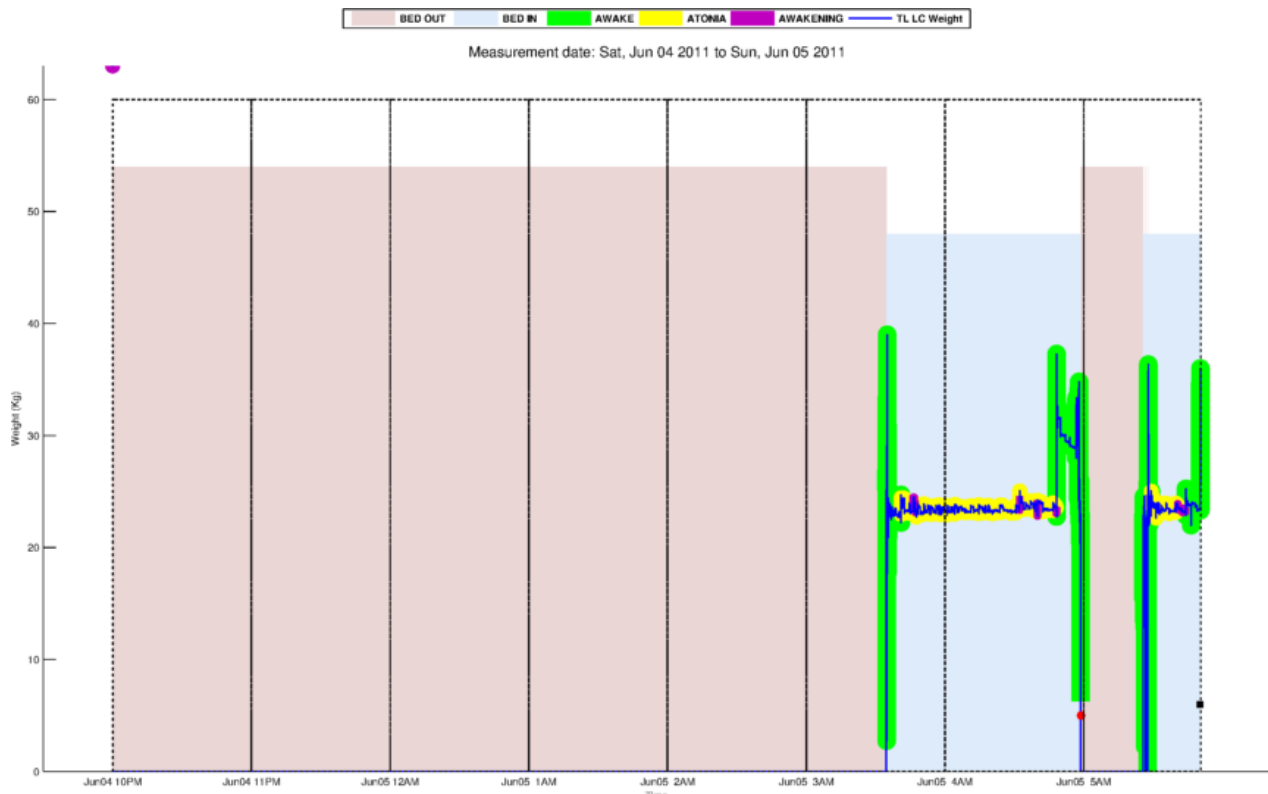


Figure 439: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 439 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 440 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 439).

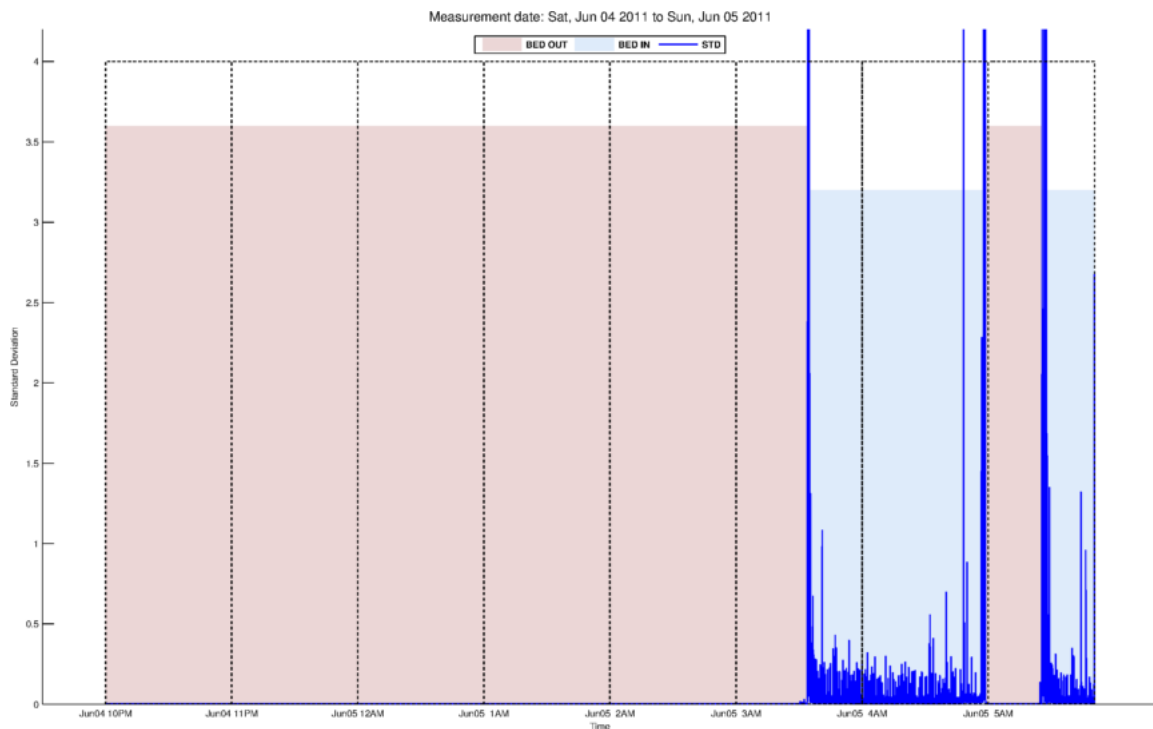


Figure 440: The moving standard deviation for the measured weight.

8.14 18th Night: from Jun 05 2011 to Jun 06 2011

Table 309 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 310 presents the duration of the estimated sleep related activities.

Table 309: Sleep related activities and sensor events measured between Jun 05 and Jun 06

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	00:04:28	22:07:38	00:27:22	00:04:39	00:21:16	23:43:56	23:44:02	22:42:00	00:00:57	00:42:50	
2	01:26:08	00:42:39	00:41:11	00:28:06	00:35:10	00:00:38	23:50:01	22:48:31	01:23:55	02:32:45	
3	01:26:31	01:26:30	02:09:50	00:41:15	01:46:42	00:43:41	23:56:24	23:29:40	03:41:40		
4	02:31:39	02:31:28	02:29:53	01:26:29	02:22:29	01:23:35	00:43:56	23:34:58	05:58:33		
5		02:32:35		01:26:31		02:33:10	00:54:00	23:40:21			
6				02:13:34		03:41:25	01:17:20	00:03:04			
7				02:29:57			02:33:24	00:41:22			
8				02:31:47			02:46:22	01:25:38			
9							02:57:11	02:14:48			
10							03:06:04	02:29:55			
11							03:09:57	03:43:28			
12							03:27:54	05:54:16			
13							03:40:19				

Table 310: Duration of the sleep related activities presented in Table 309

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:38:15	01:57:03	00:00:44	00:16:38	00:06:07
2	00:00:21	00:43:35	00:00:03	00:07:04	00:06:02
3	01:05:05	00:00:01	00:03:44	00:01:24	00:23:10
4	00:00:56	00:00:11	00:00:04	00:00:01	00:07:24
5		03:27:48		00:20:13	
6				00:08:56	
7				00:01:31	
8				00:00:48	

Figure 441 presents the measured sensor events and the computed bed entrances and exits.

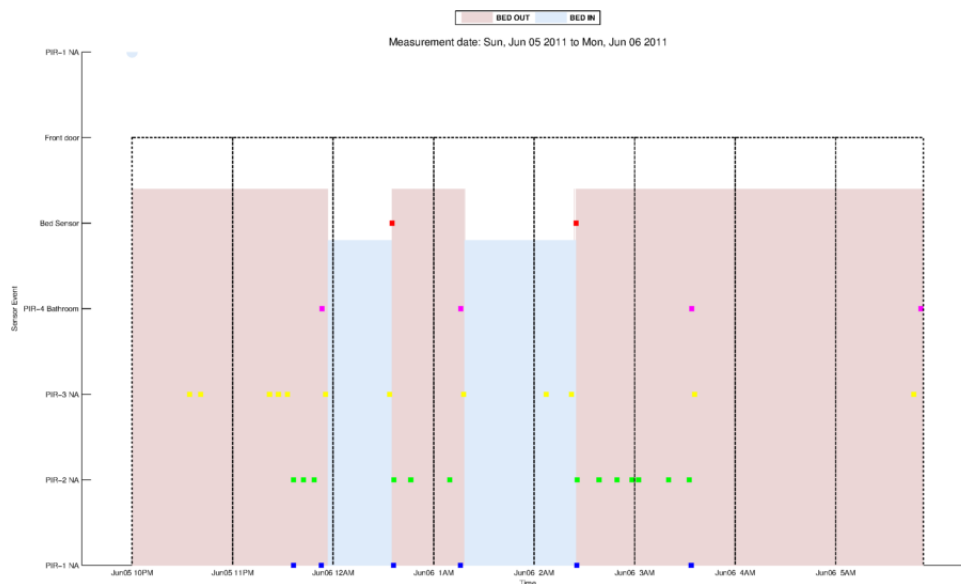


Figure 441: Sensor events and computed bed entrances and exists

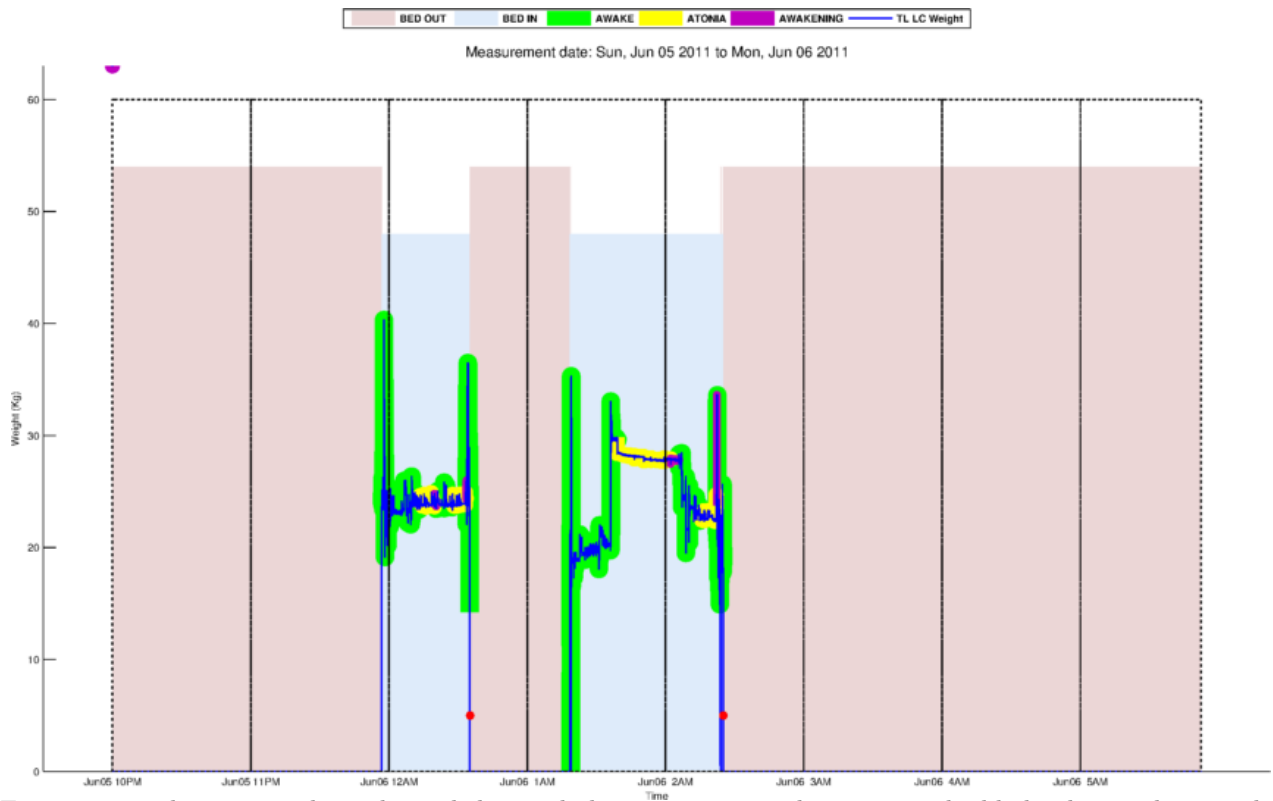


Figure 442: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 442 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 443 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 442).

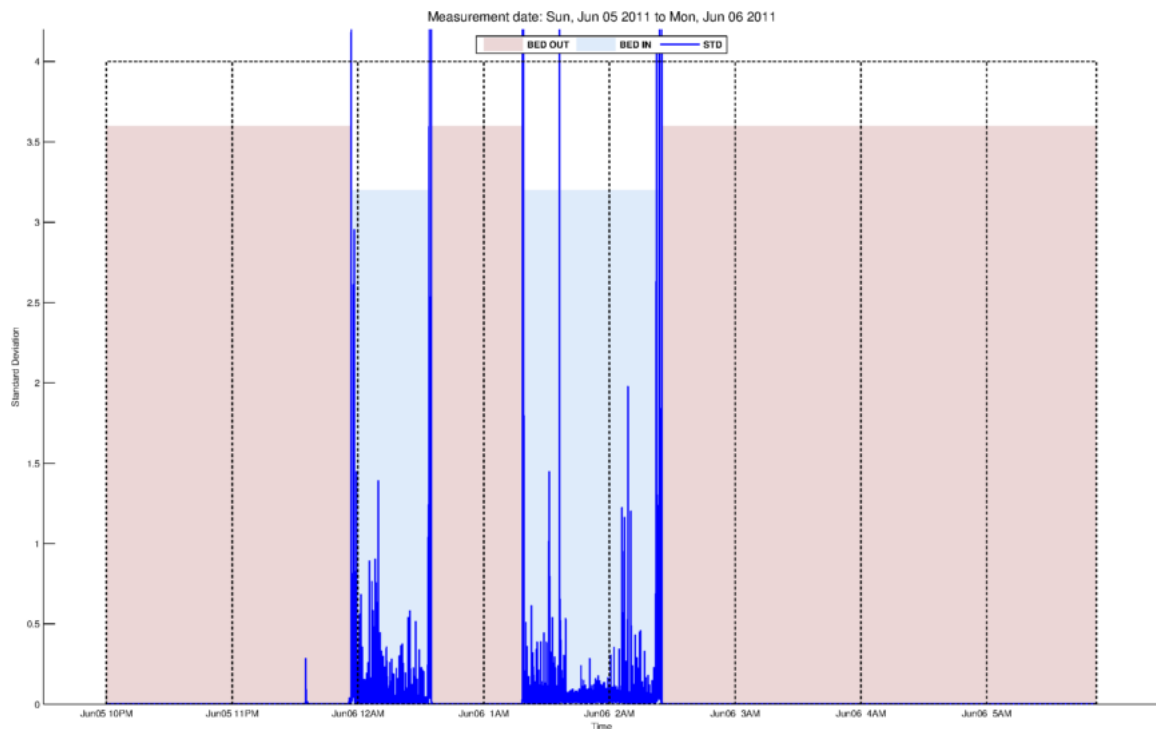


Figure 443: The moving standard deviation for the measured weight.

8.15 19th Night: from Jun 06 2011 to Jun 07 2011

Table 311 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 312 presents the duration of the estimated sleep related activities.

Table 311: Sleep related activities and sensor events measured between Jun 06 and Jun 07

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	22:09:24	22:10:38	22:09:34	22:09:55	22:09:24	22:12:14	22:12:25	22:09:58	22:44:49	22:10:48	00:02:48
2	22:47:20	23:02:33	22:58:02	22:47:23	22:48:37	22:44:25	22:17:08	22:46:12	23:56:06	23:08:57	
3	23:02:35	23:08:47	01:20:42	23:01:02	00:57:54	23:53:57	22:42:23	23:02:13	01:59:20	23:13:38	
4	23:12:28	23:13:29	01:30:09	23:02:35	01:20:42	00:02:53	23:18:19	23:08:51	02:19:27	01:58:05	
5	00:57:13	01:57:56	01:35:27	23:12:33	01:30:10	00:13:15	23:53:24	23:16:58	04:32:08	05:39:11	
6	04:39:14	04:39:19	01:56:32	00:57:19	01:35:31	00:20:04	23:58:16	23:54:10	05:39:53		
7	04:39:21	05:33:39		01:35:31		00:56:16	00:03:07	23:59:08			
8	05:33:40	05:39:02		01:56:35		01:59:07	00:18:58	01:56:33			
9				04:39:19		02:19:11	02:01:44	02:02:55			
10				04:39:21		02:26:57	02:17:12	02:27:24			
11				05:33:40		04:31:55	02:22:01	04:10:58			
12						04:37:46	02:26:43	04:15:06			
13						05:39:38	04:34:24	04:29:52			
14						05:59:14	05:53:01	04:38:12			
15							05:58:15	05:33:23			
16								05:36:30			

Table 312: Duration of the sleep related activities presented in Table 311

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:01:13	00:36:02	00:00:21	00:00:43	00:00:09
2	00:15:15	00:00:02	00:03:01	00:01:13	00:09:26
3	00:06:12	00:03:06	00:00:00	00:01:31	00:22:50
4	00:01:01	01:43:12	00:00:00	00:06:12	00:09:28
5	01:00:49	02:41:37	00:00:03	00:00:55	00:05:18
6	00:00:05	00:00:01	00:00:03	00:00:35	00:21:02
7	00:54:25	00:00:01		00:00:00	
8	00:05:22	00:20:59		00:01:21	
9				00:00:00	
10				00:54:25	
11				00:05:22	

Figure 444 presents the measured sensor events and the computed bed entrances and exits.

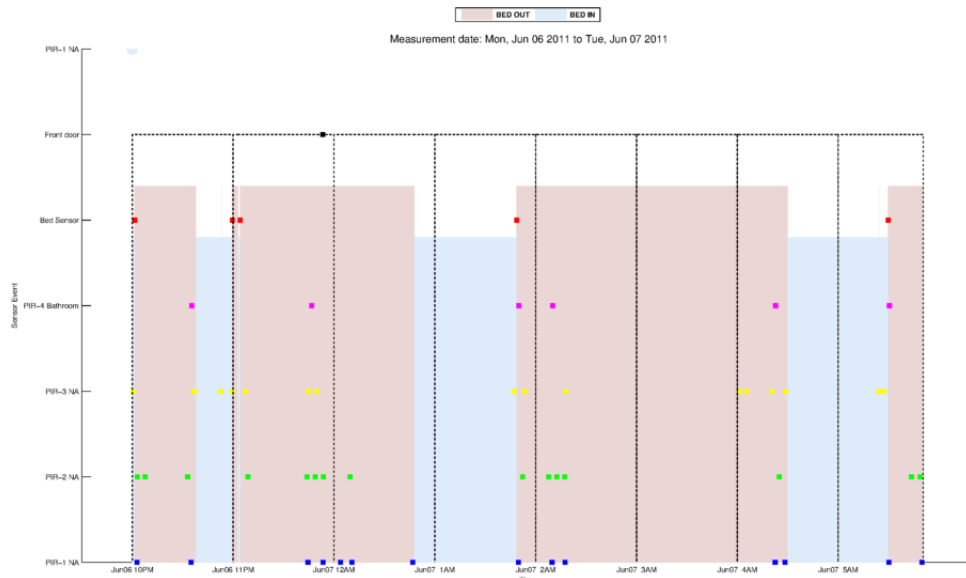


Figure 444: Sensor events and computed bed entrances and exists

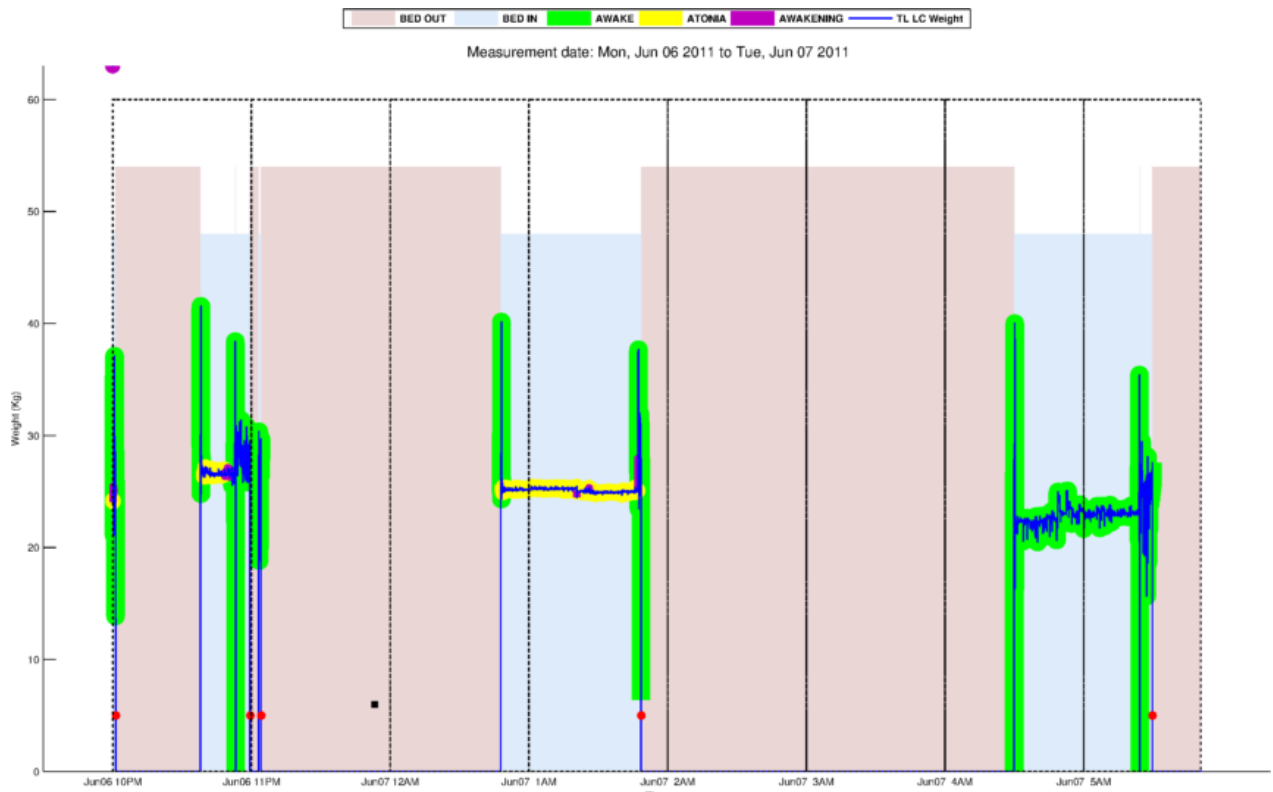


Figure 445: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 445 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 446 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 445).

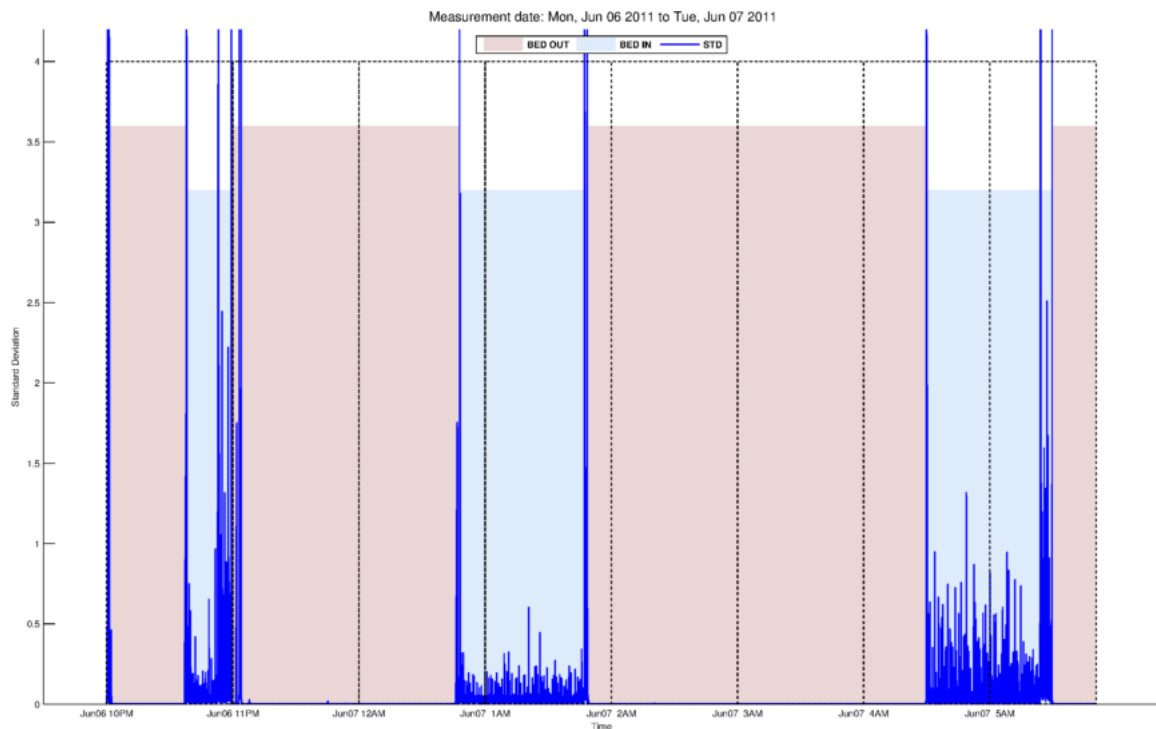


Figure 446: The moving standard deviation for the measured weight.

8.16 20th Night: from Jun 07 2011 to Jun 08 2011

Table 313 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 314 presents the duration of the estimated sleep related activities.

Table 313: Sleep related activities and sensor events measured between Jun 07 and Jun 08

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	22:12:04	22:06:12	22:35:05	22:12:07	22:29:23	22:03:18	22:05:03	22:00:34	22:03:23	22:50:54	
2	22:12:09	22:12:08	23:30:28	22:12:09	23:22:22	22:07:54	22:55:26	22:08:34	22:52:34	00:53:51	
3	23:16:58	22:50:45	00:06:55	22:36:00	00:01:28	22:52:16	23:10:07	22:49:04	23:13:10	05:47:33	
4	05:07:08	00:53:42	00:41:03	23:17:04	00:35:17	23:13:03	00:56:35	23:16:11	00:54:36		
5		05:47:24	05:27:31	23:31:16	05:08:13	00:54:18	01:04:35	00:52:43	05:04:06		
6			05:35:16	00:08:35	05:27:31	01:04:44	05:48:11	01:04:55	05:55:32		
7				00:42:04		05:03:59	05:54:56	02:52:58			
8				05:07:25		05:47:58	05:59:02	03:40:58			
9				05:35:19		05:55:16		05:00:42			
10								05:46:41			

Table 314: Duration of the sleep related activities presented in Table 313

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:04	00:05:52	00:00:55	00:00:01	00:05:42
2	00:38:39	00:00:01	00:00:47	00:17:15	00:08:07
3	01:36:54	00:26:16	00:01:41	00:14:46	00:05:27
4	00:40:20	04:13:56	00:01:02	00:05:19	00:05:46
5		00:12:36	00:00:00	00:30:15	00:19:20
6			00:00:03	00:26:45	00:07:45
7				00:11:38	
8				00:00:47	
9				00:12:06	

Figure 447 presents the measured sensor events and the computed bed entrances and exits.

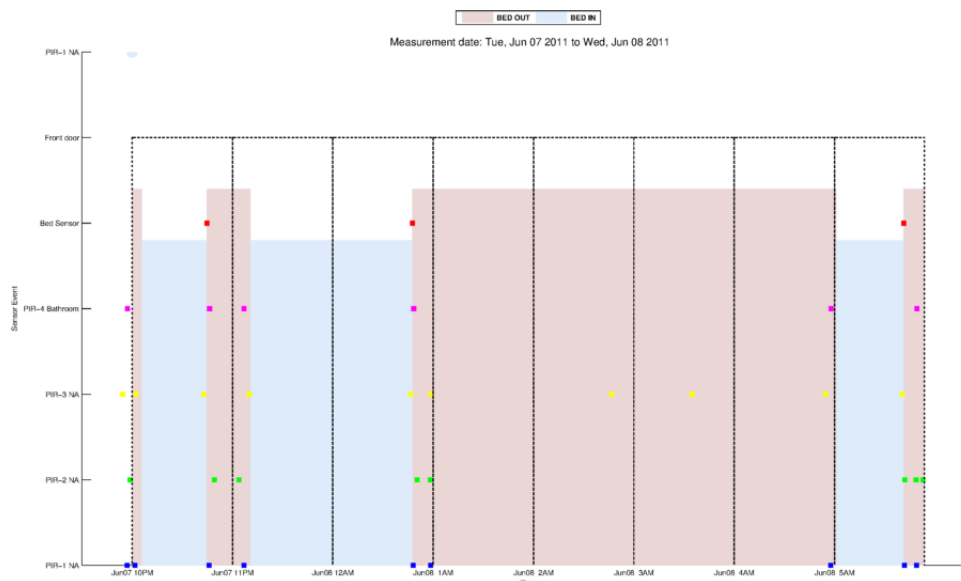


Figure 447: Sensor events and computed bed entrances and exists

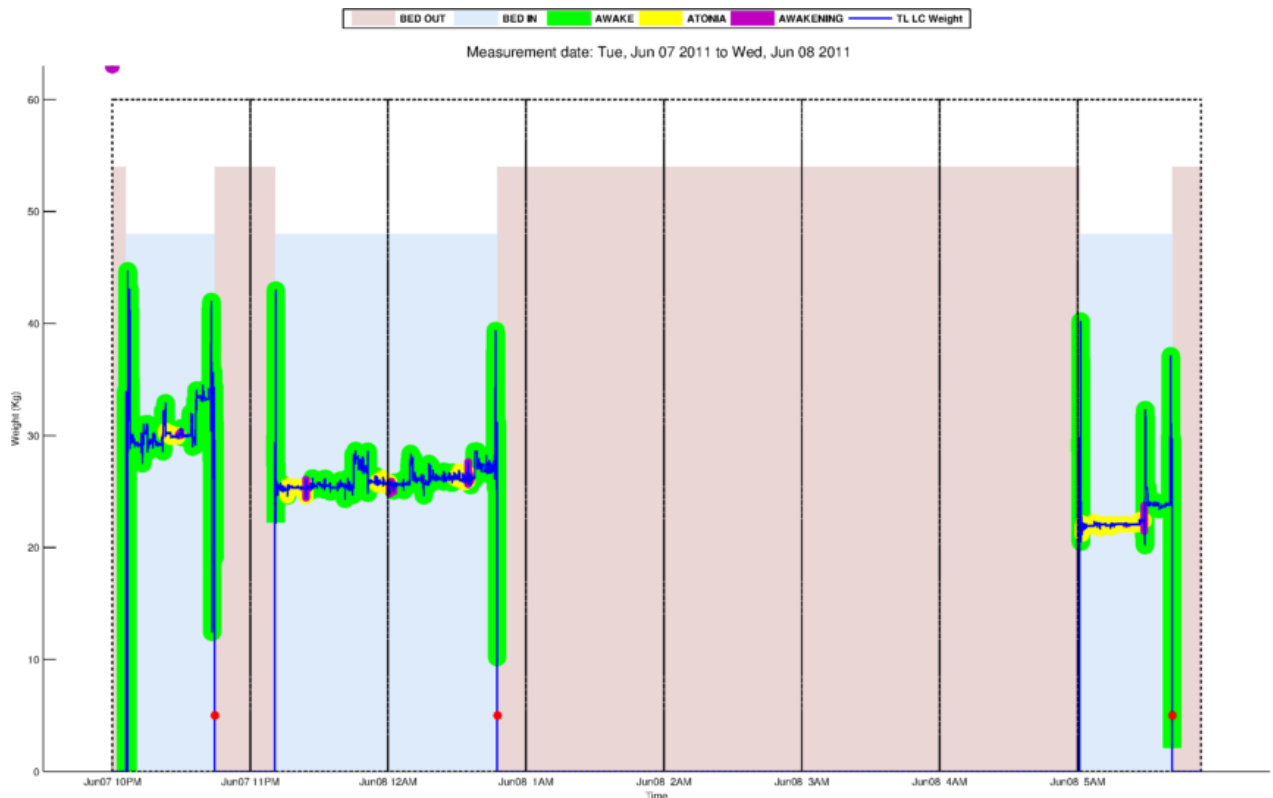


Figure 448: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 448 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 449 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 448).

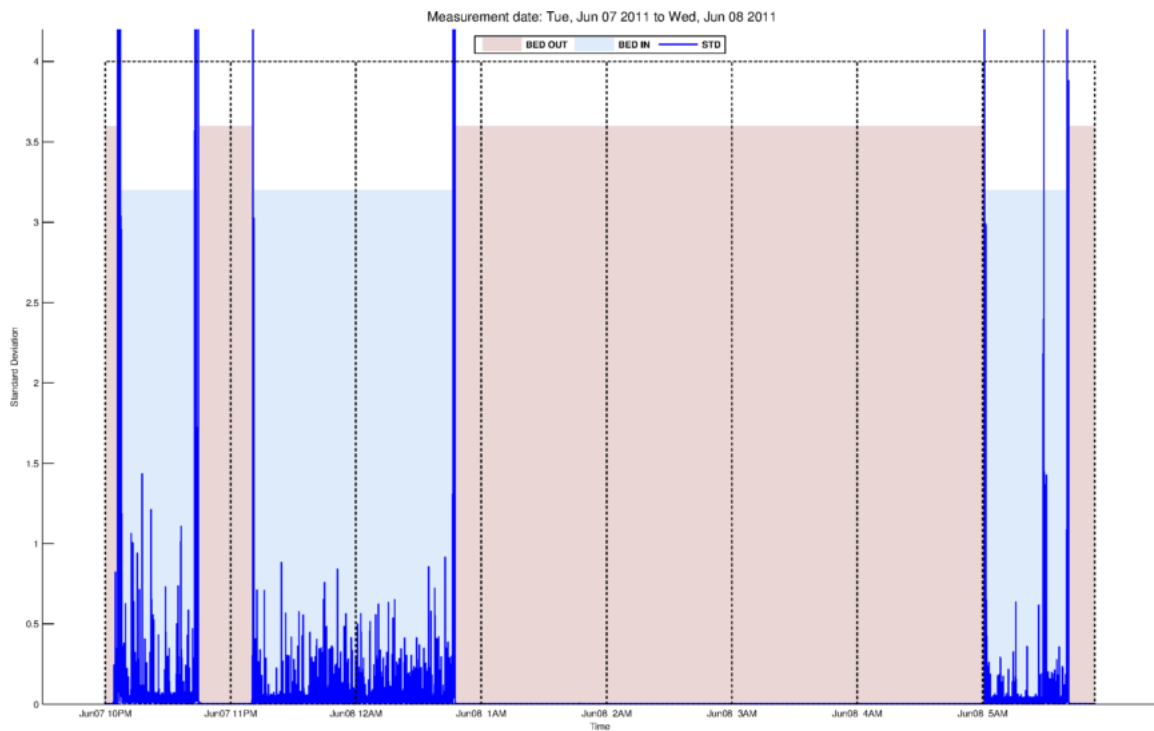


Figure 449: The moving standard deviation for the measured weight.

8.17 21st Night: from Jun 08 2011 to Jun 09 2011

Table 315 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 316 presents the duration of the estimated sleep related activities.

Table 315: Sleep related activities and sensor events measured between Jun 08 and Jun 09

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	00:12:39	22:02:47	00:37:13	00:12:43	00:31:28	00:02:23	01:59:16	23:58:46	00:02:41	01:53:16	05:14:24
2	00:12:47	00:12:46		00:12:47		00:09:14	02:19:43	00:09:37	01:54:26	05:27:47	05:29:03
3	05:13:29	01:53:05		00:38:49		01:54:13	02:31:10	01:00:07	05:10:47		
4		05:27:38		05:13:33		02:31:56	05:10:30	02:32:14			
5						05:10:13	05:28:11	05:09:35			
6						05:28:07	05:34:11				

Table 316: Duration of the sleep related activities presented in Table 315

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:06	02:10:06	00:01:36	00:00:03	00:05:46
2	01:40:29	00:00:01		00:18:43	
3	00:14:10	03:20:46		01:14:24	
4		00:32:24		00:14:07	

Figure 450 presents the measured sensor events and the computed bed entrances and exits.

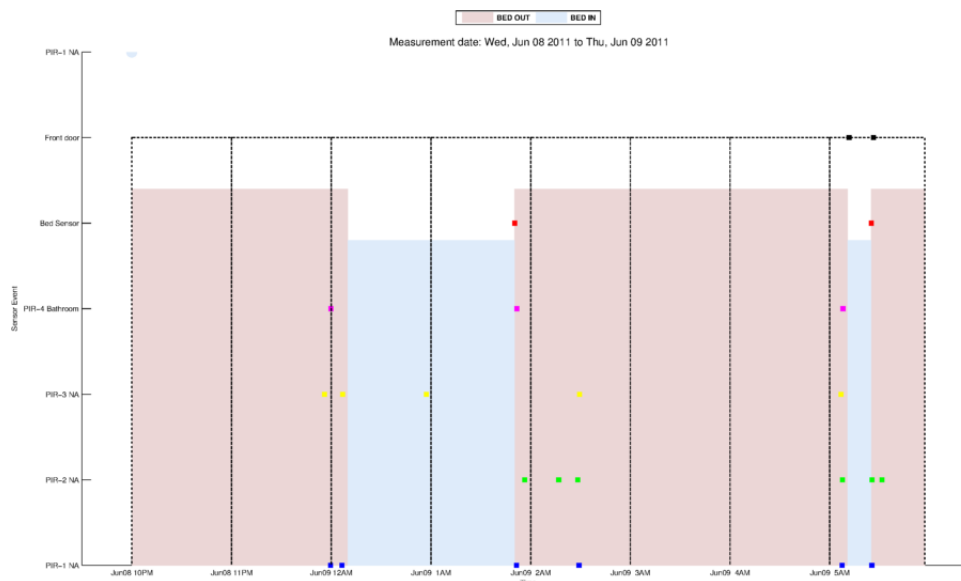


Figure 450: Sensor events and computed bed entrances and exists

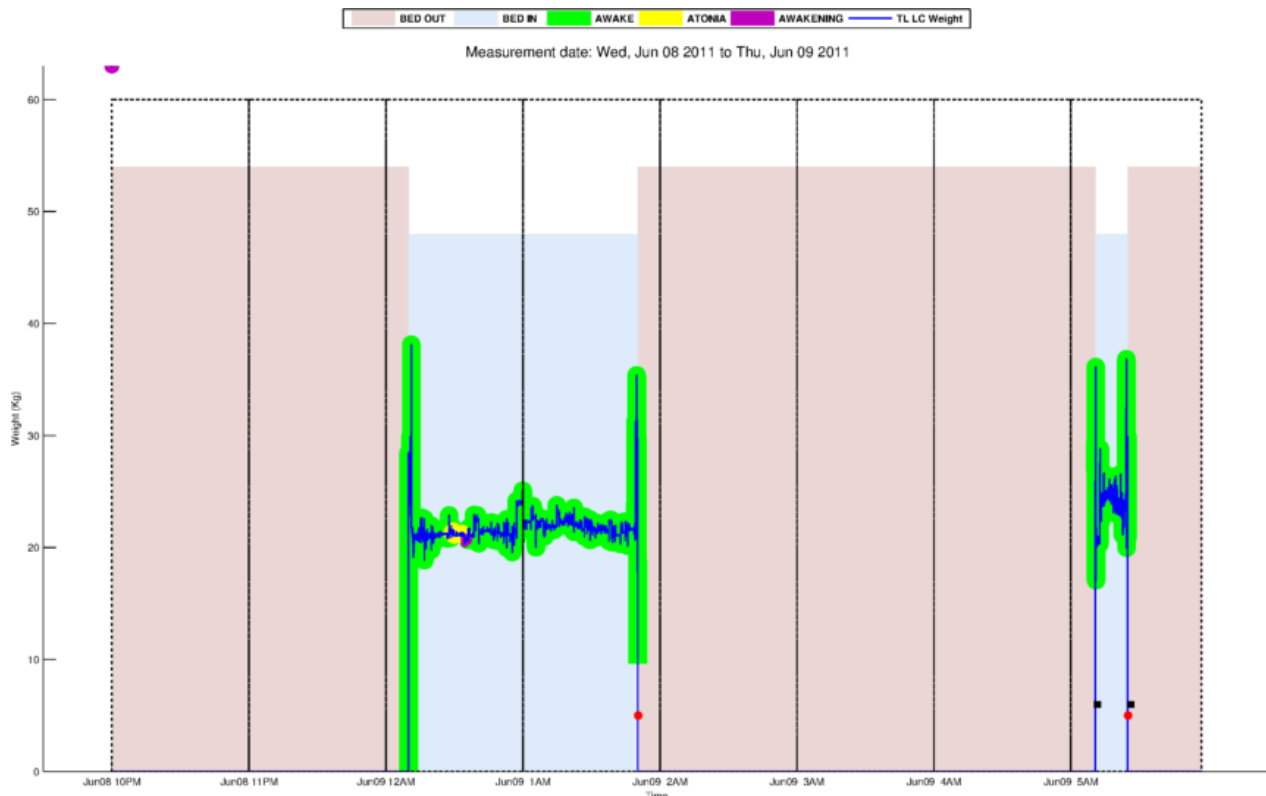


Figure 451: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 451 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 452 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 451).

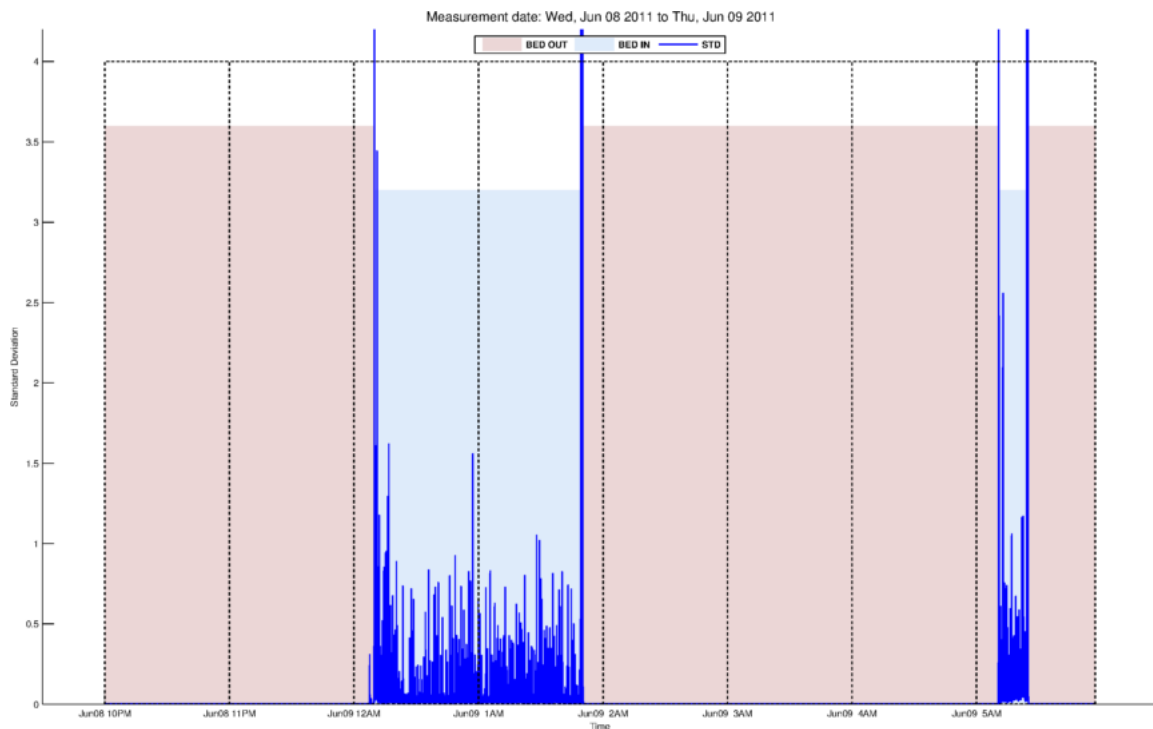


Figure 452: The moving standard deviation for the measured weight.

8.18 22nd Night: from Jun 09 2011 to Jun 10 2011

Table 317 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 318 presents the duration of the estimated sleep related activities.

Table 317: Sleep related activities and sensor events measured between Jun 09 and Jun 10

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	22:59:13	22:03:20	23:14:01	22:59:17	23:08:11	22:36:31	22:36:40	22:00:46	22:55:04	00:24:11	
2	22:59:45	22:59:44	23:35:33	22:59:45	23:16:18	22:51:09	22:45:58	22:15:55	00:25:04	05:18:03	
3	00:20:48	00:20:47	23:55:06	23:14:56	23:46:55	22:54:47	22:50:04	22:31:25	03:51:12		
4	03:55:29	00:24:02	00:19:15	23:40:17	00:13:37	00:24:41	22:57:15	22:51:31	05:20:52		
5	03:56:33	03:56:32	04:17:52	23:55:48	03:57:24	00:38:54	00:27:16	22:58:44			
6	05:24:26	05:17:55	04:26:52	00:19:44	04:20:29	03:51:06	00:38:40	00:20:22			
7			04:47:11	00:20:48	04:26:53	05:20:05	03:54:11	00:24:03			
8			04:57:16	03:55:35	04:51:29			00:39:06			
9			05:05:45	03:56:33	04:57:17			03:45:27			
10			05:46:39	04:20:19	05:35:40			03:54:43			
11				04:47:15	05:46:58			05:16:54			
12				05:08:54				05:22:46			
13				05:24:30							
14				05:46:42							

Table 318: Duration of the sleep related activities presented in Table 317

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:31	00:55:59	00:00:55	00:00:26	00:05:51
2	01:21:11	00:00:01	00:04:44	00:08:27	00:19:17
3	00:03:14	00:00:01	00:00:42	00:01:22	00:08:11
4	00:01:03	03:31:52	00:00:28	00:06:39	00:05:39
5	01:21:31	00:00:01	00:02:27	00:17:51	00:20:30
6	00:35:37	00:06:32	00:00:01	00:01:03	00:06:23
7			00:00:03	00:03:14	00:20:20
8			00:00:01	00:00:57	00:05:47
9			00:03:10	00:00:51	00:08:29
10			00:00:03	00:00:10	00:10:59
11				00:04:15	00:13:02
12				00:09:01	
13				00:11:12	
14				00:00:16	

Figure 453 presents the measured sensor events and the computed bed entrances and exits.

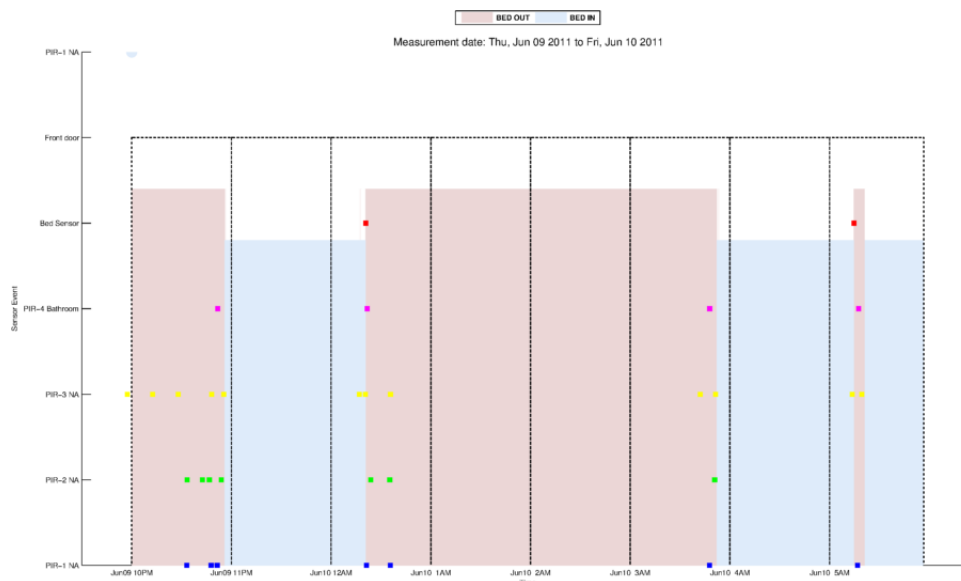


Figure 453: Sensor events and computed bed entrances and exists

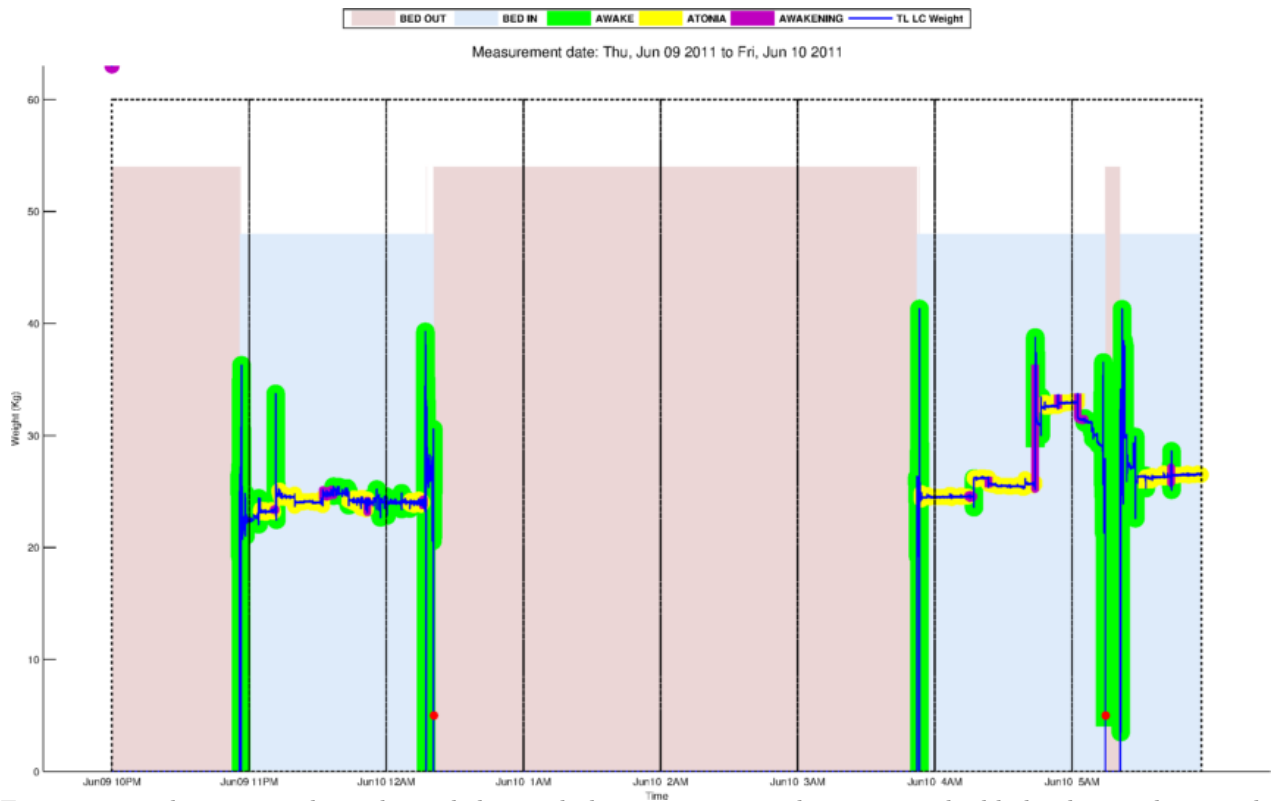


Figure 454: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 454 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 455 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 454).

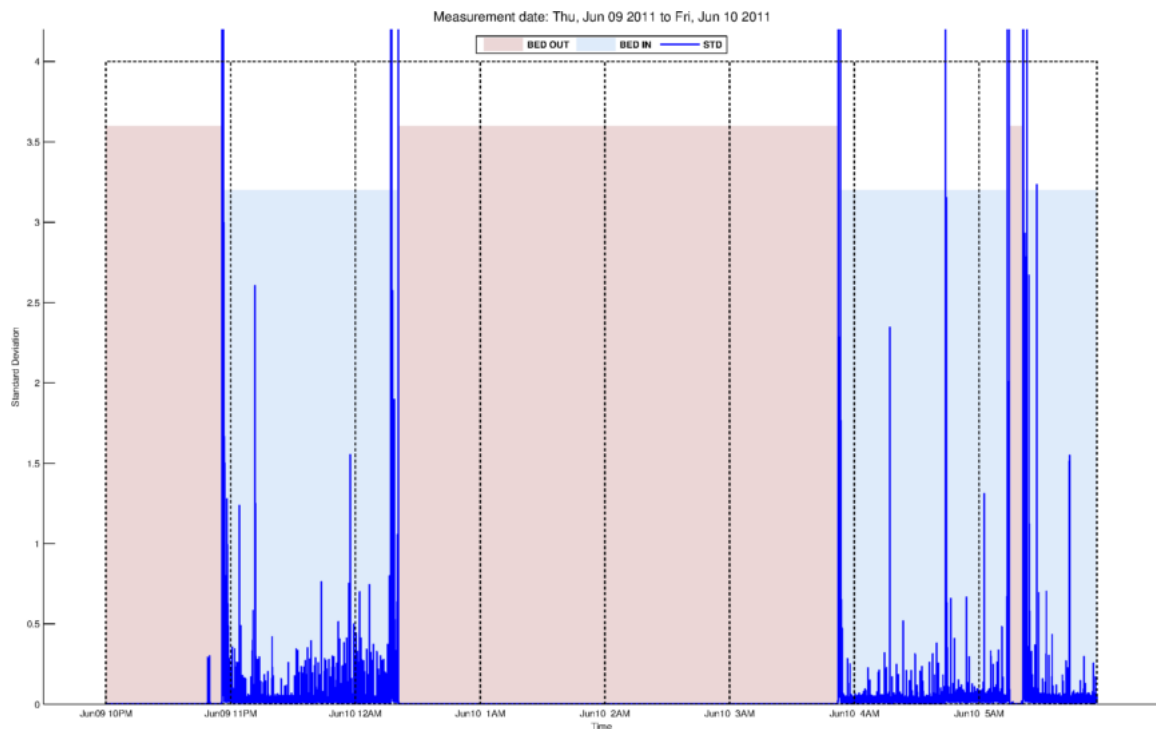


Figure 455: The moving standard deviation for the measured weight.

8.19 23rd Night: from Jun 10 2011 to Jun 11 2011

Table 319 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 320 presents the duration of the estimated sleep related activities.

Table 319: Sleep related activities and sensor events measured between Jun 10 and Jun 11

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	00:46:01	22:07:26	01:01:03	00:46:04	00:54:50	00:23:08	00:23:19	00:15:18	00:43:34	02:28:11	
2	02:26:18	02:26:17	01:18:09	01:05:35	01:07:42	00:42:58	00:32:27	00:45:30	02:28:51	04:40:11	
3	03:18:23	02:28:02	01:28:37	02:04:26	01:21:57	02:28:35	00:38:00	02:09:06	03:16:13	05:46:02	
4	03:18:36	03:18:34	01:48:53	02:26:18	01:28:38	03:15:56	00:41:20	02:25:25	05:47:52		
5	04:21:57	04:21:54	02:03:09	03:18:27	01:48:53	04:40:57	02:31:40	03:17:43			
6	04:38:57	04:38:55	03:35:14	03:18:36	03:21:42	04:57:26	02:36:07	04:21:27			
7	04:58:39	04:40:02	03:40:48	03:44:56	03:35:15	05:47:40	02:49:33	04:24:26			
8	05:50:47	05:45:53	03:53:01	04:11:17	03:47:30		03:07:16	04:38:40			
9			04:09:17	04:21:57	03:53:01		03:14:59	04:57:44			
10			05:38:06	04:22:02	05:00:49		04:45:15	05:45:37			
11			05:45:30	04:38:57	05:38:13			05:50:18			
12				04:39:01	05:52:07						
13				04:59:01							
14				05:38:10							
15				05:45:34							
16				05:50:51							

Table 320: Duration of the sleep related activities presented in Table 319

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	01:40:28	02:38:53	00:04:32	00:08:46	00:06:14
2	00:01:43	00:00:01	00:03:48	00:02:07	00:10:28
3	00:00:11	00:50:28	00:00:01	00:21:53	00:06:41
4	01:03:26	00:00:01	00:00:00	00:01:43	00:20:17
5	00:17:00	00:00:02	00:01:17	00:00:07	00:14:17
6	00:01:05	00:00:02	00:00:00	00:03:06	00:13:34
7	00:47:20	00:18:39	00:04:09	00:02:33	00:05:34
8	00:09:13	00:04:55	00:00:00	00:10:38	00:05:32
9			00:02:00	00:00:00	00:16:17
10			00:00:03	00:16:55	00:37:21
11			00:00:03	00:00:00	00:07:18
12				00:01:01	00:07:52
13				00:01:48	
14				00:00:03	
15				00:00:19	
16				00:01:16	

Figure 456 presents the measured sensor events and the computed bed entrances and exits.

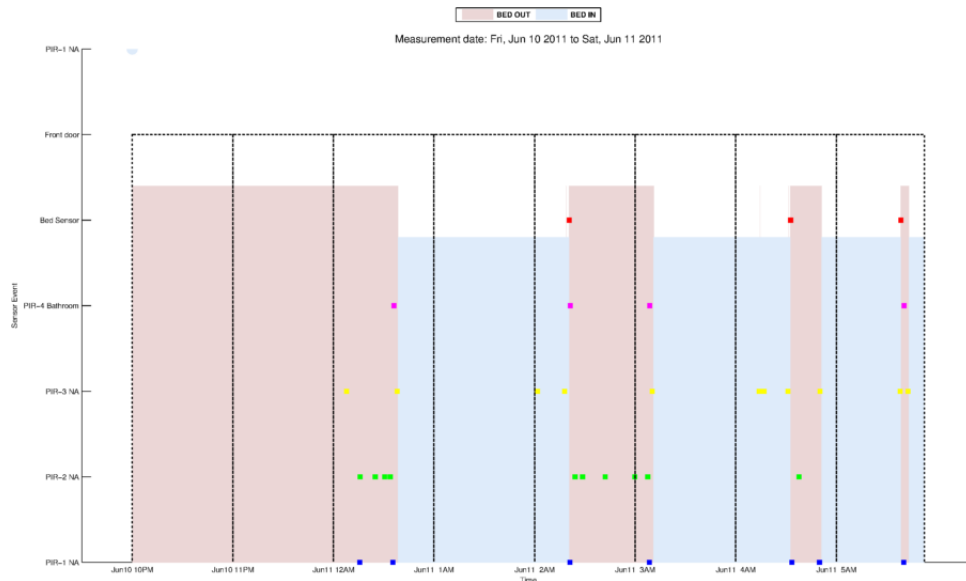


Figure 456: Sensor events and computed bed entrances and exists

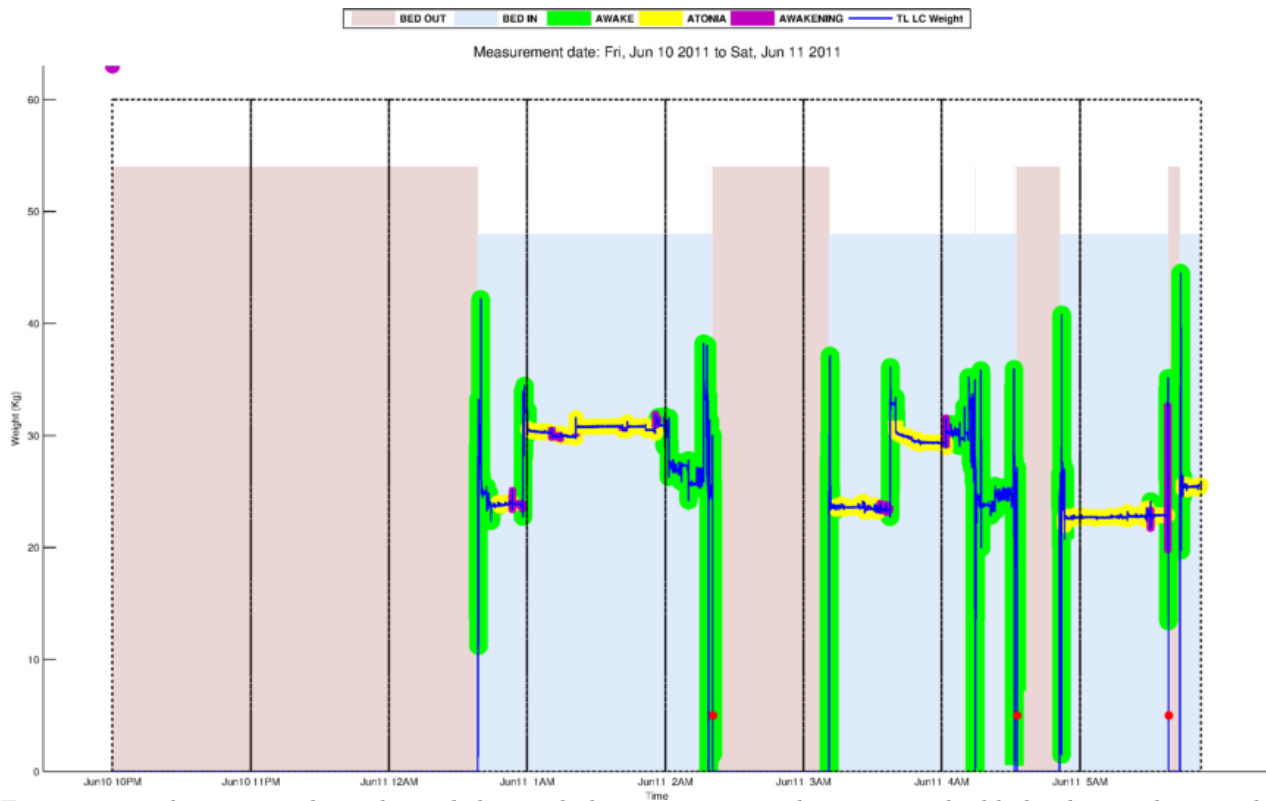


Figure 457: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 457 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 458 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 457).

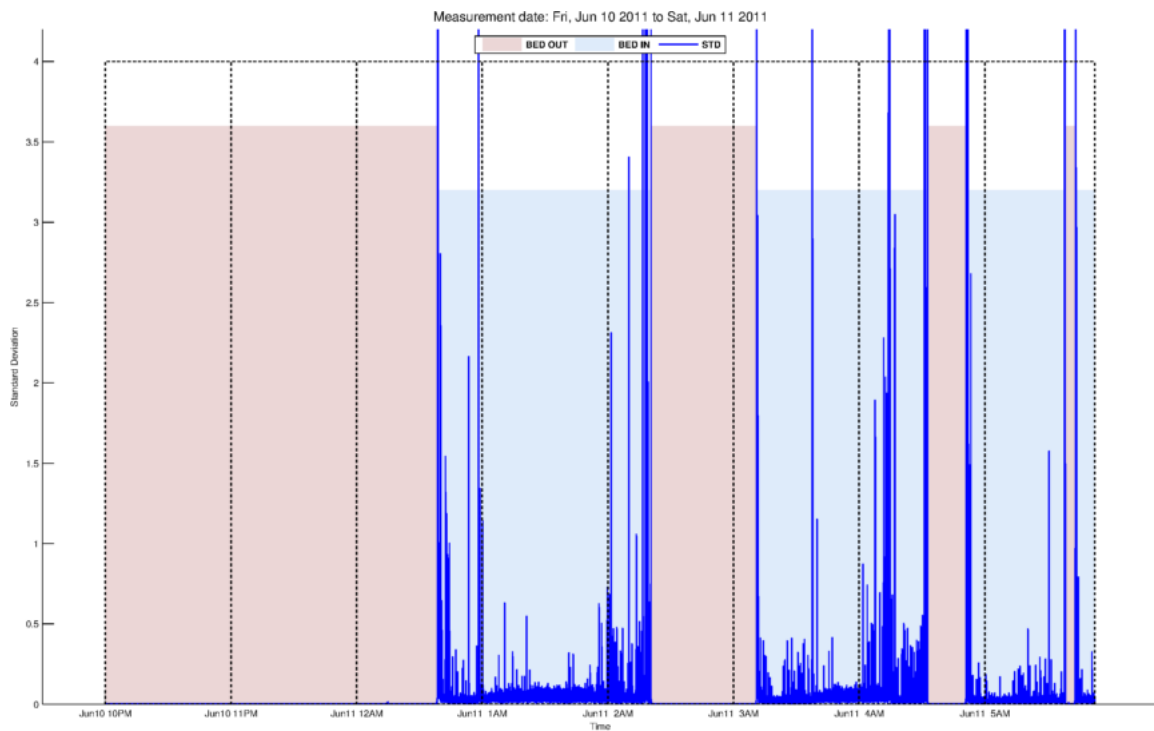


Figure 458: The moving standard deviation for the measured weight.

8.20 24th Night: from Jun 11 2011 to Jun 12 2011

Table 321 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 322 presents the duration of the estimated sleep related activities.

Table 321: Sleep related activities and sensor events measured between Jun 11 and Jun 12

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	23:10:18	22:07:27	23:28:41	23:10:35	23:19:10	22:43:40	22:52:27	22:23:34	22:43:48	00:54:41	
2	01:43:31	00:54:24	23:36:59	23:28:44	23:28:51	22:49:44	23:03:47	22:35:14	22:49:49	02:55:27	
3	02:50:16	02:50:14	23:49:06	23:39:39	23:43:32	23:05:43	01:02:19	22:41:21	23:05:52		
4		02:55:18	00:12:38	23:49:47	23:57:37	00:55:13	01:28:27	23:08:58	00:55:32		
5			02:04:38	00:14:09	01:53:38	01:41:22	01:38:13	00:53:26	01:41:31		
6			02:35:09	01:43:35	02:24:20	02:55:58	02:56:10	01:43:01	05:37:11		
7			02:42:38	02:05:18	02:35:09	02:59:55	02:59:50	02:49:23			
8			02:49:20	02:42:44	02:42:56	03:07:01	03:08:03	02:55:19			
9				02:49:23		05:29:45	05:23:46	03:00:06			
10				02:50:16		05:36:58	05:39:43	03:06:23			
11							05:56:40	05:13:57			
12								05:23:24			

Table 322: Duration of the sleep related activities presented in Table 321

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	01:44:18	01:02:59	00:00:03	00:08:36	00:09:31
2	01:06:51	00:49:13	00:02:40	00:00:06	00:08:09
3	00:05:02	00:00:01	00:00:41	00:03:53	00:05:34
4		03:04:28	00:01:31	00:07:51	00:15:02
5			00:00:40	00:40:20	00:11:01
6			00:00:00	00:10:04	00:10:49
7			00:00:06	00:19:04	00:07:30
8			00:00:03	00:00:12	00:06:24
9				00:00:51	
10				00:05:02	

Figure 459 presents the measured sensor events and the computed bed entrances and exits.

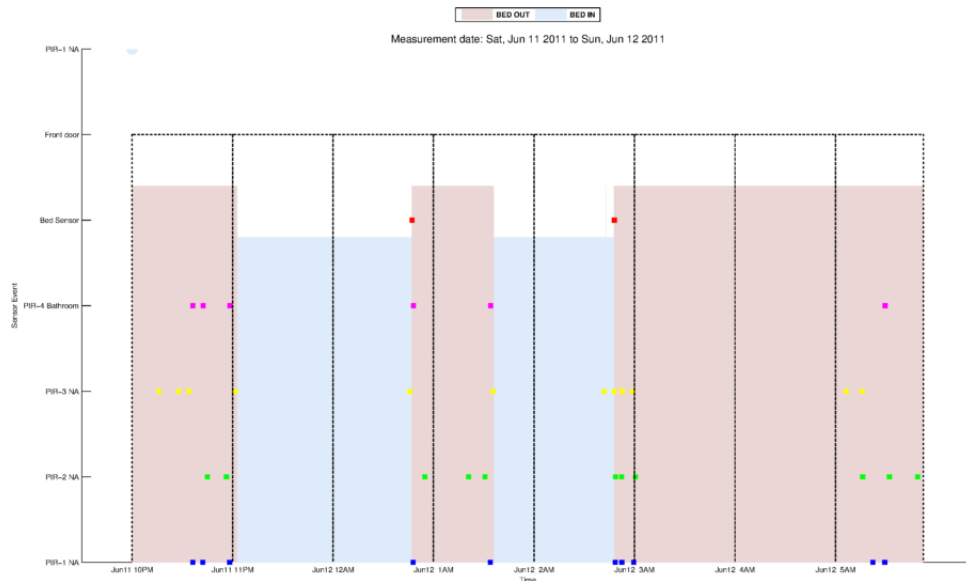


Figure 459: Sensor events and computed bed entrances and exists

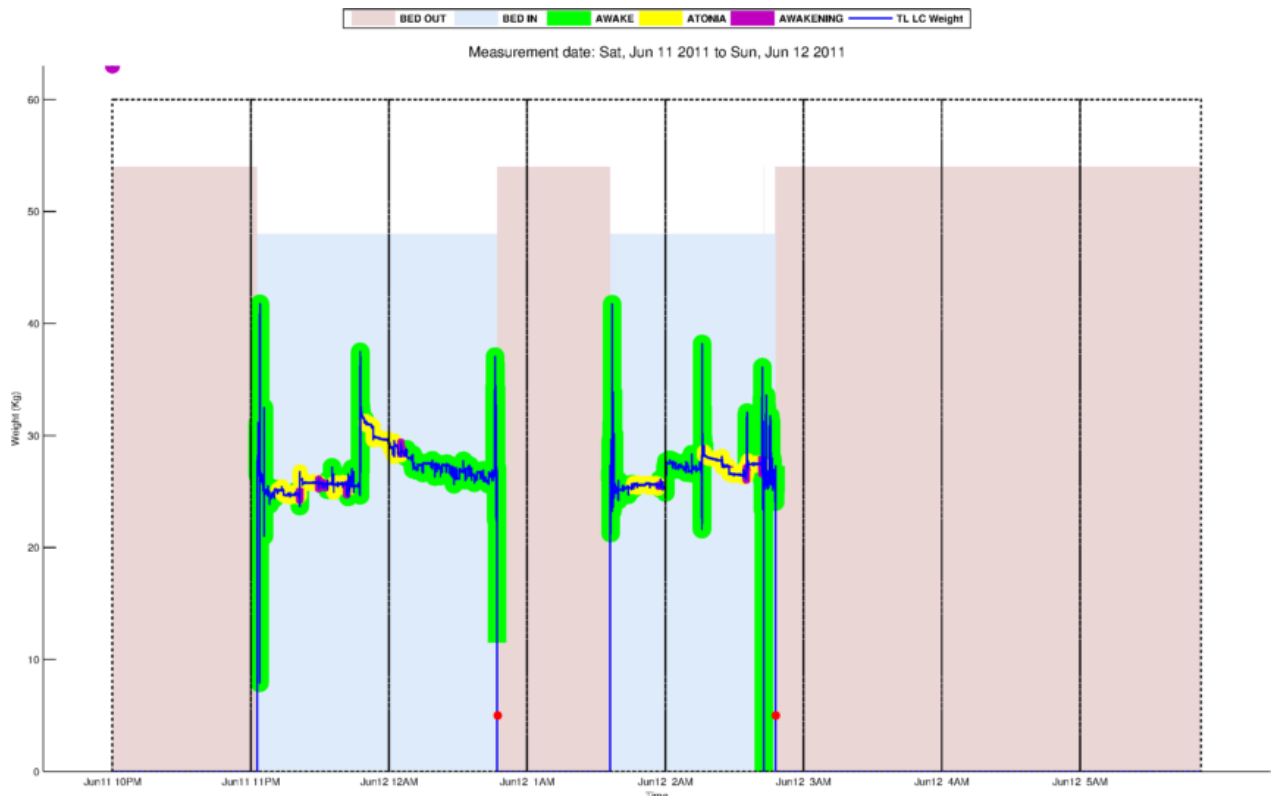


Figure 460: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 460 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 461 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 460).

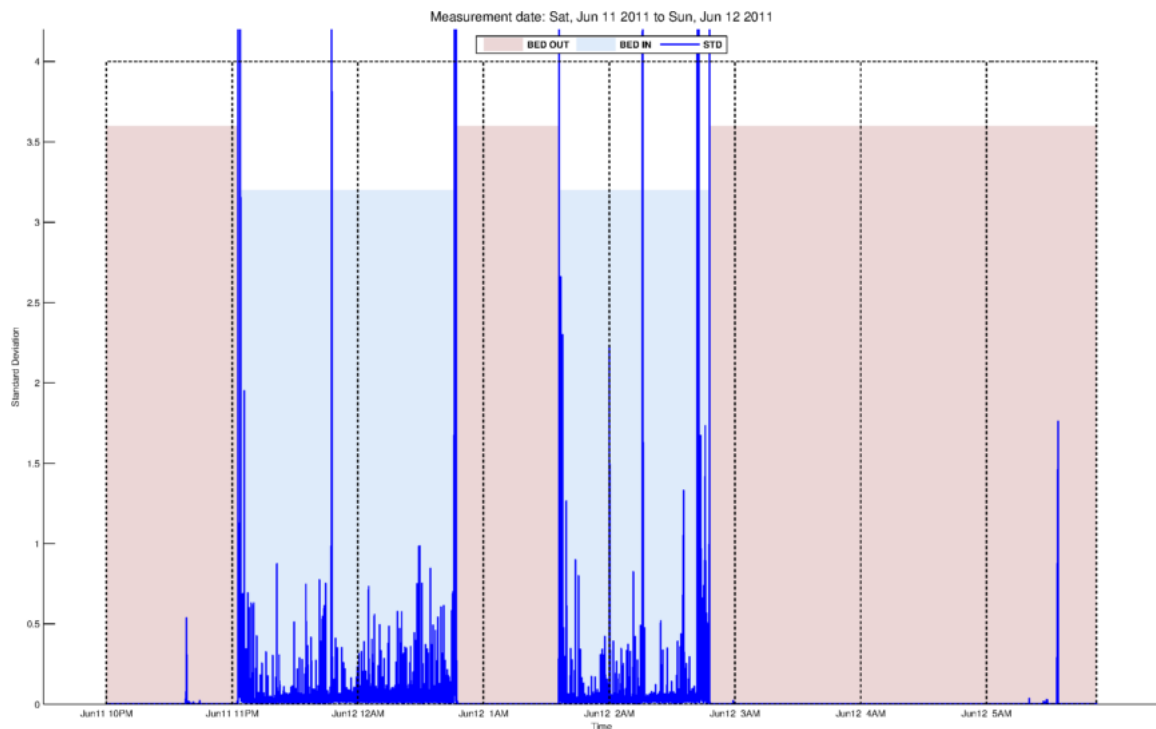


Figure 461: The moving standard deviation for the measured weight.

8.21 25th Night: from Jun 12 2011 to Jun 13 2011

Table 323 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 324 presents the duration of the estimated sleep related activities.

Table 323: Sleep related activities and sensor events measured between Jun 12 and Jun 13

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	22:07:28	23:05:42	22:08:01	22:08:09	22:07:28	23:07:07	23:08:38	23:05:16	23:07:21	23:06:07	05:37:25
2	23:05:45	23:05:58	22:20:59	22:25:49	22:13:10	23:16:24	23:16:06	23:17:31	23:16:30	04:04:43	05:44:00
3	02:26:17	04:04:34	22:40:45	22:41:50	22:35:12	02:14:20	02:14:29	23:26:57	02:22:00	05:17:08	
4	04:51:07	04:51:33	02:48:23	23:05:45	02:42:17	02:21:53	02:18:55	02:08:24	04:06:03	05:42:09	
5	04:51:41	05:16:59	02:56:28	23:05:51	02:48:23	04:05:02	04:05:10	02:23:07	05:18:20		
6	05:24:43	05:41:57	03:03:48	02:26:23	02:56:29	04:49:49	04:10:56	03:58:12			
7			03:09:16	03:09:20	03:03:51	05:24:05	04:39:37	04:03:09			
8			03:18:07	03:24:04	03:09:21	05:37:29	04:49:10	04:50:15			
9			03:24:00	03:30:07	03:18:07		05:23:51	05:16:07			
10			03:30:04	04:51:12	03:24:05		05:39:37	05:24:12			
11			05:08:40	04:51:45	05:02:17		05:43:22	05:37:36			
12			05:37:26	05:13:17	05:30:37						
13				05:24:48							
14				05:37:29							

Table 324: Duration of the sleep related activities presented in Table 323

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:58:21	00:00:02	00:00:08	00:05:01	00:00:32
2	00:00:13	03:19:34	00:04:50	00:09:24	00:07:50
3	01:38:30	00:46:39	00:01:05	00:23:55	00:05:33
4	00:00:26	00:00:08	00:00:00	00:00:00	00:06:07
5	00:25:21	00:07:45	00:00:00	00:00:07	00:08:06
6	00:17:16	00:18:03	00:00:03	00:15:56	00:07:20
7			00:00:04	00:00:00	00:05:26
8			00:00:00	00:00:01	00:08:47
9			00:00:03	00:34:31	00:05:53
10			00:00:03	00:00:21	00:05:59
11			00:04:38	00:10:33	00:06:24
12			00:00:03	00:03:42	00:06:50
13				00:05:49	
14				00:04:28	

Figure 462 presents the measured sensor events and the computed bed entrances and exits.

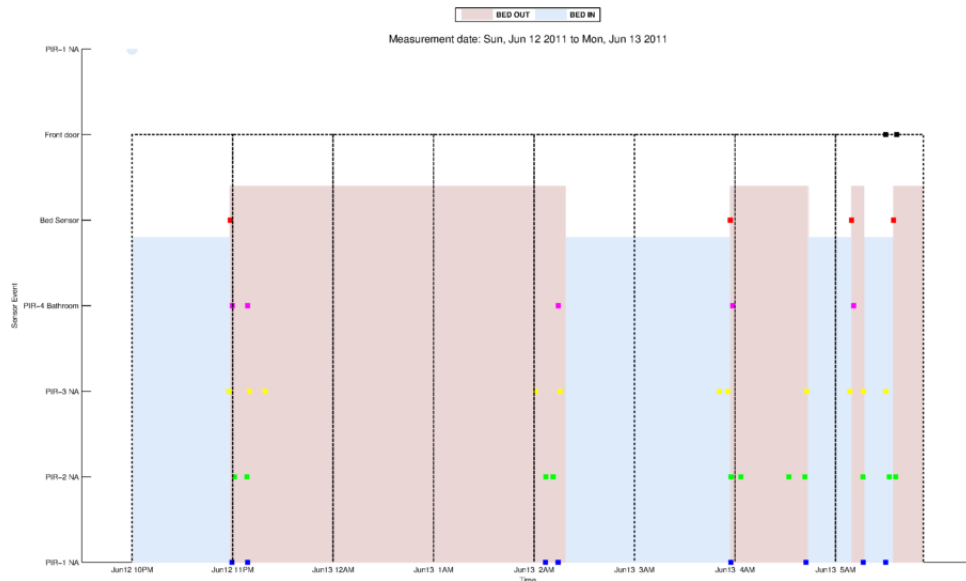


Figure 462: Sensor events and computed bed entrances and exists

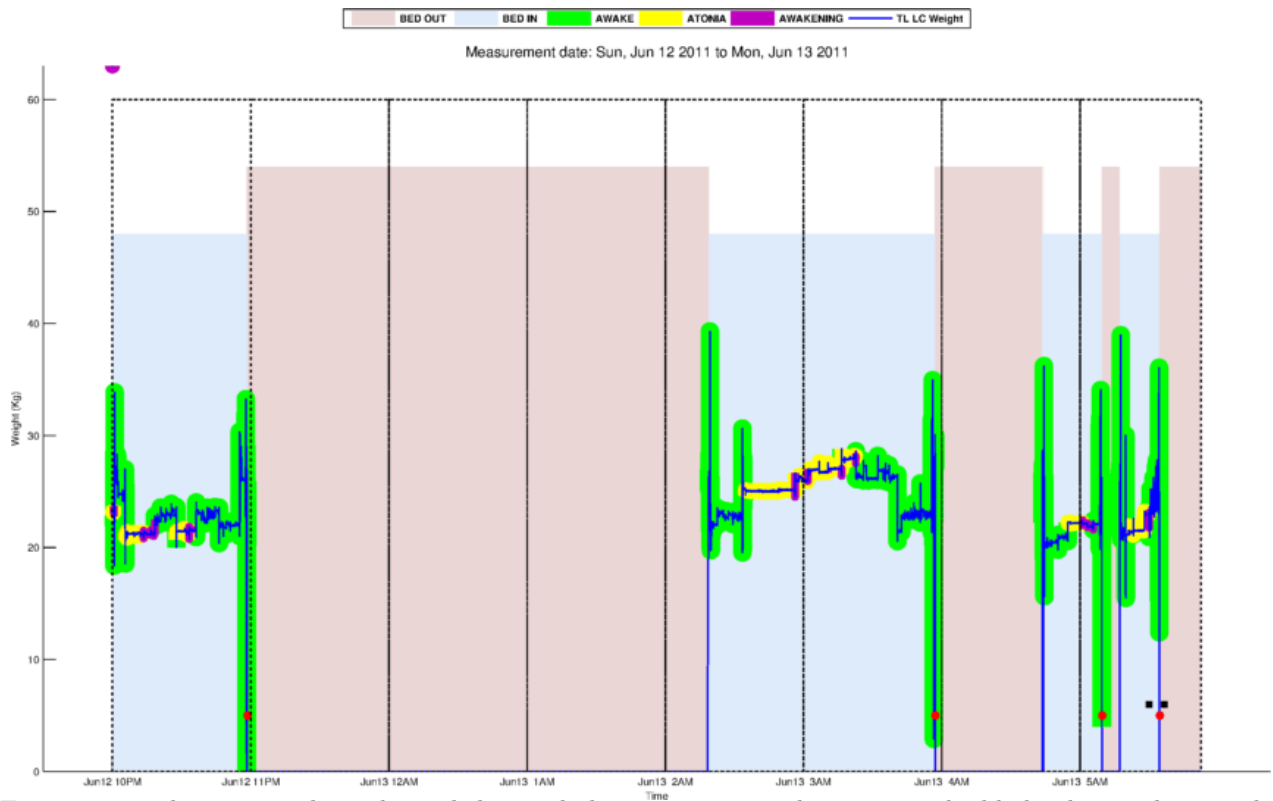


Figure 463: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 463 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 464 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 463).

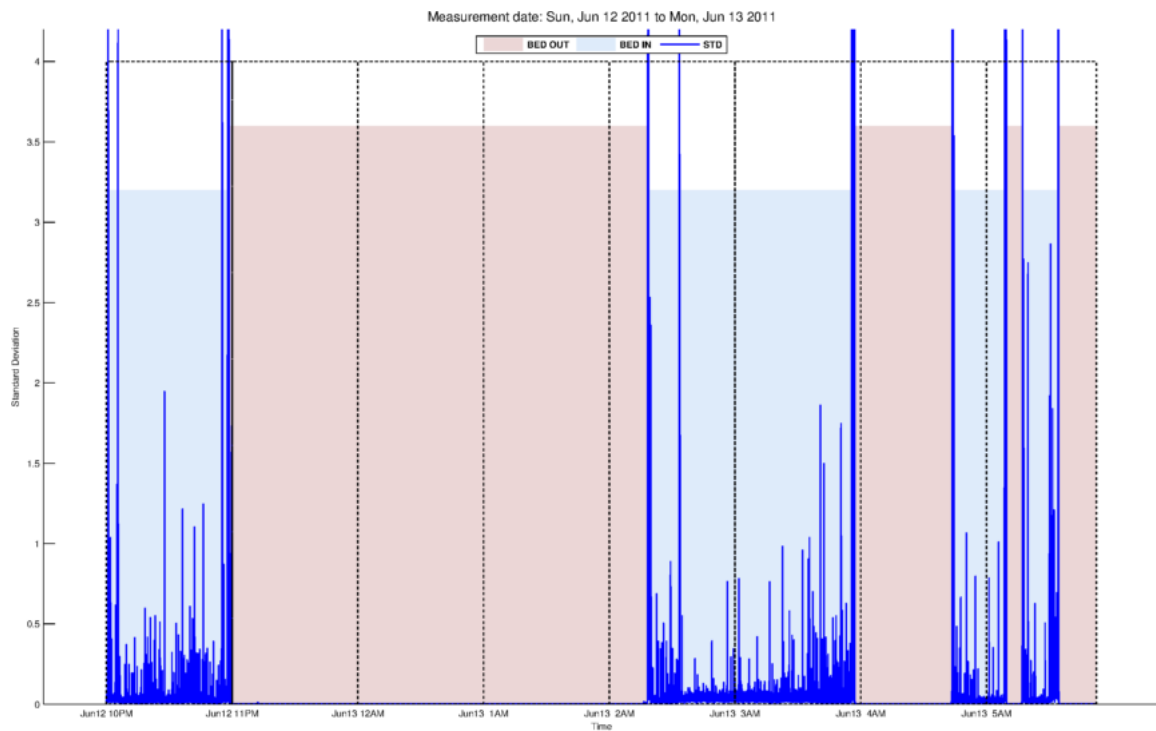


Figure 464: The moving standard deviation for the measured weight.

8.22 26th Night: from Jun 13 2011 to Jun 14 2011

Table 325 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 326 presents the duration of the estimated sleep related activities.

Table 325: Sleep related activities and sensor events measured between Jun 13 and Jun 14

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	01:45:42	22:07:01	01:55:53	01:45:46	01:48:50	23:15:22	23:20:14	23:07:24	23:15:29	03:15:54	04:39:45
2		03:15:45	02:03:46	01:55:57	01:57:54	23:32:51	23:32:59	23:20:42	01:43:45		05:40:21
3			02:11:44	02:04:43	02:06:08	23:35:50	01:36:02	23:35:58	03:16:42		
4			02:51:31	02:15:19	02:45:14	01:35:54	01:42:04	23:46:00	03:45:36		
5				02:54:17		01:43:27	03:19:16	01:27:34			
6						03:16:31	03:45:15	01:34:04			
7						03:45:32	03:52:51	01:45:05			
8						03:52:58	04:00:22	03:13:46			
9						04:00:13	05:40:39	03:53:10			
10						05:40:24		04:07:41			
11								05:13:11			
12								05:40:44			
13								05:49:20			

Table 326: Duration of the sleep related activities presented in Table 325

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	01:30:14	03:39:09	00:00:03	00:03:04	00:07:04
2		02:44:35	00:00:57	00:01:57	00:05:52
3			00:03:36	00:01:25	00:05:37
4			00:02:46	00:29:58	00:06:18
5				00:21:30	

Figure 465 presents the measured sensor events and the computed bed entrances and exits.

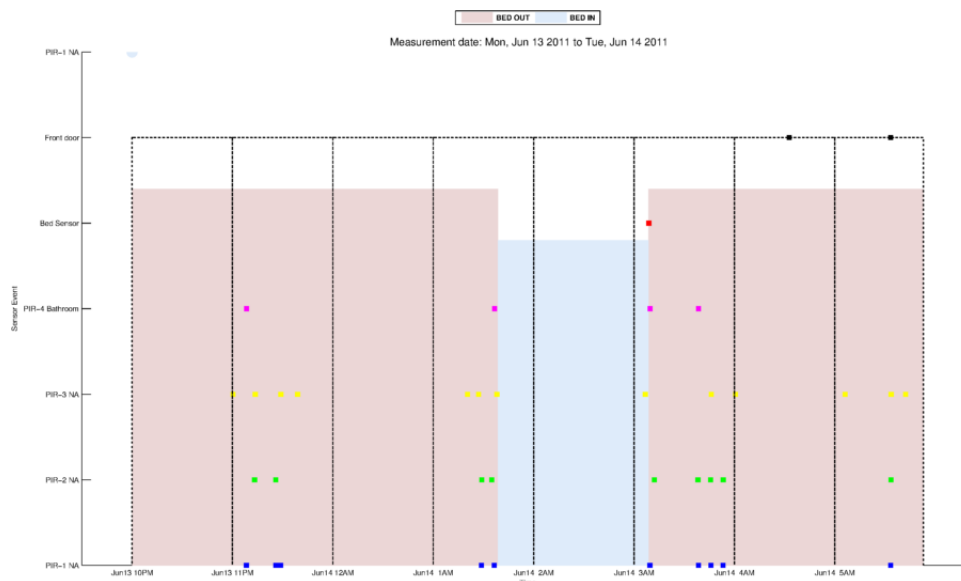


Figure 465: Sensor events and computed bed entrances and exists

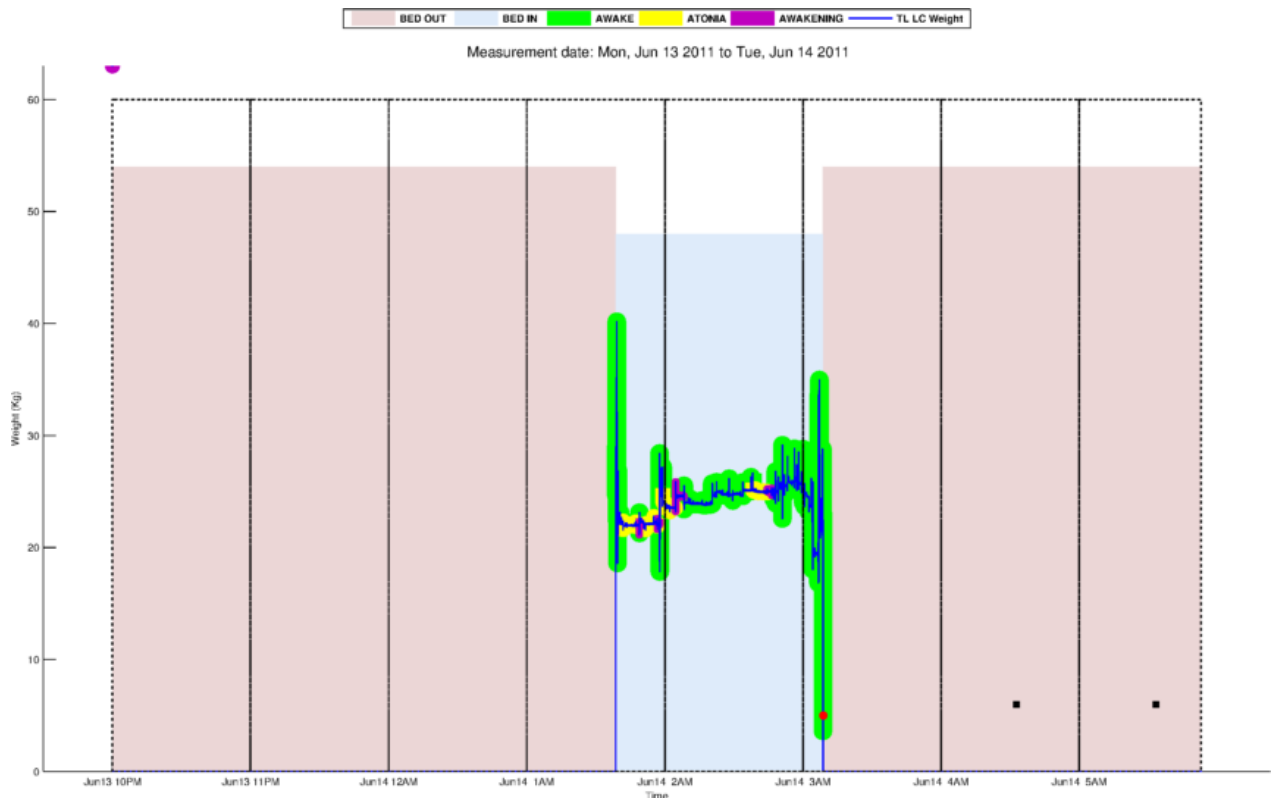


Figure 466: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 466 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 467 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 466).

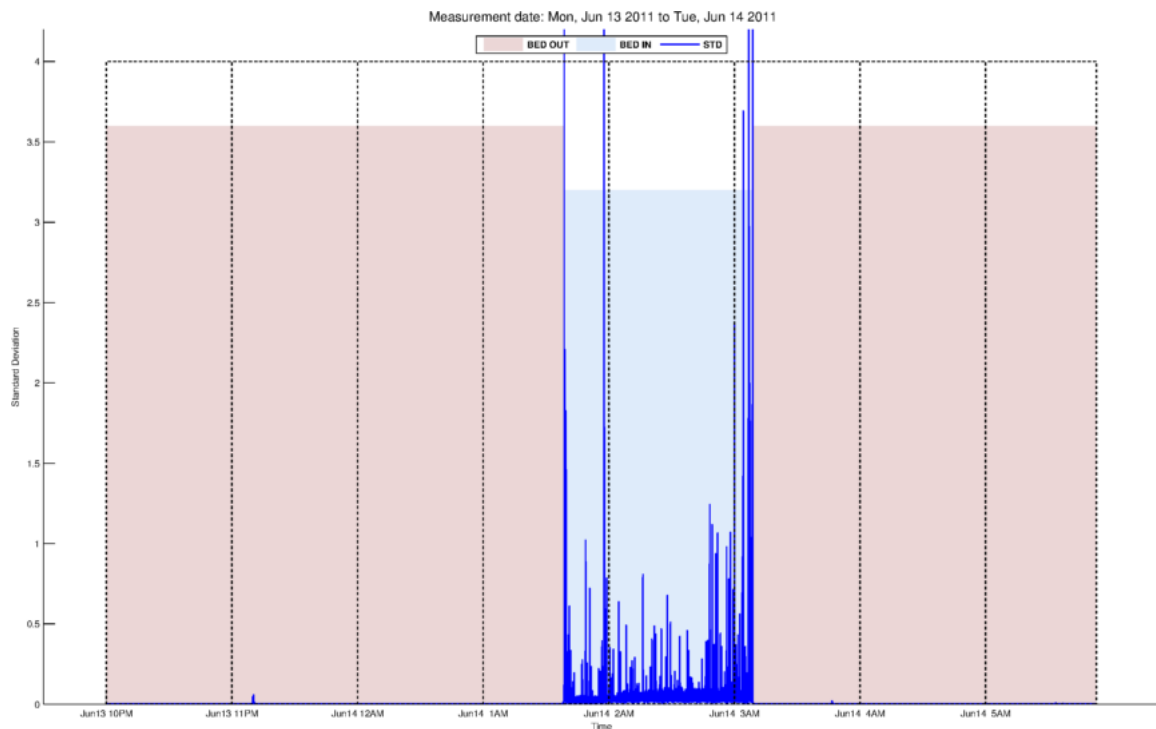


Figure 467: The moving standard deviation for the measured weight.

8.23 27th Night: from Jun 14 2011 to Jun 15 2011

Table 327 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 328 presents the duration of the estimated sleep related activities.

Table 327: Sleep related activities and sensor events measured between Jun 14 and Jun 15

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	01:00:51	22:06:40	01:07:58	01:00:55	01:02:56	22:20:59	22:21:08	22:19:15	22:28:46	02:16:21	03:39:41
2	02:14:11	02:14:10	01:22:24	01:10:41	01:16:46	22:28:34	22:27:24	22:52:22	00:57:41	04:34:31	
3	03:00:26	02:16:12	02:11:24	01:23:18	02:02:53	22:52:04	22:47:00	23:02:50	04:35:31		
4	04:55:39	04:34:22	03:39:18	02:13:34	03:21:16	00:56:15	00:56:37	00:54:35			
5			03:52:27	02:14:11	03:39:19	02:16:41	02:18:16	00:59:47			
6			04:01:45	03:00:30	03:52:29	02:57:25	02:41:44	02:13:49			
7			05:13:49	04:01:50	05:01:41	04:35:19	02:56:38	02:59:03			
8			05:20:11	04:56:13	05:13:50	04:51:28	04:39:42	04:02:26			
9			05:35:27	05:22:10	05:26:52		04:50:42	04:30:14			
10				05:35:30				04:33:52			
11								04:38:26			
12								04:55:04			
13								05:59:44			

Table 328: Duration of the sleep related activities presented in Table 327

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	01:13:28	02:54:33	00:02:43	00:02:01	00:05:02
2	00:02:01	00:00:01	00:00:54	00:06:05	00:05:38
3	01:34:09	00:44:19	00:02:10	00:39:40	00:08:32
4	01:04:28	00:21:19	00:00:01	00:00:36	00:18:04
5			00:00:02	00:02:01	00:13:10
6			00:00:05	00:20:48	00:09:16
7			00:00:01	00:32:37	00:12:09
8			00:02:00	00:05:29	00:06:21
9			00:00:03	00:04:42	00:08:35
10				00:24:32	

Figure 468 presents the measured sensor events and the computed bed entrances and exits.

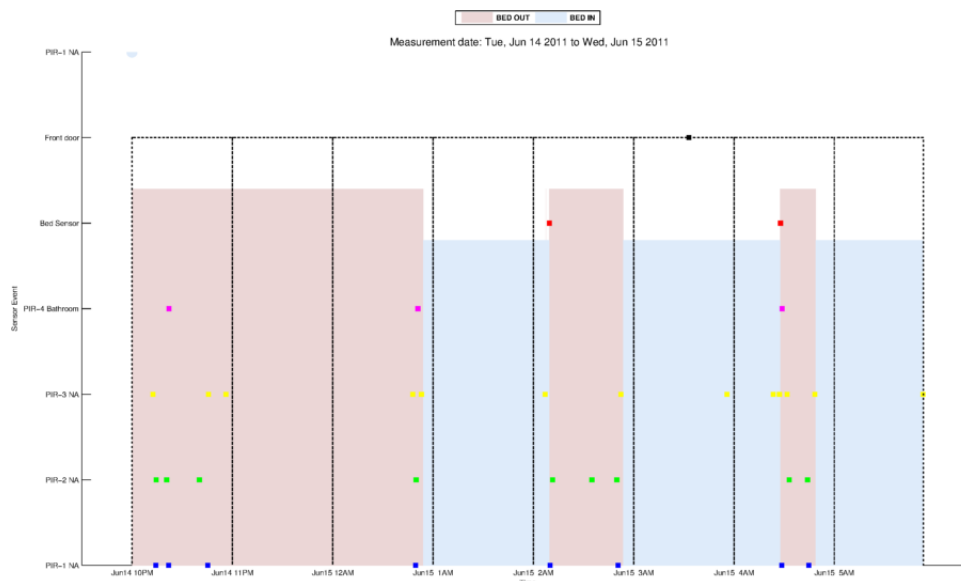


Figure 468: Sensor events and computed bed entrances and exists

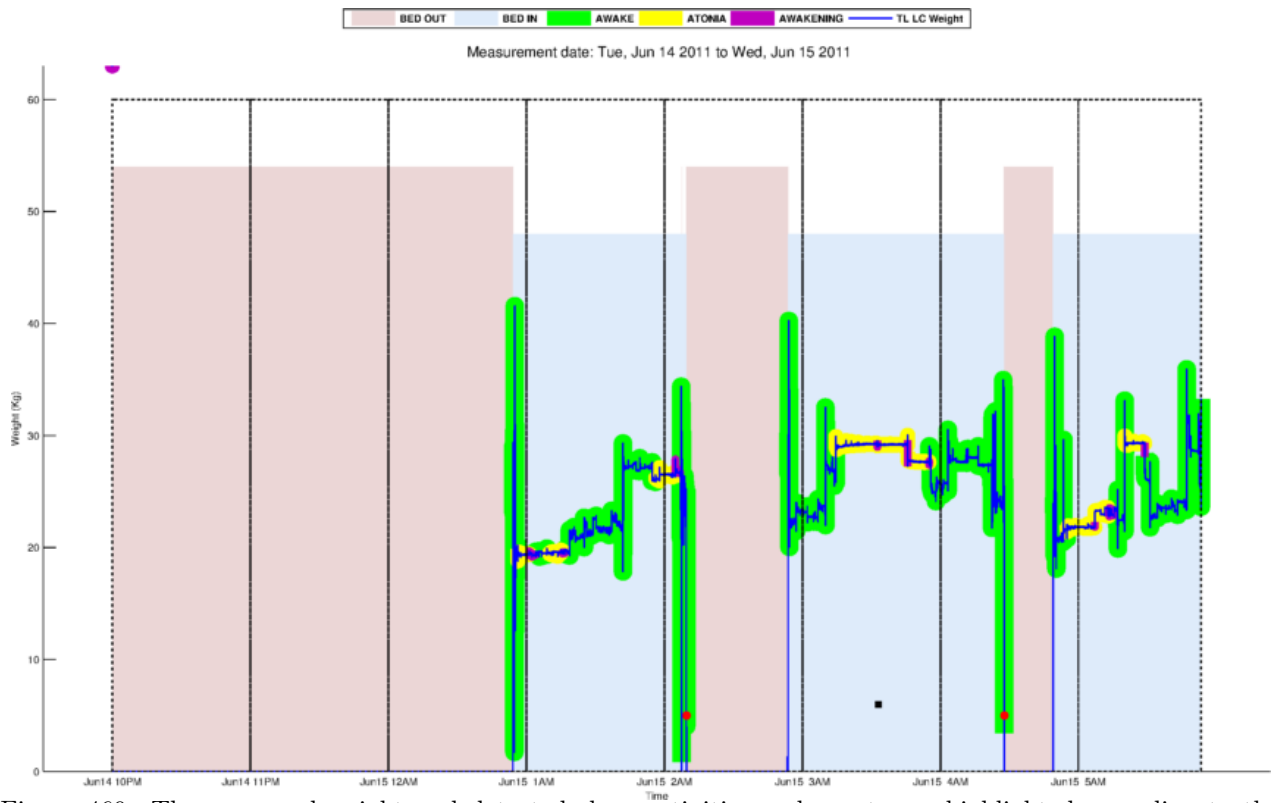


Figure 469: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 469 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 470 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 469).

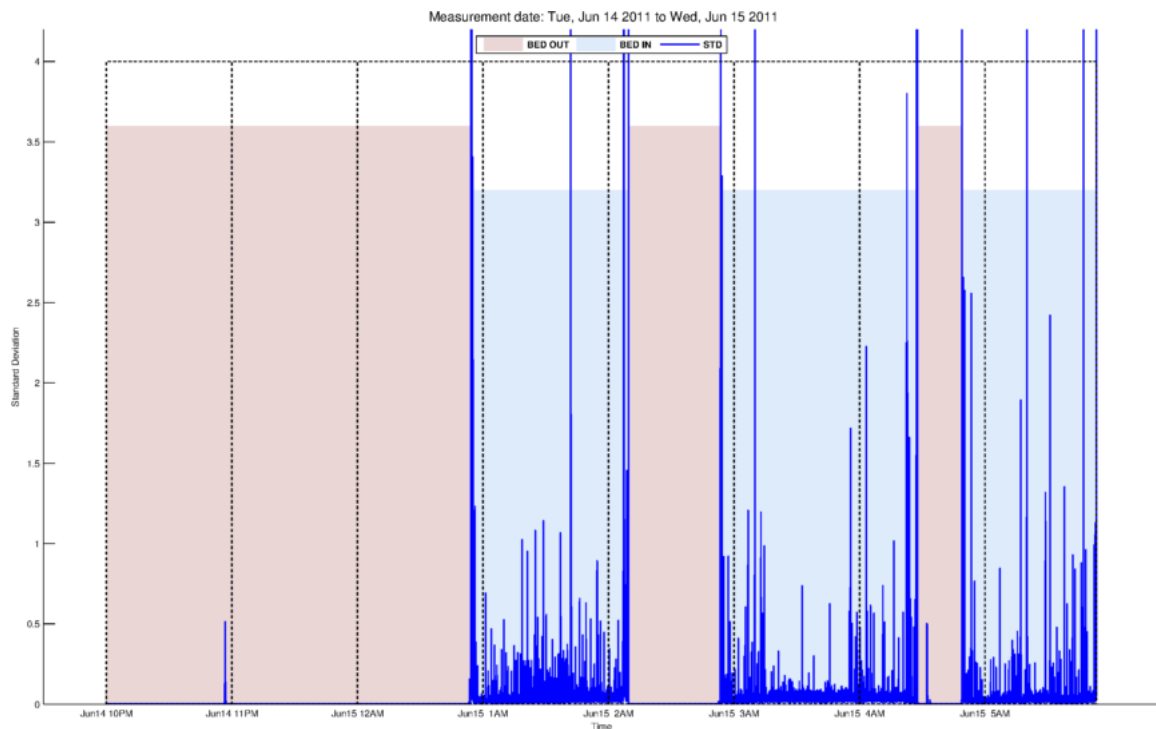


Figure 470: The moving standard deviation for the measured weight.

8.24 28th Night: from Jun 15 2011 to Jun 16 2011

Table 329 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 330 presents the duration of the estimated sleep related activities.

Table 329: Sleep related activities and sensor events measured between Jun 15 and Jun 16

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	00:23:45	22:08:43	00:33:14	00:23:48	00:27:28	00:11:15	00:11:42	00:03:24	02:53:25	02:52:28	04:39:46
2	03:38:34	02:52:16	01:50:48	00:34:37	01:41:40	00:17:13	00:17:00	00:19:45	03:36:36	04:43:14	
3	05:14:46	04:43:04	01:59:51	02:02:55	01:50:49	02:53:07	00:20:21	00:23:21	04:54:29	05:55:14	
4		05:55:05	02:20:55	02:20:59	02:12:49	03:31:44	02:55:29	00:45:51	05:10:26		
5			03:51:04	03:39:12	03:44:52	03:36:28	02:58:59	02:51:21	05:56:46		
6			04:13:30	03:55:20	03:56:18	04:54:17	03:16:36	03:31:51			
7			04:22:28	04:15:20	04:16:37	05:10:23	03:30:40	03:38:22			
8			05:34:31	04:22:31	05:28:47	05:56:36	04:55:47	04:42:28			
9			05:54:04	05:14:46	05:47:31		05:02:30	05:14:16			
10				05:38:10			05:08:56	05:54:07			
11				05:54:07							

Table 330: Duration of the sleep related activities presented in Table 329

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	02:28:50	02:15:19	00:01:23	00:03:40	00:05:46
2	01:04:03	00:46:24	00:00:01	01:07:11	00:09:09
3	00:40:24	00:31:46	00:03:04	00:09:55	00:09:03
4		00:04:54	00:00:04	00:31:21	00:08:06
5			00:04:16	00:05:40	00:06:12
6			00:01:50	00:00:59	00:17:14
7			00:00:03	00:01:17	00:05:52
8			00:03:40	00:20:35	00:05:44
9			00:00:03	00:14:03	00:06:33
10				00:09:22	
11				00:00:58	

Figure 471 presents the measured sensor events and the computed bed entrances and exits.

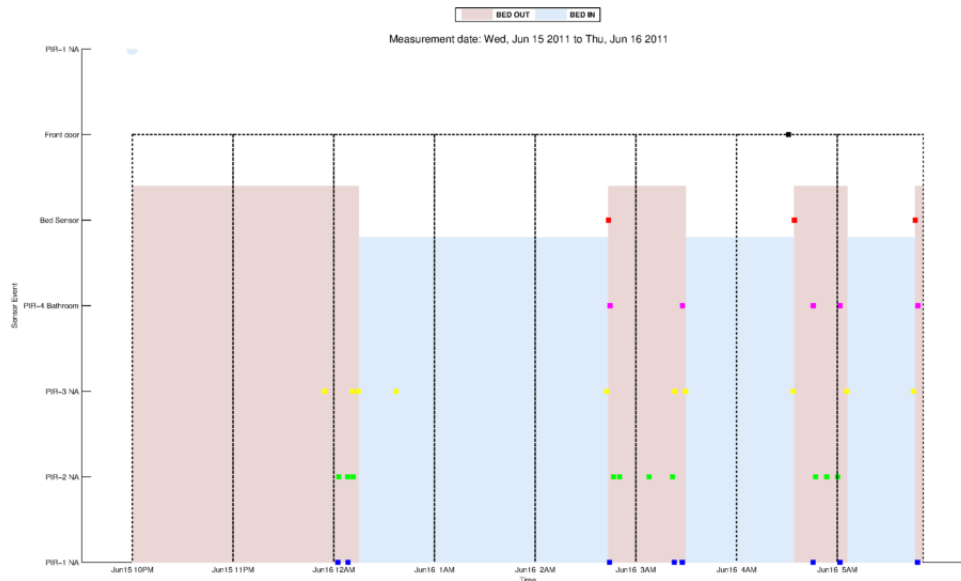


Figure 471: Sensor events and computed bed entrances and exists

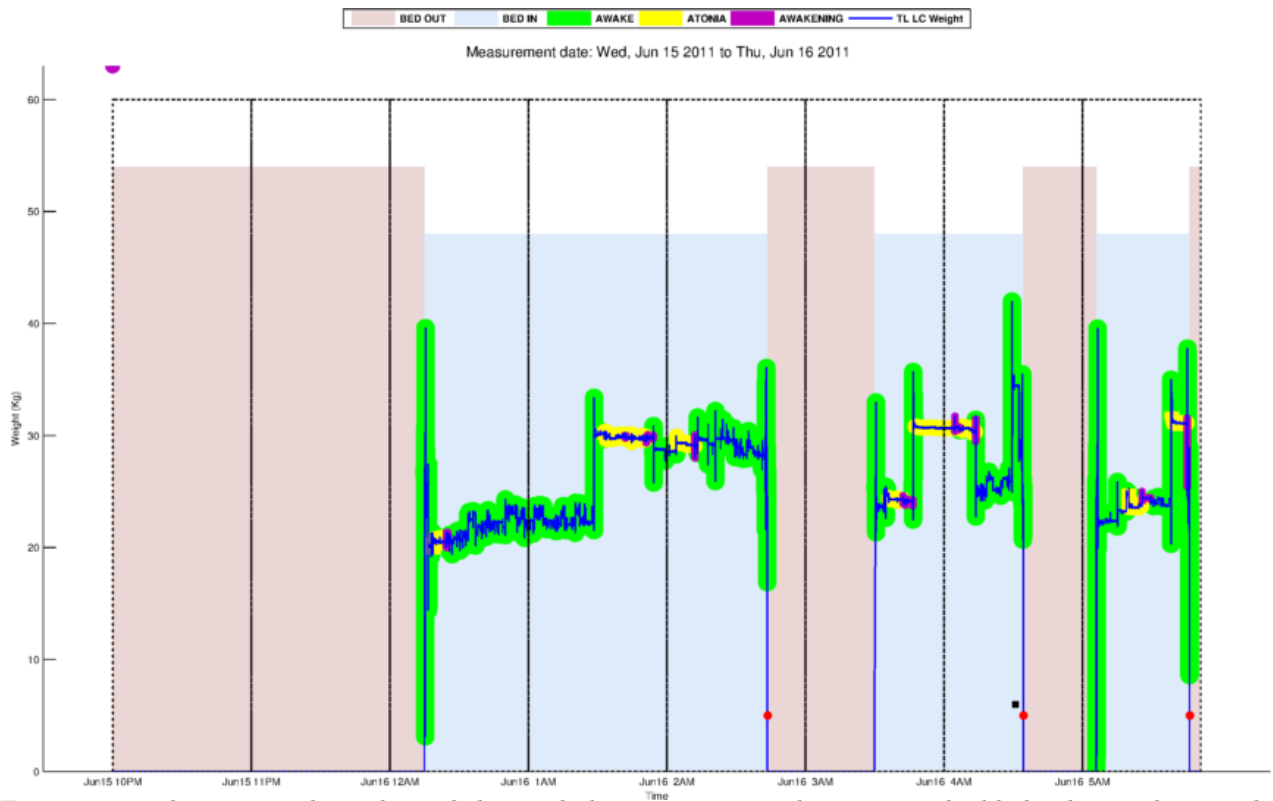


Figure 472: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 472 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 473 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 472).

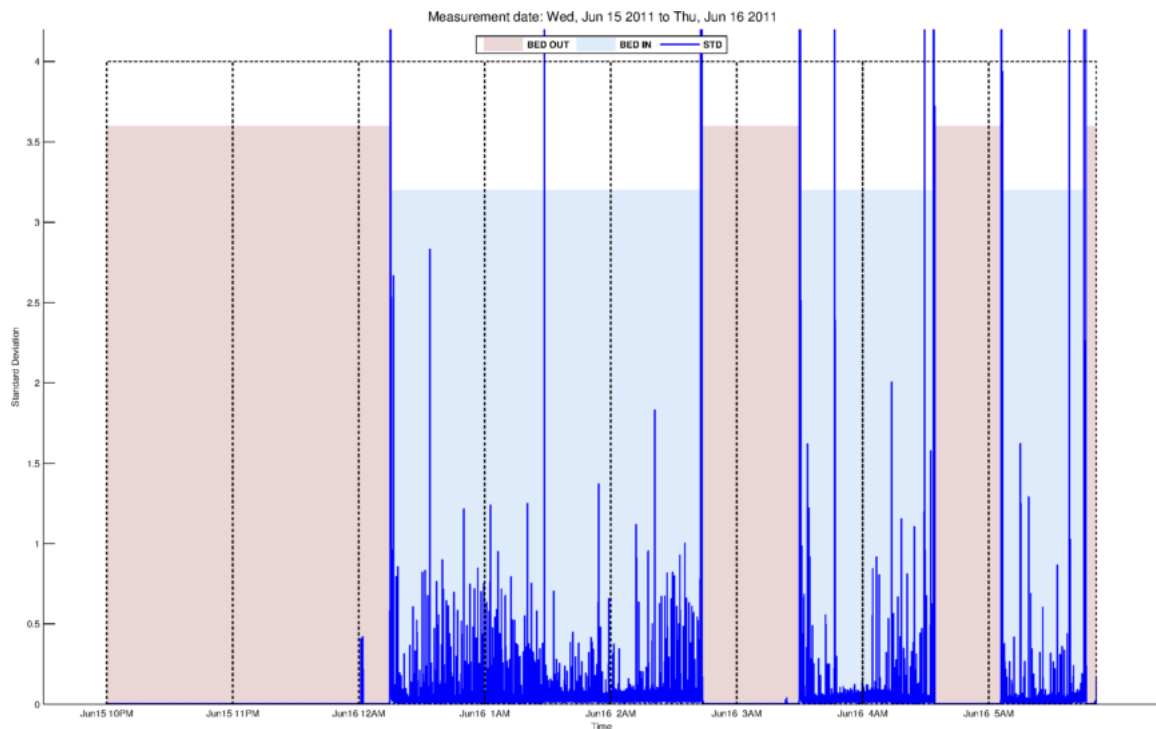


Figure 473: The moving standard deviation for the measured weight.

8.25 29th Night: from Jun 16 2011 to Jun 17 2011

Table 331 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 332 presents the duration of the estimated sleep related activities.

Table 331: Sleep related activities and sensor events measured between Jun 16 and Jun 17

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	00:20:07	22:09:10	00:29:55	00:20:15	00:21:22	22:20:20	22:21:27	22:15:18	22:20:28	01:37:36	05:54:49
2	02:52:47	01:37:27	01:18:04	00:31:11	00:56:29	22:29:13	22:26:06	22:29:20	00:17:34	04:14:46	
3	04:51:39	04:14:37	03:18:03	01:21:53	03:06:58	01:38:26	00:16:21	00:14:04	01:39:04	05:53:09	
4	04:52:05	04:52:03	03:24:42	02:52:51	03:18:15	02:50:23	01:38:40	00:19:35	02:50:37		
5	04:52:32	04:52:29	03:35:29	03:18:15	03:26:43	04:15:08	02:09:13	01:36:22			
6		05:52:59	03:41:25	03:26:19	03:35:30	04:48:23	02:36:12	02:52:07			
7			03:52:09	03:45:04	03:46:43	05:48:05	02:42:31	04:13:28			
8			04:06:02	03:56:07	04:00:01	05:53:25	02:49:17	04:50:56			
9			05:10:10	04:09:19	05:05:01		04:17:39	04:59:49			
10			05:27:35	04:51:42	05:18:29		04:22:05	05:48:37			
11				04:52:05			04:34:12				
12				04:52:37			05:53:37				
13				05:14:38							
14				05:27:39							

Table 332: Duration of the sleep related activities presented in Table 331

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	01:17:30	02:11:13	00:01:16	00:01:07	00:08:33
2	01:22:01	01:15:30	00:03:49	00:25:21	00:21:38
3	00:00:24	00:37:06	00:00:12	00:15:36	00:11:06
4	00:00:24	00:00:02	00:01:37	00:14:09	00:06:27
5	01:00:34	00:00:03	00:00:00	00:00:00	00:08:47
6		00:07:01	00:03:40	00:00:23	00:05:56
7			00:03:58	00:01:39	00:05:27
8			00:03:17	00:03:55	00:06:01
9			00:04:29	00:05:19	00:05:09
10			00:00:03	00:00:20	00:09:07
11				00:00:24	
12				00:12:25	
13				00:03:51	
14				00:25:23	

Figure 474 presents the measured sensor events and the computed bed entrances and exits.

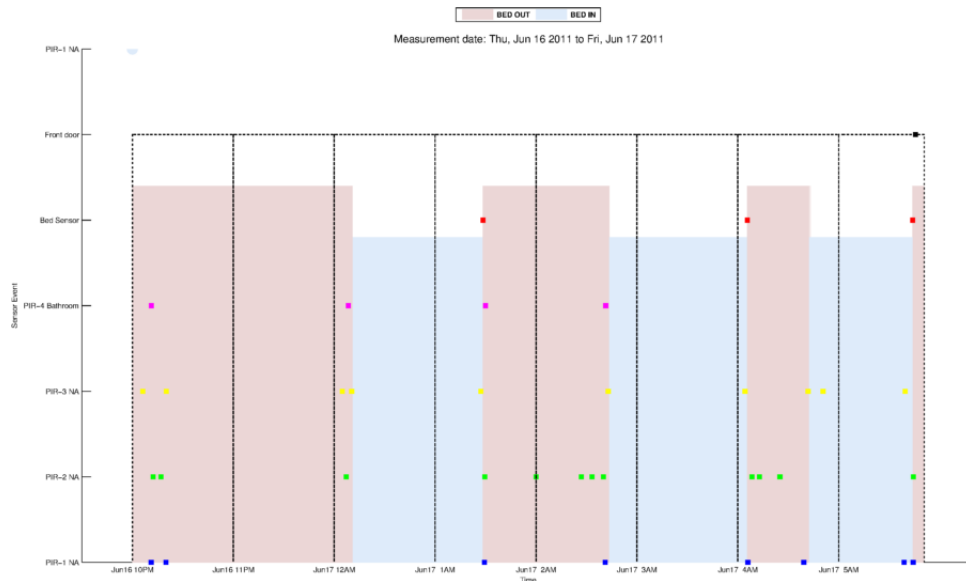


Figure 474: Sensor events and computed bed entrances and exists

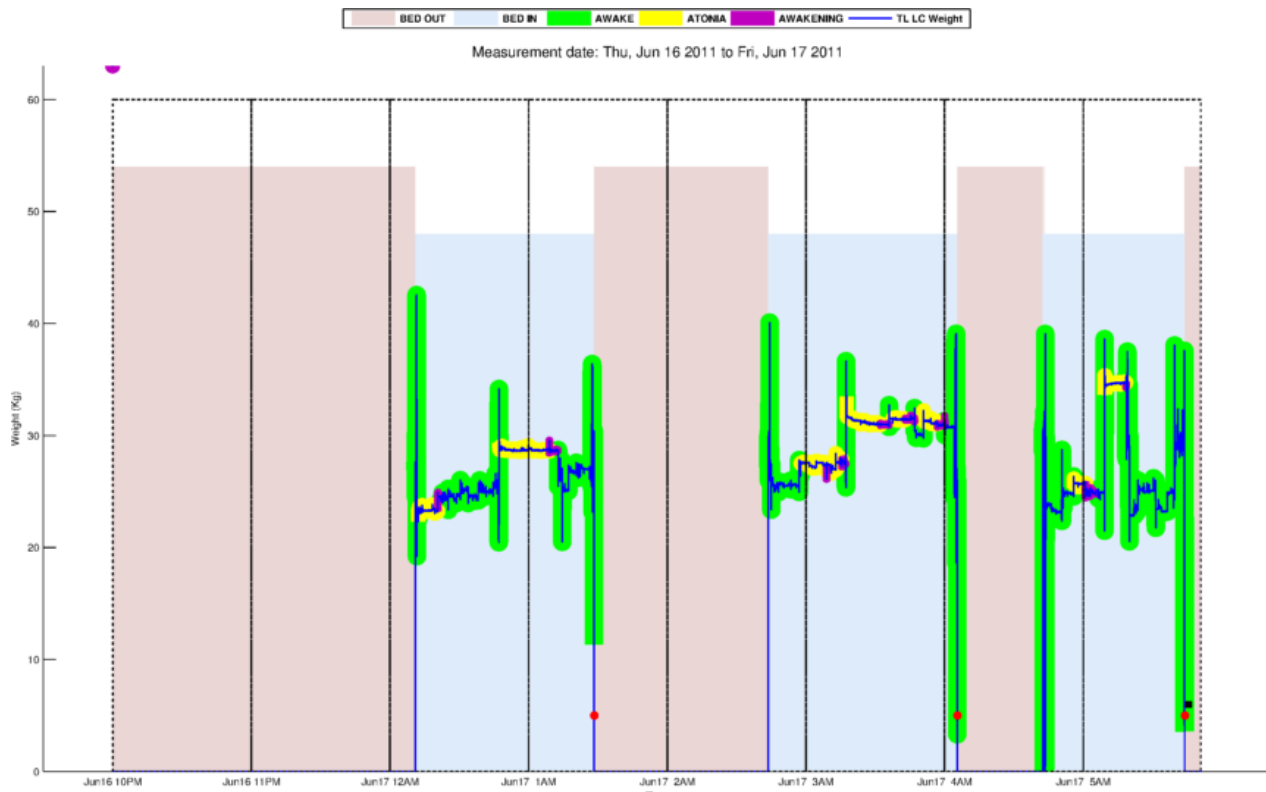


Figure 475: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 475 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 476 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 475).

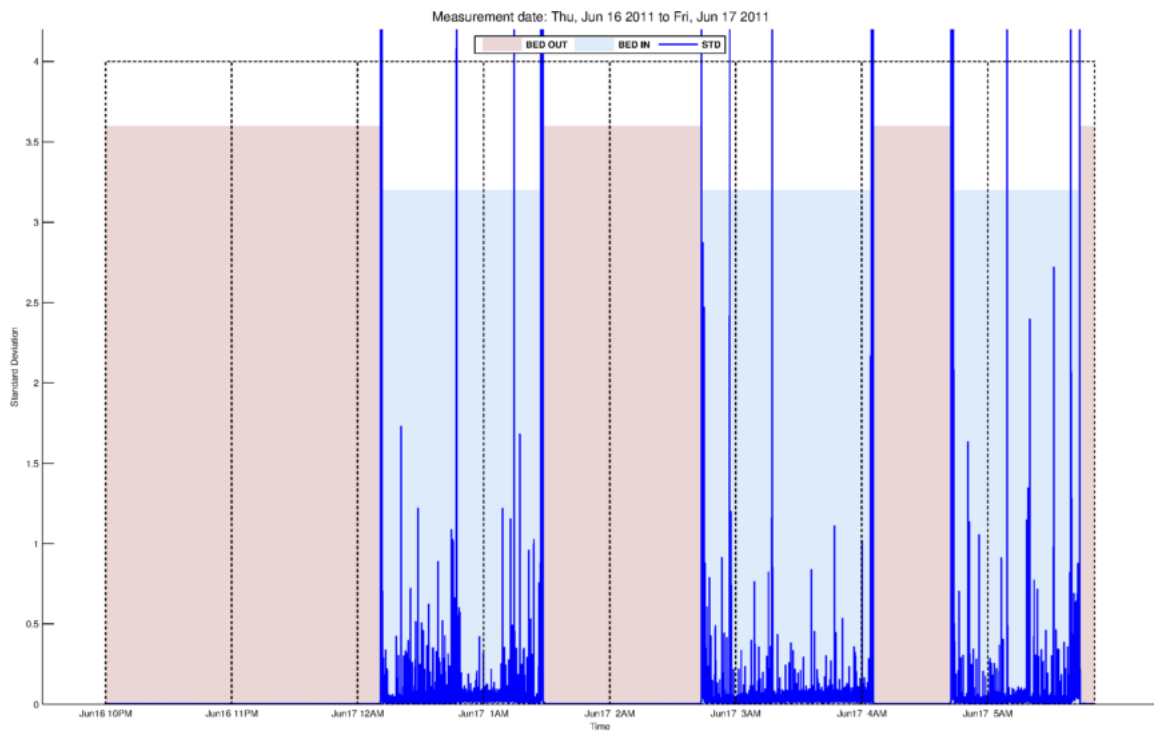


Figure 476: The moving standard deviation for the measured weight.

8.26 30th Night: from Jun 17 2011 to Jun 18 2011

Table 333 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 334 presents the duration of the estimated sleep related activities.

Table 333: Sleep related activities and sensor events measured between Jun 17 and Jun 18

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	23:32:20	22:01:51	01:06:24	23:32:23	01:01:02	23:20:33	23:20:56	22:04:25	23:30:23	23:53:35	02:39:40
2	00:44:22	23:53:26	01:32:04	00:44:26	01:25:36	23:30:09	23:26:23	22:09:53	00:41:33	02:23:38	05:38:50
3	00:44:39	00:44:30	01:51:05	00:44:39	01:32:05	23:53:55	00:06:38	22:48:27	02:24:48	04:12:32	
4	00:45:31	00:44:49	01:57:27	00:45:31	01:51:07	00:41:13	00:23:37	22:53:56	04:13:20	04:33:18	
5	02:45:15	02:23:29	02:03:40	01:08:29	01:57:28	02:24:04	00:35:33	23:04:43	05:52:14	04:34:40	
6	04:32:29	04:12:23	02:17:15	02:03:44	02:09:03	02:43:52	00:41:02	23:10:47		05:43:23	
7	04:34:02	04:33:09	03:20:17	02:17:19	03:14:45	04:13:08	02:24:24	23:13:56			
8	04:34:43	04:34:31	03:28:28	02:45:18	03:20:19	04:31:21	02:43:33	23:16:51			
9		05:43:14	03:35:54	03:28:49	03:28:49	05:38:53	04:15:43	23:31:52			
10			03:55:22	03:36:31	03:42:24	05:44:25	04:28:40	23:51:59			
11			05:11:42	03:58:09	05:04:38	05:50:16	05:44:48	00:43:53			
12				04:32:32				02:22:07			
13				04:34:02				02:44:15			
14				04:34:47				02:52:15			
15				05:16:33				04:11:03			
16								04:31:58			
17								05:39:04			

Table 334: Duration of the sleep related activities presented in Table 333

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:21:09	01:30:40	00:02:06	00:21:05	00:05:22
2	00:00:07	00:51:02	00:00:00	00:00:04	00:06:28
3	00:00:10	00:00:09	00:00:02	00:00:10	00:19:03
4	01:38:11	00:00:41	00:00:00	00:15:33	00:06:21
5	01:26:43	00:21:13	00:00:04	00:17:09	00:06:13
6	00:00:40	00:20:08	00:00:03	00:05:19	00:08:13
7	00:00:28	00:00:53	00:00:02	00:06:11	00:05:32
8	01:08:39	00:00:12	00:00:20	00:29:30	00:08:10
9		00:16:47	00:00:38	00:00:00	00:07:05
10			00:02:47	00:05:53	00:12:59
11			00:04:51	00:13:40	00:07:05
12				00:00:37	
13				00:00:28	
14				00:29:55	
15				00:26:44	

Figure 477 presents the measured sensor events and the computed bed entrances and exits.

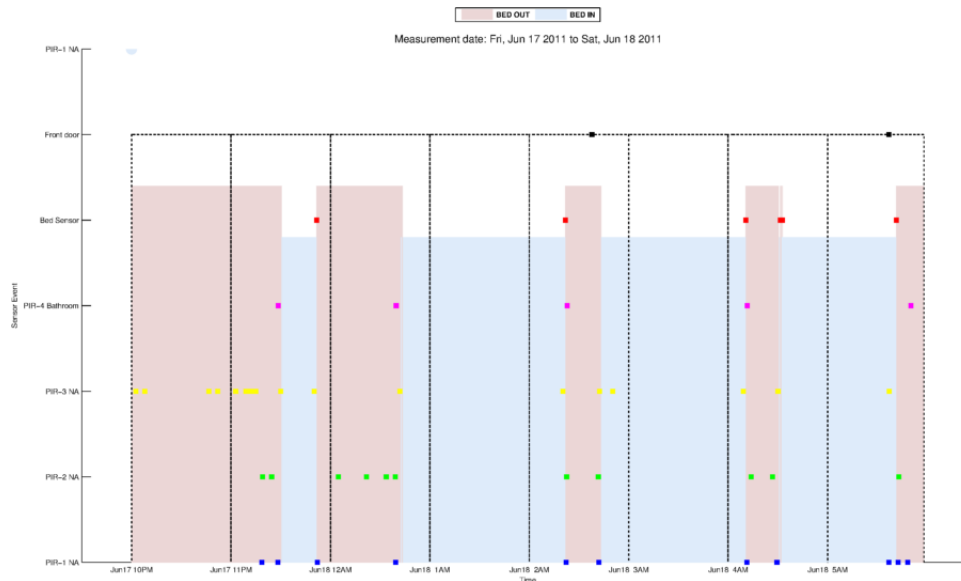


Figure 477: Sensor events and computed bed entrances and exists

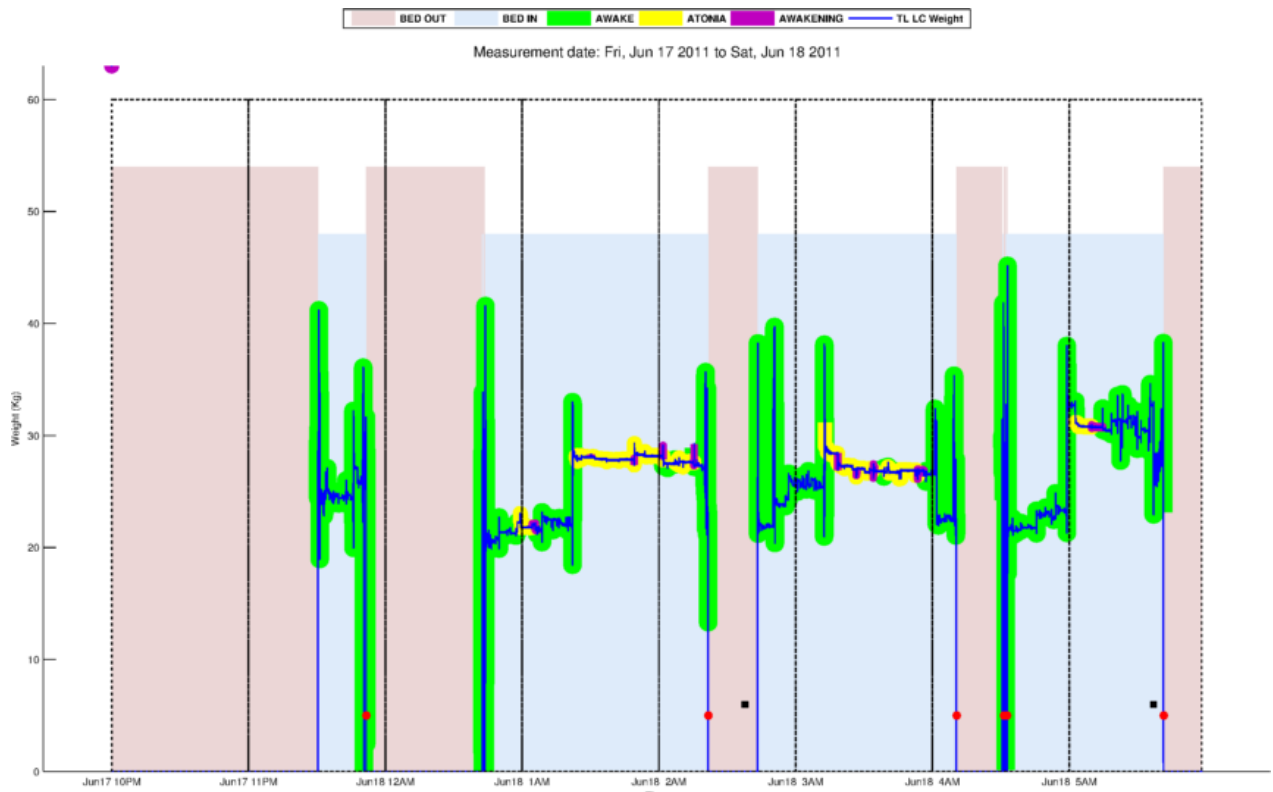


Figure 478: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 478 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 479 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 478).

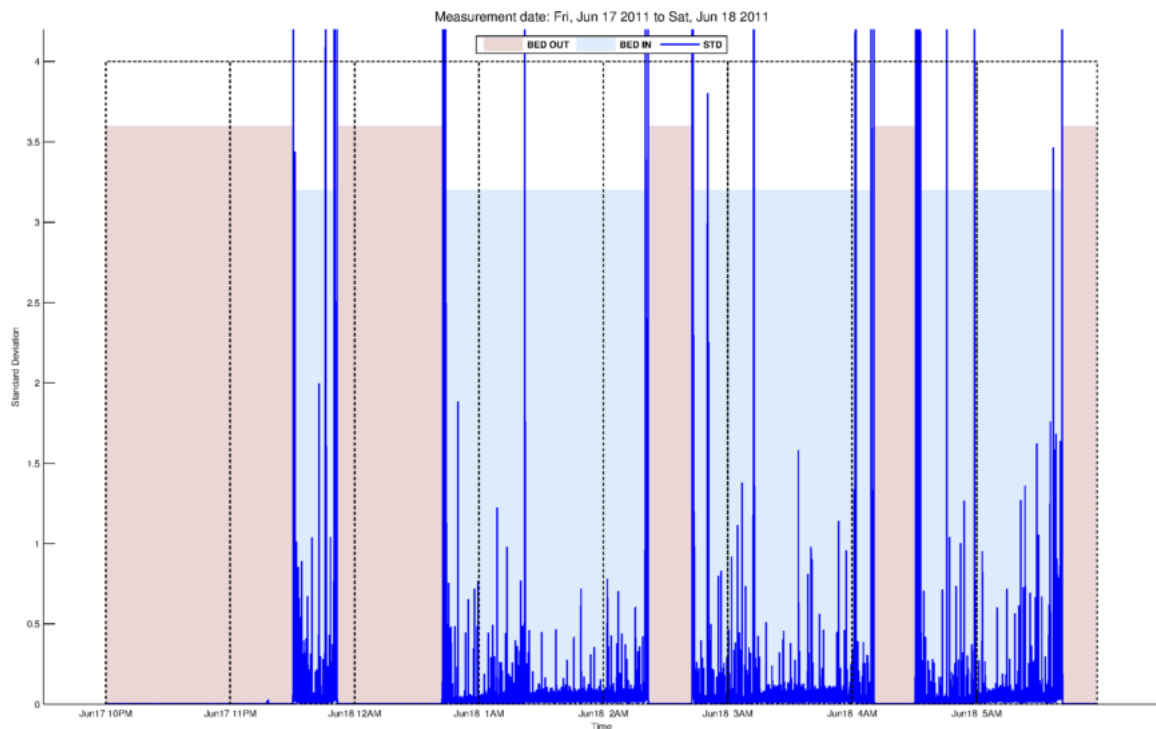


Figure 479: The moving standard deviation for the measured weight.

8.27 31st Night: from Jun 18 2011 to Jun 19 2011

Table 335 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 336 presents the duration of the estimated sleep related activities.

Table 335: Sleep related activities and sensor events measured between Jun 18 and Jun 19

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	00:10:49	22:05:25	00:34:00	00:10:58	00:23:33	23:19:21	23:19:33	22:17:34	23:34:31	01:52:04	01:39:37
2	00:11:07	00:11:05	00:54:29	00:11:07	00:41:42	23:34:15	23:33:16	22:20:53	00:08:53	04:12:25	
3	03:08:25	01:51:50	01:09:17	00:34:04	00:56:36	00:08:48	23:49:06	23:13:18	01:53:05	04:35:51	
4	04:35:02	04:12:16	01:16:25	00:56:01	01:09:24	01:52:32	00:05:17	00:10:20	03:03:49	05:32:10	
5	04:35:57	04:35:43	01:26:02	01:16:29	01:16:32	04:12:50	00:08:31	01:51:12	04:13:01		
6	05:35:16	05:32:02	03:15:30	01:26:37	03:10:29	04:32:58	01:52:48	03:04:38	04:33:14		
7			03:48:00	03:08:29	03:39:42	05:32:38	01:59:38	03:07:58	05:32:49		
8			04:11:19	03:15:51	03:56:41		02:18:47	04:11:28			
9			04:56:28	03:48:34	04:49:16		03:03:09	04:34:40			
10			05:08:52	04:11:26	04:59:32		03:06:56	05:31:31			
11			05:25:31	04:35:06	05:10:33		04:14:23				
12			05:49:41	04:36:15	05:42:54		04:22:16				
13				04:56:50			04:29:19				
14				05:08:57							
15				05:25:35							
16				05:35:19							
17				05:51:00							

Table 336: Duration of the sleep related activities presented in Table 335

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	00:00:16	02:04:56	00:00:03	00:00:07	00:10:28
2	01:40:57	00:00:01	00:01:32	00:12:28	00:12:48
3	01:03:59	01:16:45	00:00:07	00:07:39	00:12:42
4	00:00:40	00:22:04	00:00:03	00:00:35	00:07:02
5	00:56:12	00:00:14	00:00:35	00:00:03	00:09:32
6	00:24:46	00:03:14	00:00:21	00:25:16	00:05:01
7			00:00:33	00:02:00	00:08:19
8			00:00:07	00:23:54	00:14:40
9			00:00:22	00:08:08	00:07:13
10			00:00:05	00:00:50	00:09:20
11			00:00:03	00:00:37	00:14:59
12			00:01:19	00:13:03	00:06:47
13				00:02:42	
14				00:01:37	
15				00:06:28	
16				00:07:36	
17				00:09:00	

Figure 480 presents the measured sensor events and the computed bed entrances and exits.

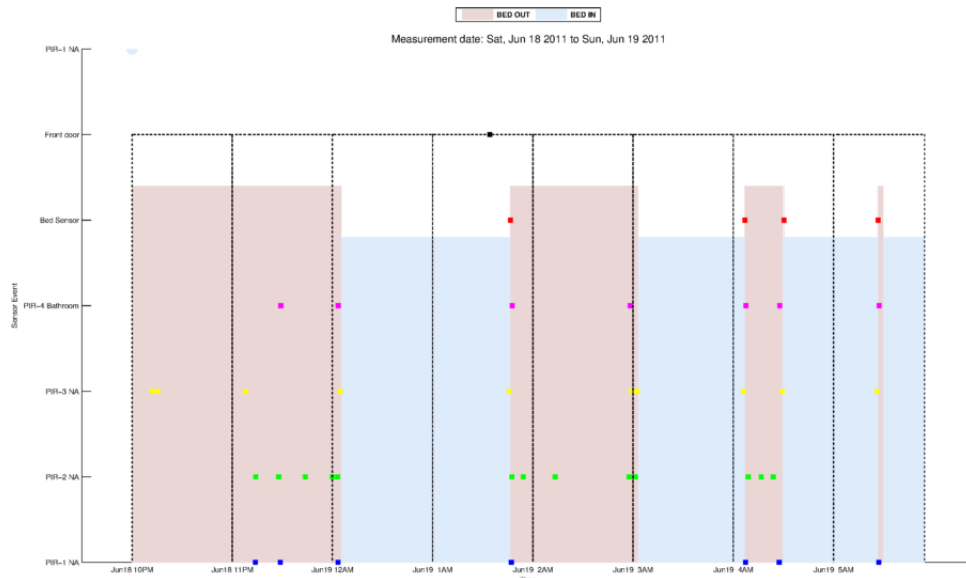


Figure 480: Sensor events and computed bed entrances and exists

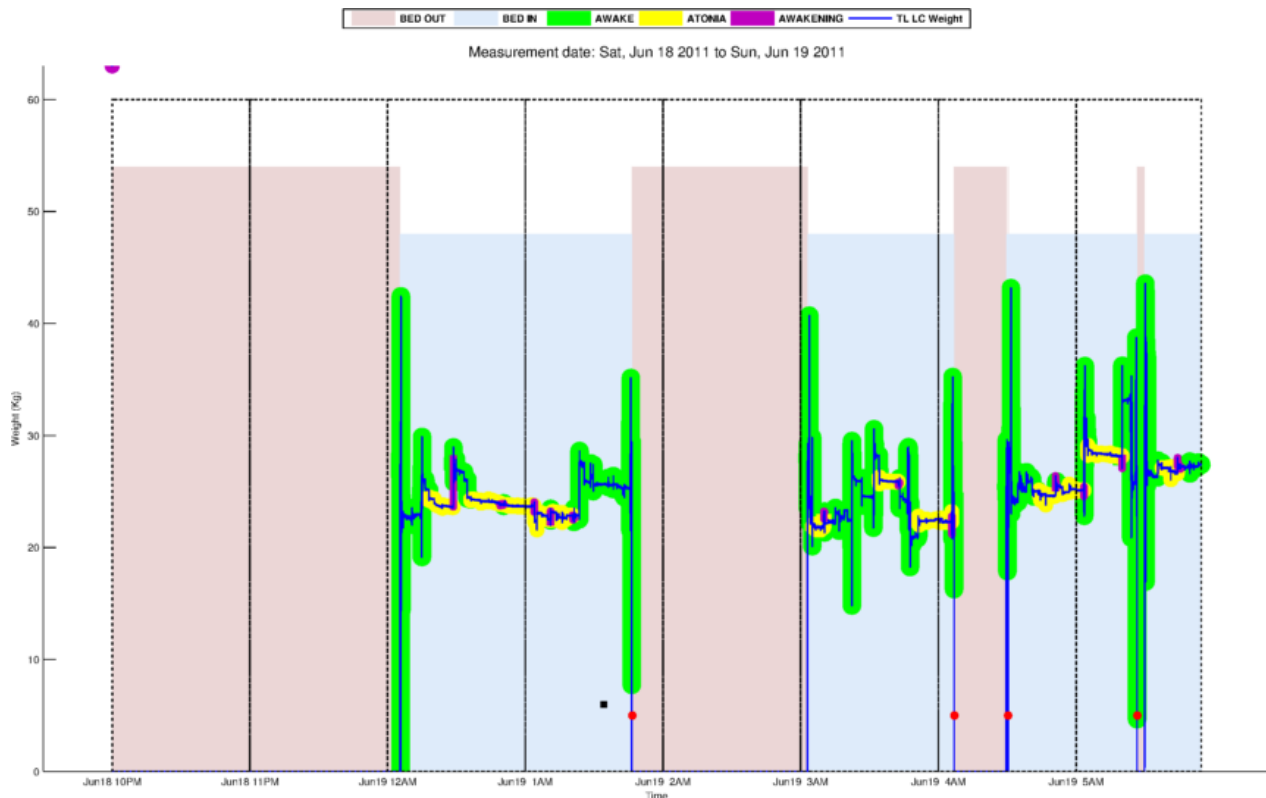


Figure 481: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 481 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 482 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 481).

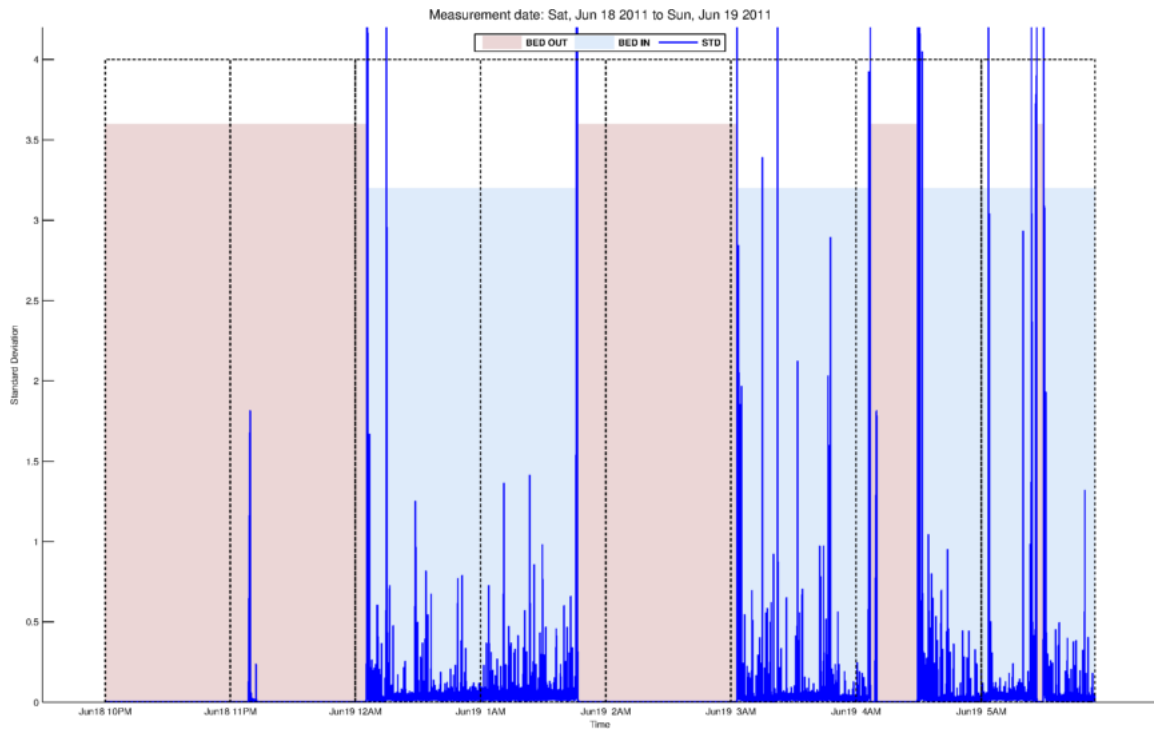


Figure 482: The moving standard deviation for the measured weight.

8.28 32nd Night: from Jun 19 2011 to Jun 20 2011

Table 337 presents the estimated sleep activities in time. Measured sensor events are also shown. Table 338 presents the duration of the estimated sleep related activities.

Table 337: Sleep related activities and sensor events measured between Jun 19 and Jun 20

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia	PIR-1 NA	PIR-2 NA	PIR-3 NA	PIR-4 Bathroom	Bed Sensor	Front door
1	01:02:19	22:05:17	01:22:39	01:02:22	01:14:32	00:02:51	00:03:00	23:52:39	00:03:43	02:51:41	00:39:34
2	02:50:38	02:50:37	01:34:43	01:23:00	01:29:43	00:12:08	00:12:57	00:01:28	00:56:06	03:42:27	
3	03:41:46	02:51:32	01:48:41	01:48:44	01:34:43	00:55:52	00:19:59	00:58:09	02:52:25	05:37:20	
4	03:42:30	03:42:18	02:15:00	02:15:04	02:05:12	03:37:52	00:34:36	03:40:09	03:37:58		
5	05:40:33	05:37:11	02:27:41	02:28:37	02:15:30	05:37:35	00:39:01		05:37:47		
6			03:56:56	02:50:38	03:49:19		00:54:00				
7			04:09:35	03:41:53	03:57:32		02:54:08				
8			04:32:19	03:42:37	04:14:09		03:11:51				
9			04:50:11	03:56:59	04:33:42		03:23:59				
10			05:09:30	04:13:55	05:02:59		03:35:07				
11			05:15:04	04:33:36	05:09:33						
12			05:31:04	04:51:48	05:21:16						
13				05:15:07							
14				05:31:54							
15				05:40:37							

Table 338: Duration of the sleep related activities presented in Table 337

	Bed Entrances	Bed Exits	Awanening	Awake	Atonia
1	01:48:32	02:56:41	00:00:21	00:12:10	00:08:08
2	00:00:53	00:00:01	00:00:00	00:06:43	00:05:01
3	00:00:32	00:50:21	00:00:03	00:16:30	00:13:59
4	01:54:56	00:00:12	00:00:03	00:00:26	00:09:49
5	00:19:28	00:03:22	00:00:56	00:22:02	00:12:12
6			00:00:03	00:00:53	00:07:37
7			00:04:20	00:00:25	00:12:05
8			00:01:17	00:06:42	00:18:12
9			00:01:38	00:00:32	00:16:31
10			00:00:03	00:00:14	00:06:31
11			00:00:03	00:00:05	00:05:32
12			00:00:50	00:11:12	00:09:49
13				00:06:10	
14				00:05:18	
15				00:19:24	

Figure 483 presents the measured sensor events and the computed bed entrances and exits.

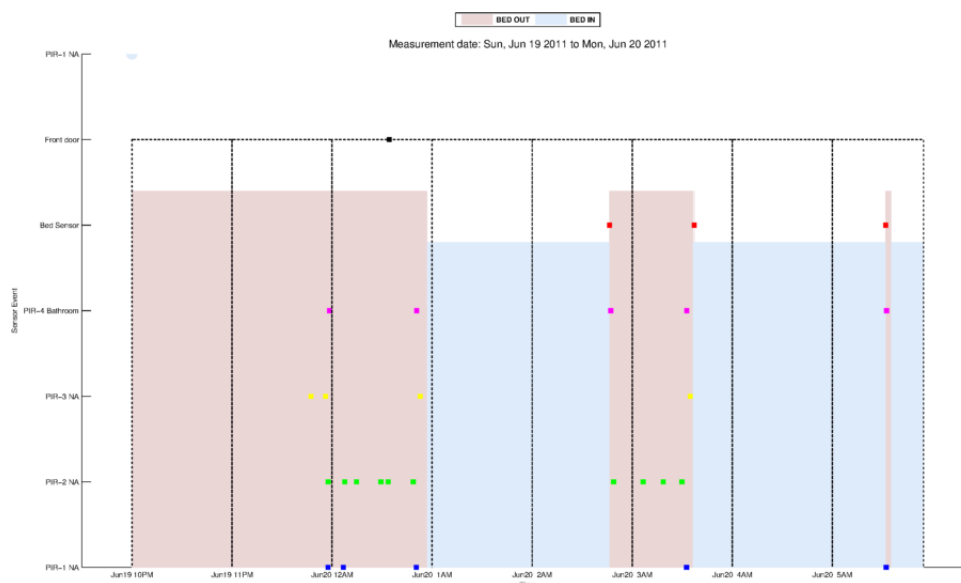


Figure 483: Sensor events and computed bed entrances and exists

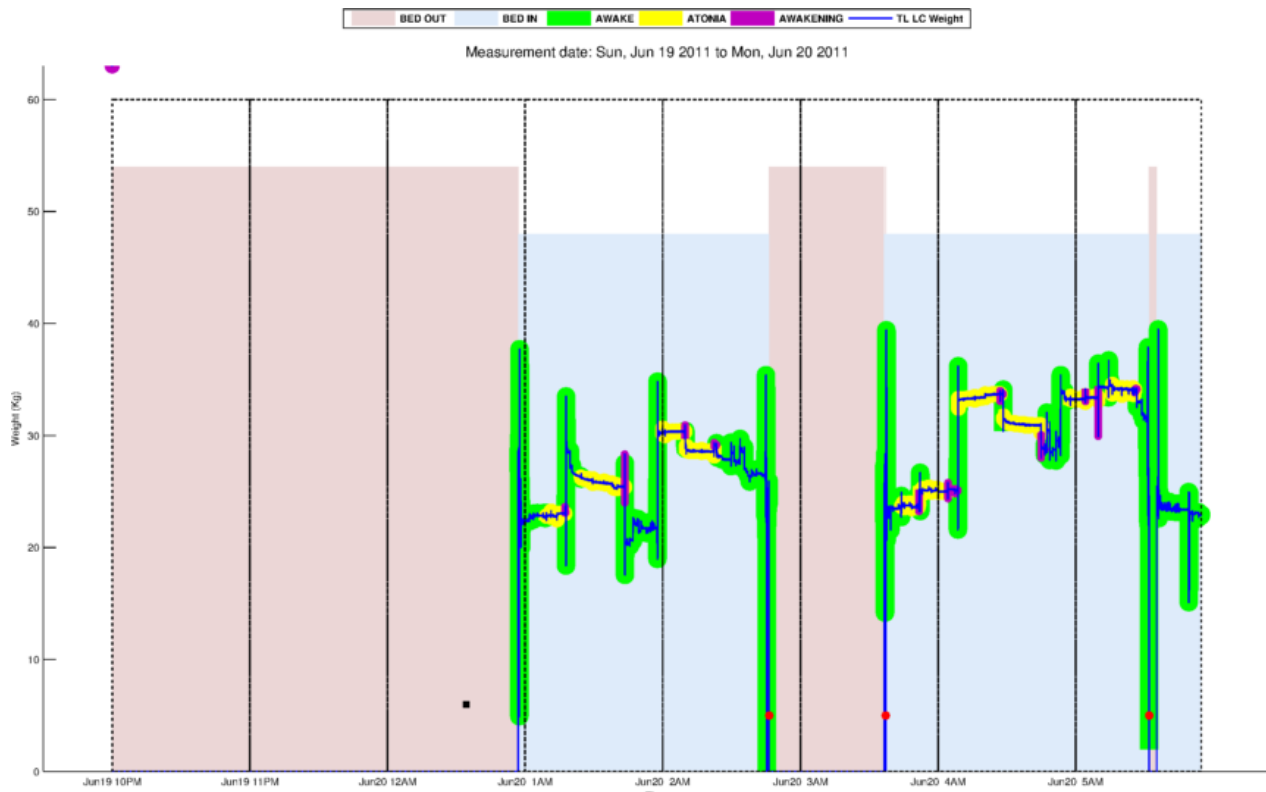


Figure 484: The measured weight and detected sleep activities and events are highlighted according to the legend. Black squares represent night-time home care visits. Red circles indicate bed exits detected by the Emfit bed sensor.

Figure 484 shows the measured weight (calibrated) and common sleep-related activities and sensor events. Figure 485 presents the computed moving standard deviation, with the window size being 40 weight samples, of the calibrated weight data (Fig. 484).

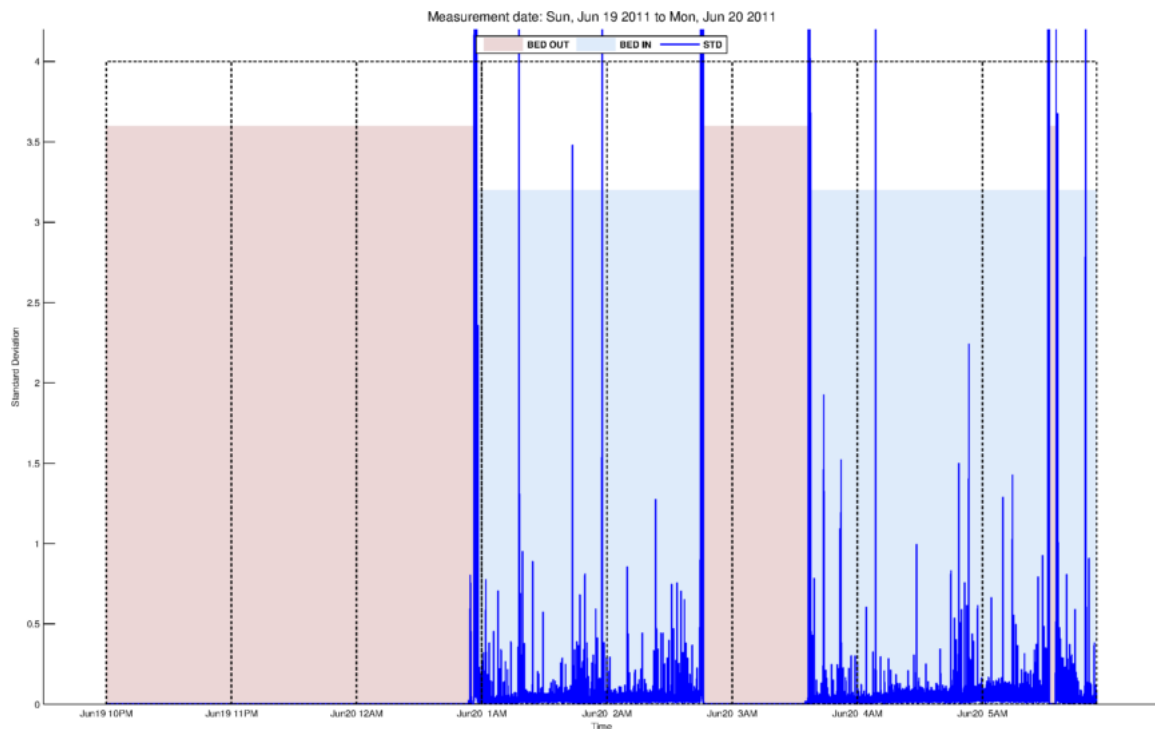


Figure 485: The moving standard deviation for the measured weight.

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References

- [1] R. Thörner, M. Persson, H. Eriksson, A. Isaksson, and J. Lundström, “Trygg om natten,” Centre for Health Technology in Halland, Halmstad University, Halmstad, Sweden, Tech. Rep., 2011.