



## Sunrise III – Overview of science observations through the eyes of SDO

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**Prepared on:**

Sunday 28<sup>th</sup> July, 2024 – 20:53:32

**Software:**

Sunrise III Science Planning and Pointing System (SPPS)

**By:**

Sunrise III – co-observers working group

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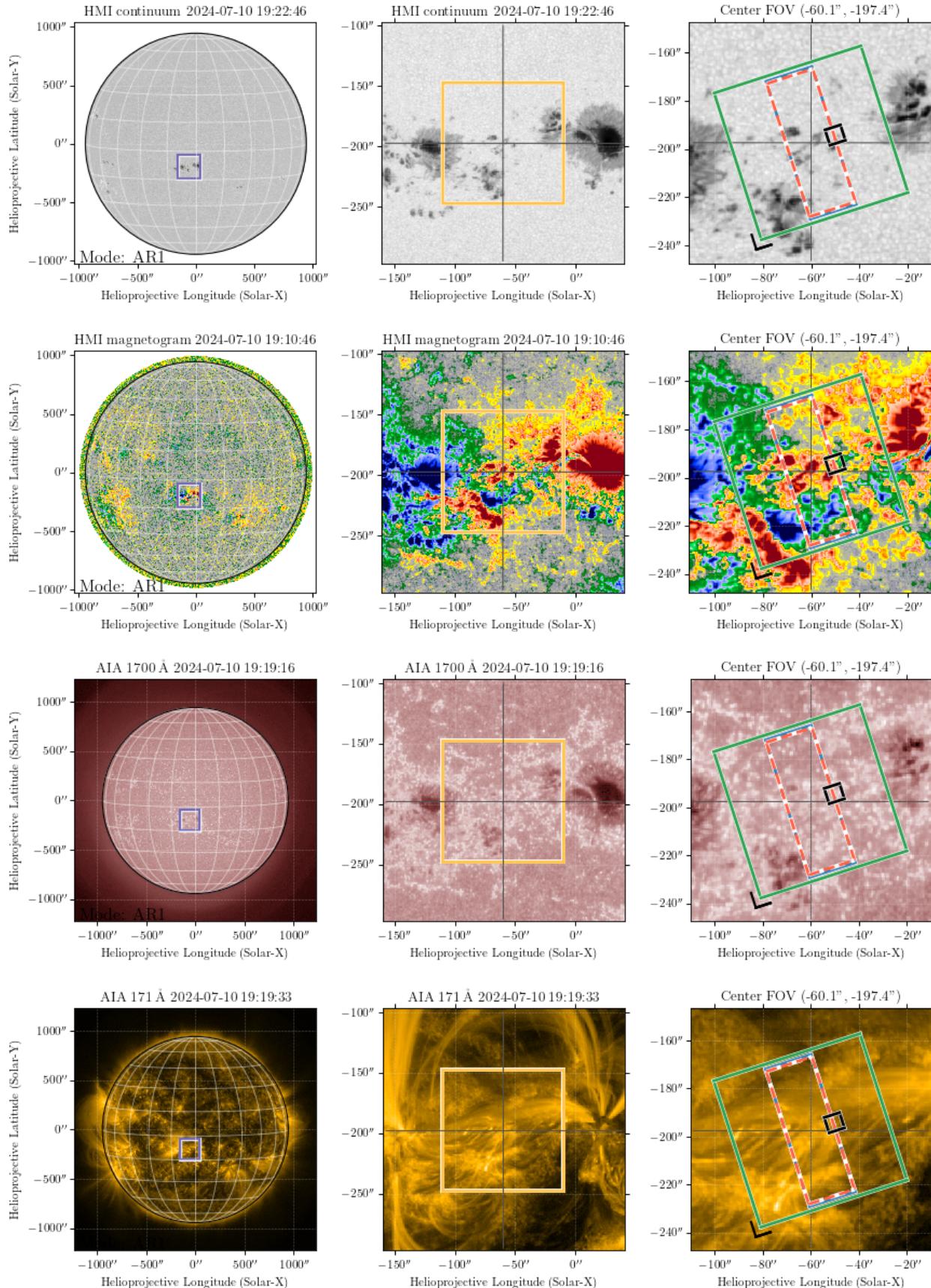
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ID	Mode	date	time	duration	end time	xcen	ycen	$\mu$	start roll	start elev	end elev
1	AR1	2024-07-10	19:19:28	01:52:00	21:11:28	-60	-197	0.98	17.9	10.2	3.0
2	AR2	2024-07-10	21:50:06	02:00:00	23:50:06	-36	-198	0.98	7.6	1.3	-1.0
3	QS1	2024-07-11	03:58:34	00:30:10	04:28:44	1	60	1.00	-23.3	9.8	12.3
4	QS2	2024-07-11	04:28:49	01:48:00	06:16:49	6	60	1.00	-24.8	12.3	21.9
5	QS4a	2024-07-11	06:36:00	01:00:10	07:36:10	27	60	1.00	-28.0	23.7	29.3
6	QS4b	2024-07-11	07:38:20	01:00:10	08:38:30	37	60	1.00	-27.4	29.5	34.9
7	QS8	2024-07-11	08:47:03	01:48:00	10:35:03	48	60	1.00	-24.8	35.6	42.9

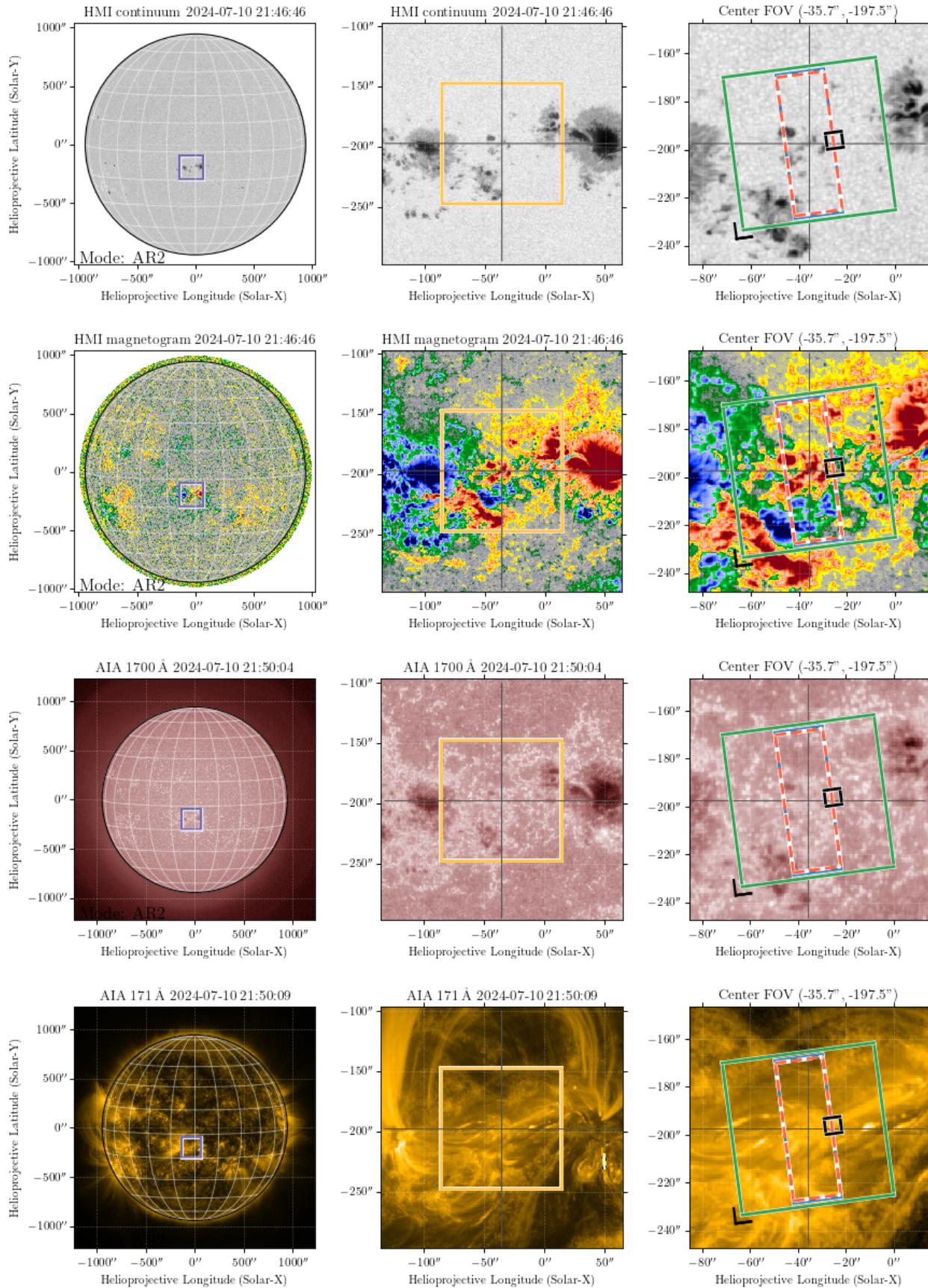
ID	Mode	date	time	duration	end			$\mu$	start roll	start elev	end elev
					time	xcen	ycen				
8	FS1	2024-07-11	15:25:08	00:53:20	16:18:28	61	-97	0.99	18.1	38.5	34.2
9	FS1	2024-07-11	16:18:28	01:48:00	18:06:28	70	-97	0.99	21.5	34.2	24.1
10	FS1	2024-07-11	18:06:28	00:27:10	18:33:38	88	-97	0.99	24.2	24.1	21.5
11	FS1	2024-07-11	18:33:38	00:45:50	19:19:28	92	-97	0.99	24.0	21.5	17.2
12	FS1	2024-07-11	19:19:28	01:48:05	21:07:33	100	-97	0.99	23.1	17.2	8.1
13	FS1	2024-07-11	21:07:33	00:18:15	21:25:48	117	-96	0.99	18.4	8.1	6.7
14	AR1	2024-07-12	08:16:30	01:52:00	10:08:30	-456	-190	0.85	-29.5	23.4	33.8
15	AR2	2024-07-12	10:19:08	02:00:00	12:19:08	-438	-190	0.86	-26.5	34.7	43.6
16	QSHC1	2024-07-12	19:58:33	00:10:00	20:08:33	-43	-50	1.00	24.3	23.2	22.2
17	QSHC2	2024-07-12	20:09:33	00:10:00	20:19:33	-41	-50	1.00	24.2	22.1	21.2
18	QSHC3	2024-07-12	20:20:33	00:10:00	20:30:33	-40	-50	1.00	24.1	21.1	20.1
19	QSHC1	2024-07-12	20:58:07	00:10:00	21:08:07	458	-190	0.85	23.3	17.5	16.5
20	QSHC2	2024-07-12	21:09:07	00:10:00	21:19:07	459	-190	0.85	23.0	16.4	15.5
21	QSHC3	2024-07-12	21:20:07	00:10:00	21:30:07	461	-190	0.85	22.7	15.4	14.5
22	SP1	2024-07-13	01:09:02	00:23:00	01:32:02	507	-190	0.82	7.6	-0.8	-1.7
23	SP2	2024-07-13	01:34:12	01:48:00	03:22:12	510	-190	0.82	5.3	-1.7	-3.1
24	SP4a	2024-07-13	03:41:23	01:00:10	04:41:33	528	-189	0.80	-7.2	-2.8	-1.3
25	SP4b	2024-07-13	04:43:43	01:00:10	05:43:53	536	-189	0.80	-13.2	-1.2	1.6
26	FS1	2024-07-13	11:40:00	00:53:20	12:33:20	599	-145	0.76	-28.8	32.4	37.1
27	FS1	2024-07-13	12:33:20	01:48:00	14:21:20	606	-145	0.75	-26.1	37.1	44.3
28	FS1	2024-07-13	14:21:20	00:27:10	14:48:30	619	-144	0.74	-16.1	44.3	45.4
29	FL1	2024-07-13	15:23:31	02:05:00	17:28:31	627	-144	0.73	-7.9	46.3	44.3
30	CLV1	2024-07-13	17:33:58	01:48:00	19:21:58	-820	-349	0.33	9.7	44.0	36.5
31	PL4	2024-07-13	21:52:22	00:56:30	22:48:52	-544	766	0.10	23.3	22.1	16.6
32	PL4	2024-07-13	21:52:22	00:56:30	22:48:52	-544	766	0.10	23.3	22.1	16.6
33	PL1	2024-07-13	22:12:55	00:56:30	23:09:25	841	413	0.13	23.1	20.1	14.6
34	PL4	2024-07-13	23:09:55	01:00:10	00:10:05	842	413	0.12	21.6	14.5	9.1
35	SP6	2024-07-14	00:29:52	00:12:00	00:41:52	667	-179	0.68	17.6	7.5	6.5
36	SP6	2024-07-14	00:39:21	00:12:00	00:51:21	668	-179	0.68	17.1	6.7	5.8
37	SP6	2024-07-14	00:46:01	00:12:00	00:58:01	668	-179	0.68	16.6	6.2	5.3
38	AR4c	2024-07-14	02:24:35	00:12:30	02:37:05	-3	-265	0.96	8.9	-0.1	-0.7
39	AR4c	2024-07-14	02:37:10	00:43:09	03:20:19	-1	-265	0.96	7.7	-0.7	-2.2
40	AR4b	2024-07-14	03:22:29	00:55:44	04:18:13	6	-265	0.96	3.5	-2.3	-3.2
41	AR4a	2024-07-14	04:18:18	00:12:30	04:30:48	15	-265	0.96	-1.9	-3.2	-3.3
42	LIMB_325	2024-07-14	09:23:00	00:05:00	10:26:52	-808	467	0.15	-27.7	11.3	16.4
43	LIMB_358	2024-07-14	09:31:00	00:05:00	10:26:52	-808	467	0.15	-27.7	11.3	16.4
44	LIMB_393	2024-07-14	09:40:00	00:05:00	10:26:52	-808	467	0.15	-27.7	11.3	16.4
45	LIMB_407	2024-07-14	09:49:00	00:07:00	10:26:52	-808	467	0.15	-27.7	11.3	16.4
46	LIMB_407	2024-07-14	09:56:00	00:06:00	10:26:52	-808	467	0.15	-27.7	11.3	16.4
47	FS1	2024-07-14	16:27:08	00:53:20	17:20:28	43	-210	0.97	-11.9	45.6	46.6
48	FS1	2024-07-14	17:20:28	01:48:00	19:08:28	52	-210	0.97	-4.5	46.6	43.8
49	SP3	2024-07-14	21:23:35	00:12:30	21:36:05	-209	186	0.96	20.3	33.3	32.2
50	SP8	2024-07-14	21:38:15	03:00:00	00:38:15	-207	186	0.96	20.9	31.9	14.5
51	PL2	2024-07-15	02:29:17	00:37:15	03:06:32	-255	894	0.18	15.4	5.1	2.5
52	PL2	2024-07-15	03:08:42	00:20:45	03:29:27	-254	893	0.18	12.5	2.4	1.1
53	PL3	2024-07-15	03:29:32	00:13:45	03:43:17	-254	893	0.18	10.8	1.1	0.3
54	SP6	2024-07-15	08:48:40	00:12:00	09:00:40	839	-151	0.43	-19.6	0.9	1.6
55	AR1	2024-07-15	12:00:22	01:52:00	13:52:22	254	114	0.96	-30.4	16.1	27.3
56	AR4c	2024-07-15	16:44:30	00:12:30	16:57:00	235	114	0.96	-22.1	41.9	42.6
57	AR4c	2024-07-15	16:57:05	00:43:09	17:40:14	237	114	0.96	-20.8	42.6	44.8
58	AR4b	2024-07-15	17:42:24	00:55:44	18:38:08	244	114	0.96	-15.6	44.9	46.3
59	AR4a	2024-07-15	18:38:13	00:12:30	18:50:43	253	114	0.96	-8.1	46.3	46.4
60	QSHC1	2024-07-15	20:52:47	00:10:00	21:02:47	-94	54	0.99	9.9	43.2	42.6
61	QSHC2	2024-07-15	21:03:47	00:10:00	21:13:47	-92	54	0.99	11.1	42.5	41.9
62	QSHC3	2024-07-15	21:14:47	00:10:00	21:24:47	-91	54	0.99	12.3	41.9	41.2
63	AR7	2024-07-15	22:05:35	00:37:30	22:43:05	172	-207	0.96	16.6	38.1	35.0
64	QS6	2024-07-16	00:30:04	01:00:10	01:30:14	-2	465	0.87	22.0	25.1	19.3
65	QS3	2024-07-16	01:40:57	01:48:00	03:28:57	7	465	0.87	21.3	18.3	9.0
66	QS5a	2024-07-16	03:39:40	02:00:00	05:39:40	23	465	0.87	16.5	8.1	-0.2
67	EW1	2024-07-16	11:19:00	01:00:10	12:19:10	-880	316	0.14	-22.4	2.8	7.2
68	EW1	2024-07-16	12:17:00	01:00:10	13:17:10	-879	315	0.15	-26.2	7.0	12.1
69	EW2	2024-07-16	13:19:20	00:16:50	13:36:10	-877	315	0.16	-29.4	12.3	13.8

# 1 EMF\_1 – Flux emerging region

## 1.1 AR1



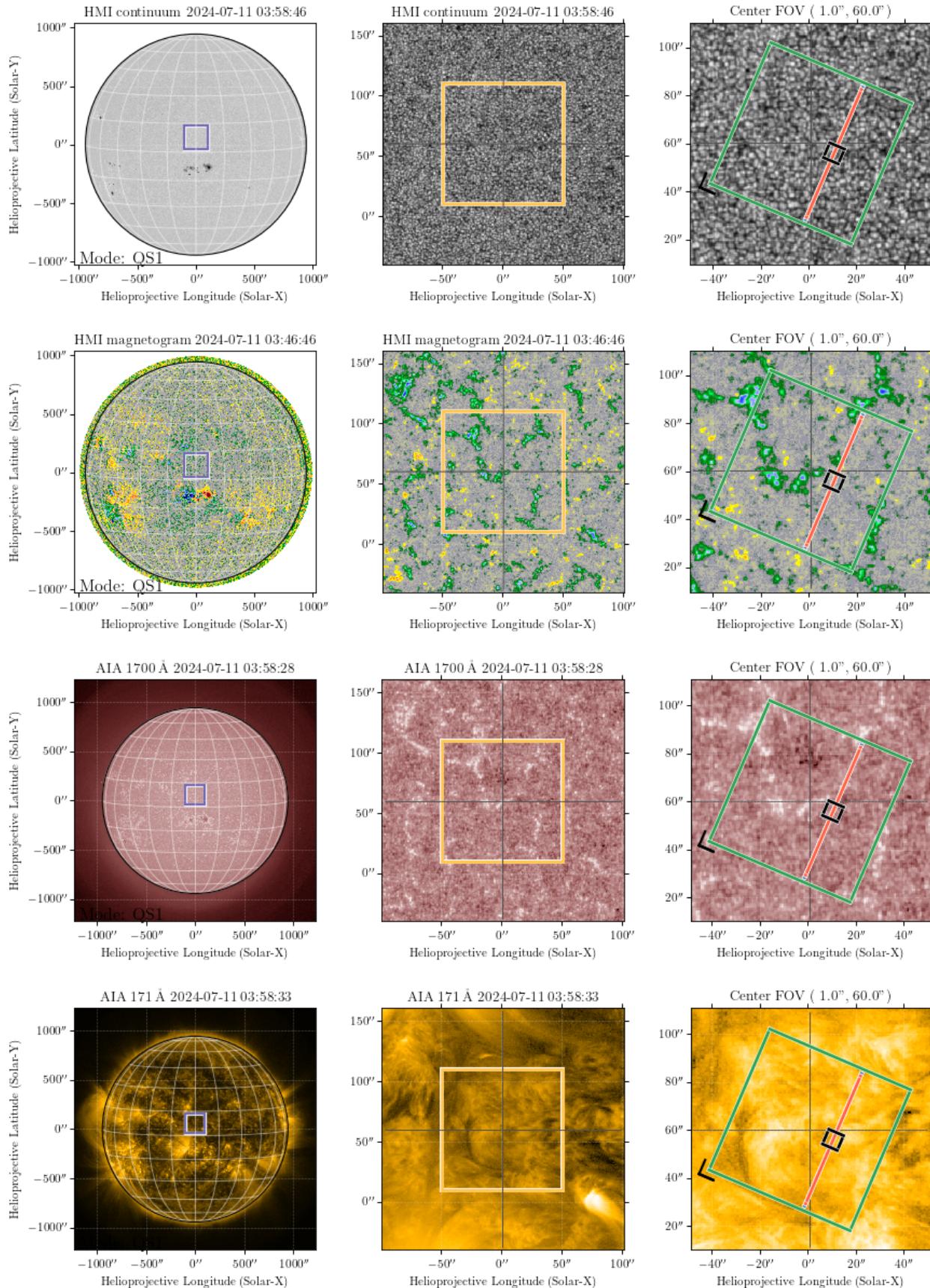
## 1.2 AR2



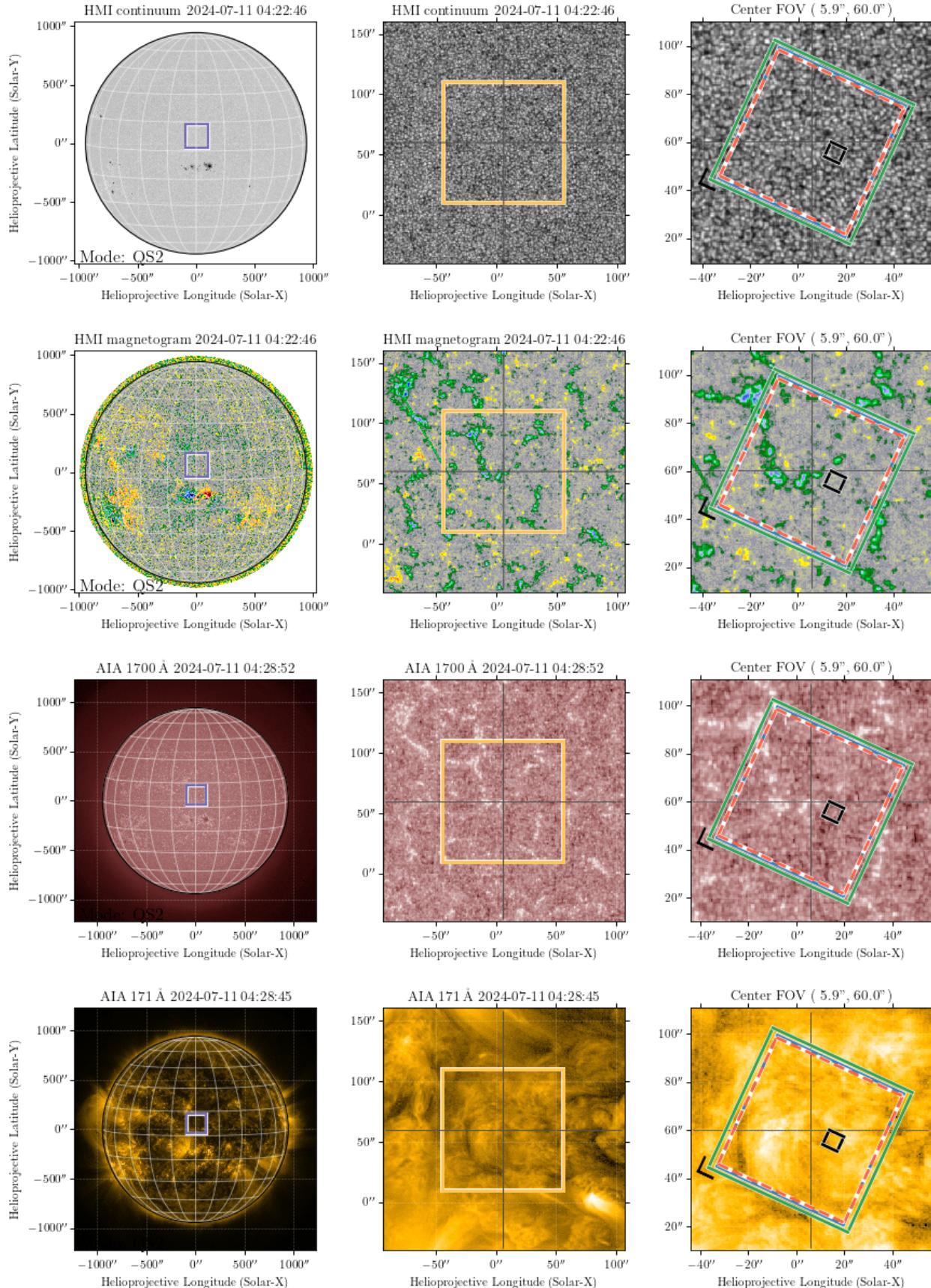
End of Timeline

## 2 QSDC\_1

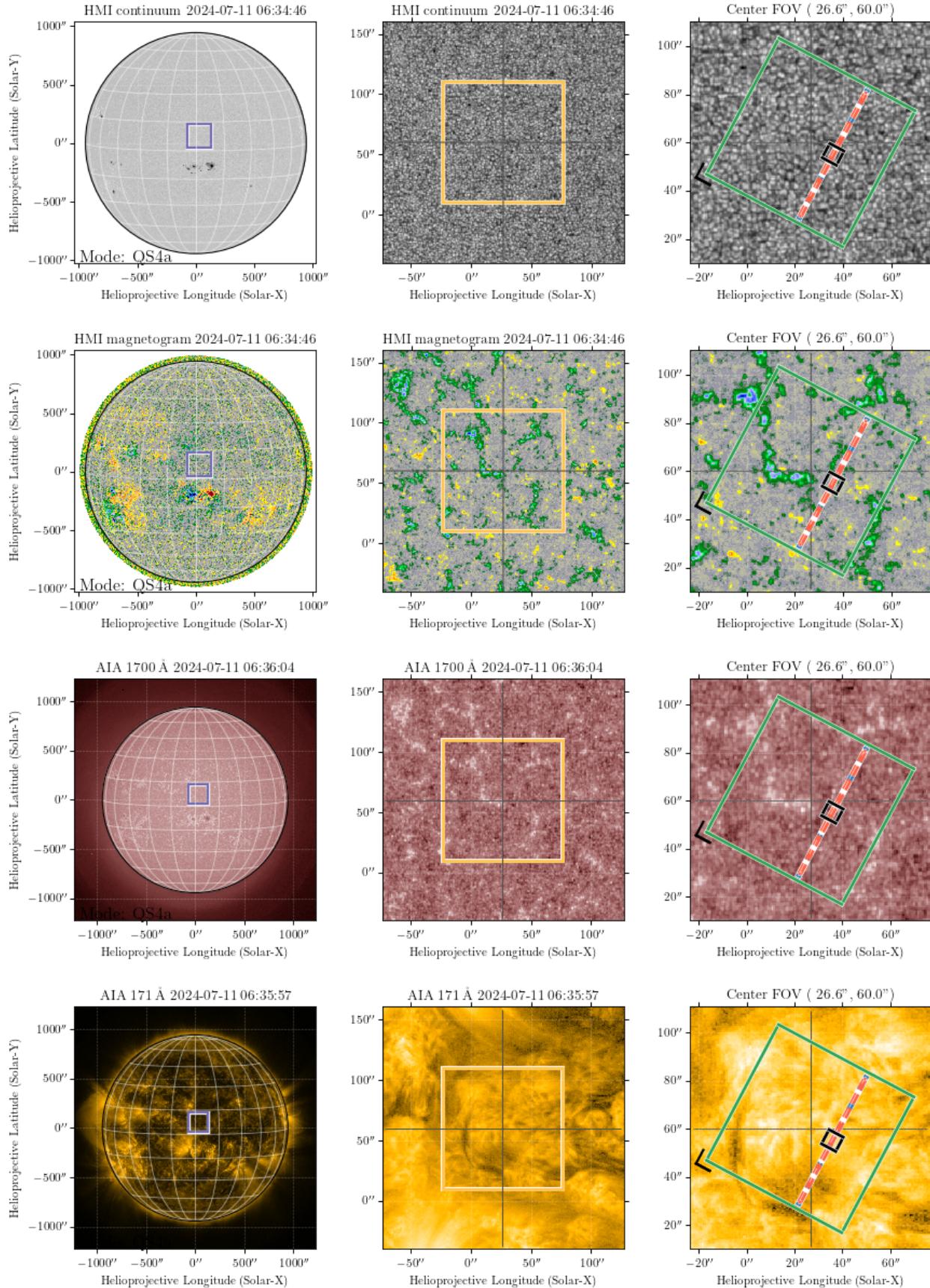
### 2.1 QS1



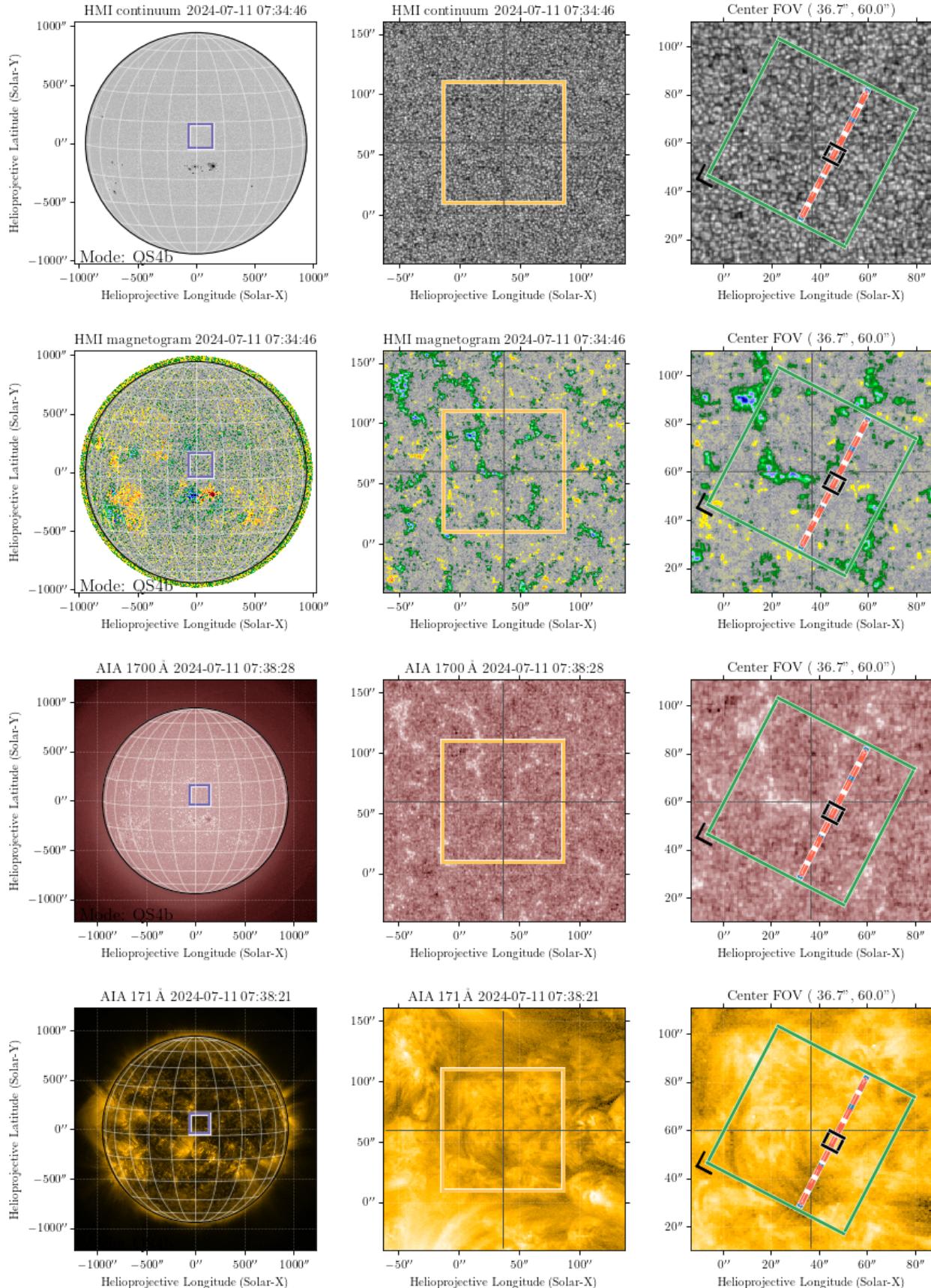
## 2.2 QS2



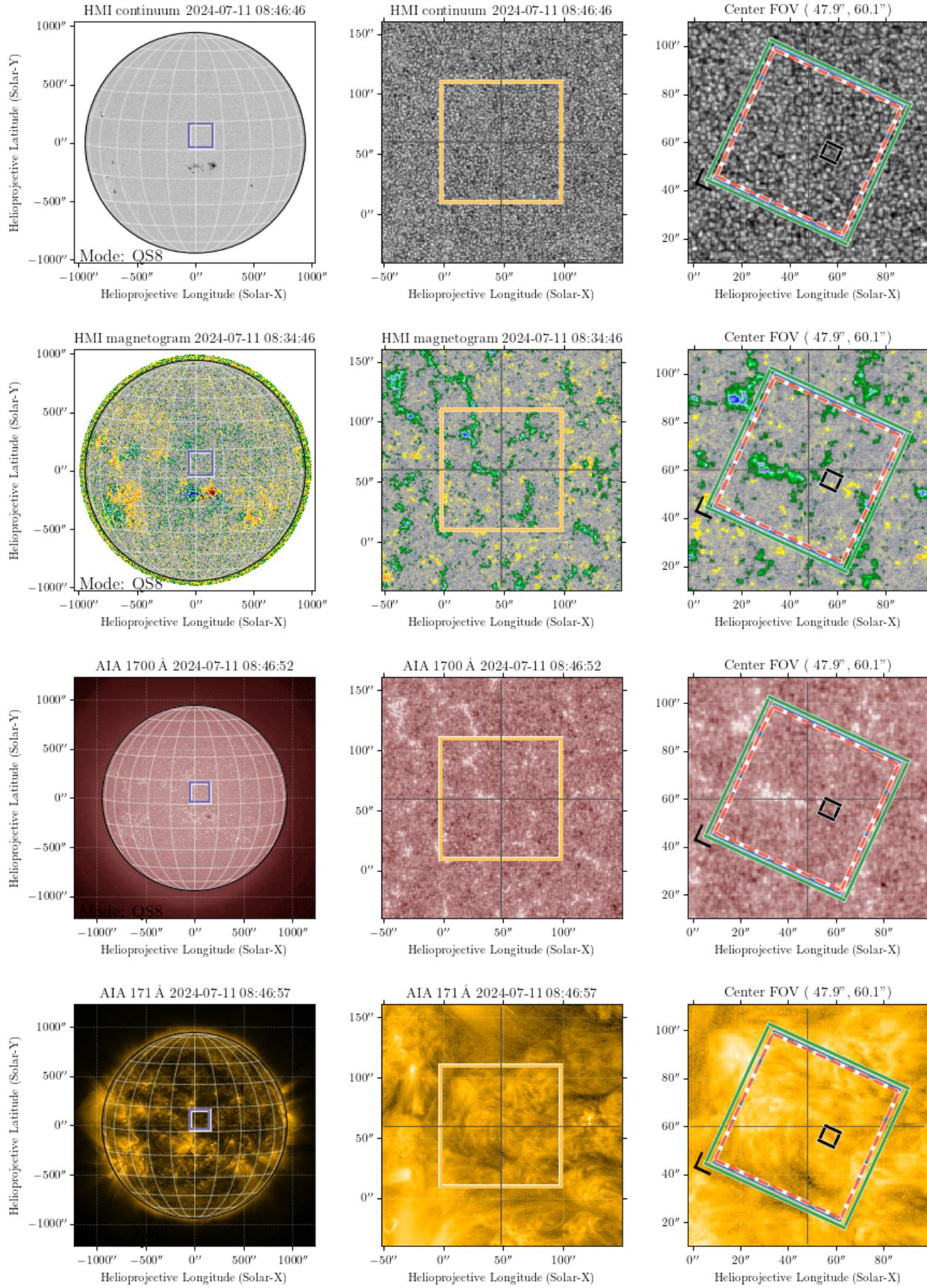
### 2.3 QS4a



## 2.4 QS4b



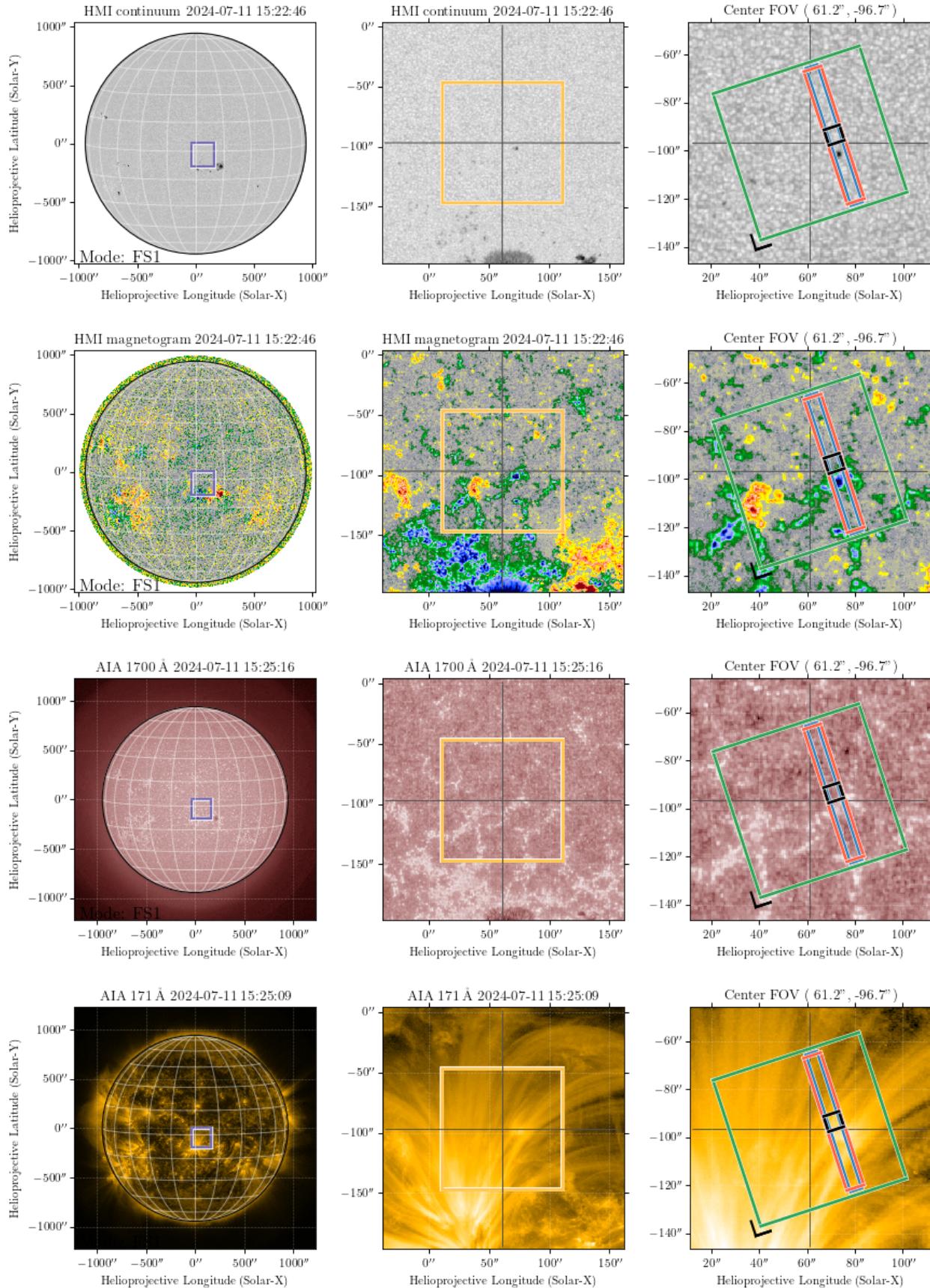
## 2.5 QS8



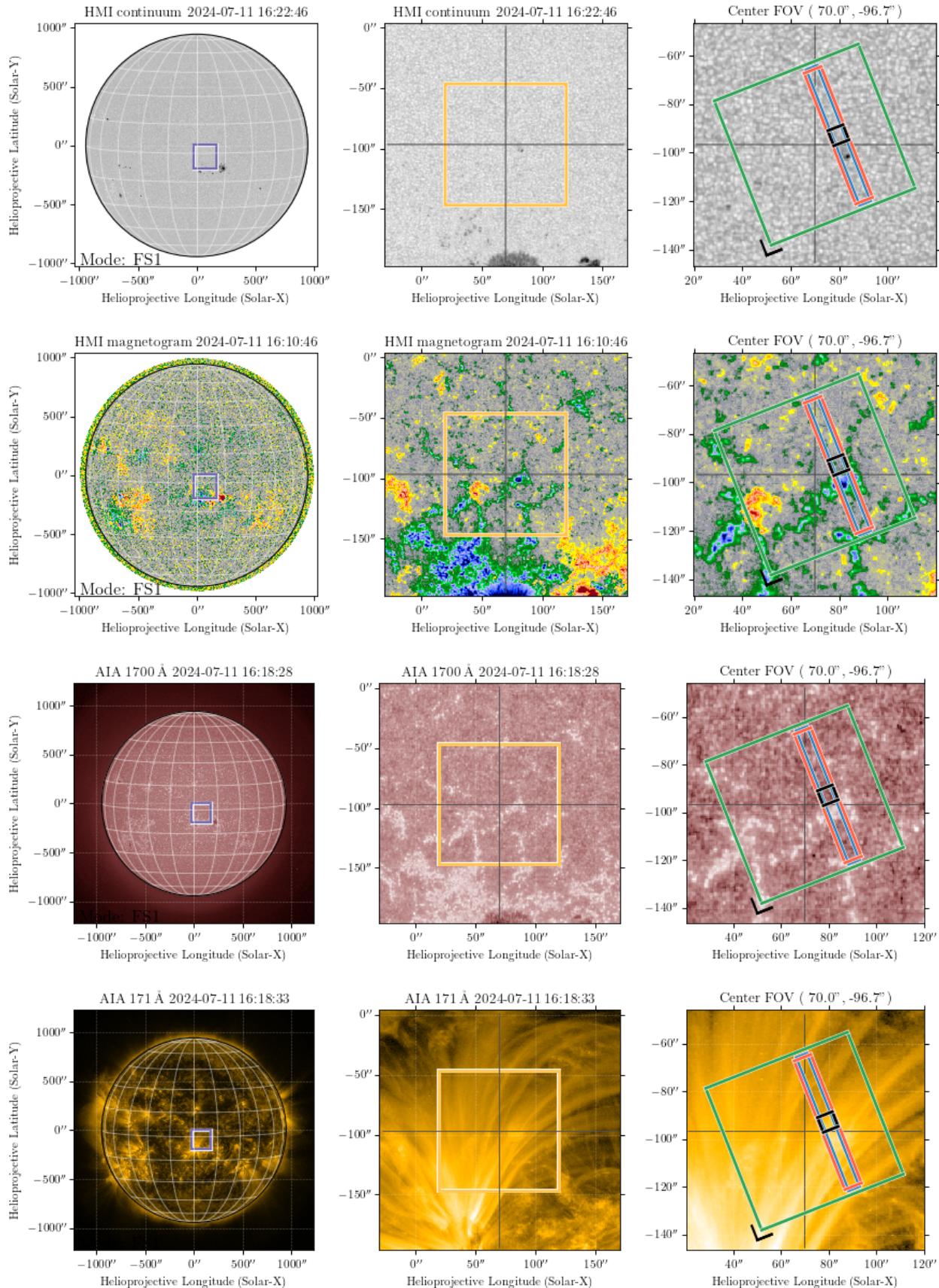
End of Timeline

### 3 FS\_1 – Full spectral scan quiet Sun

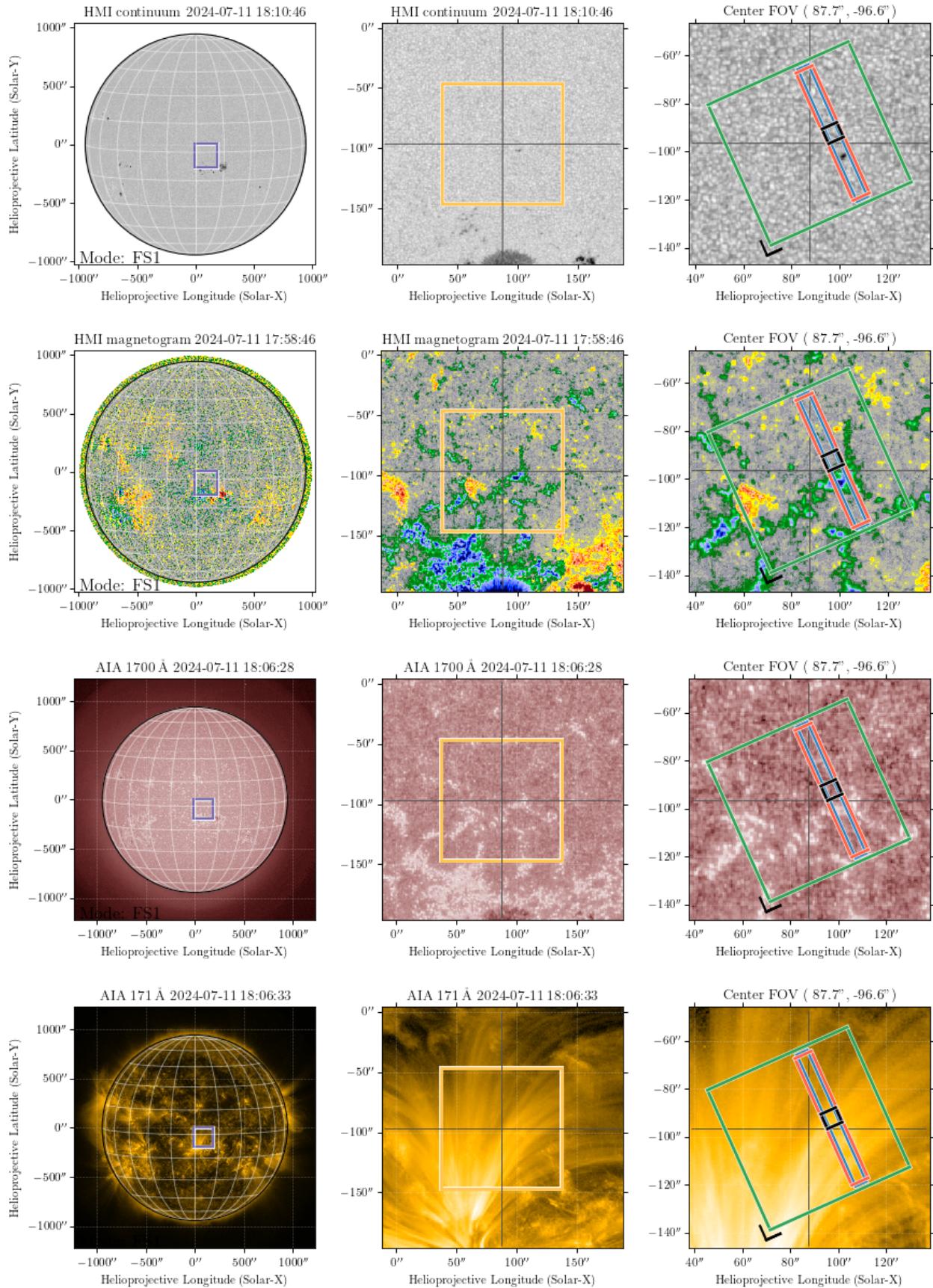
#### 3.1 FS – Part I



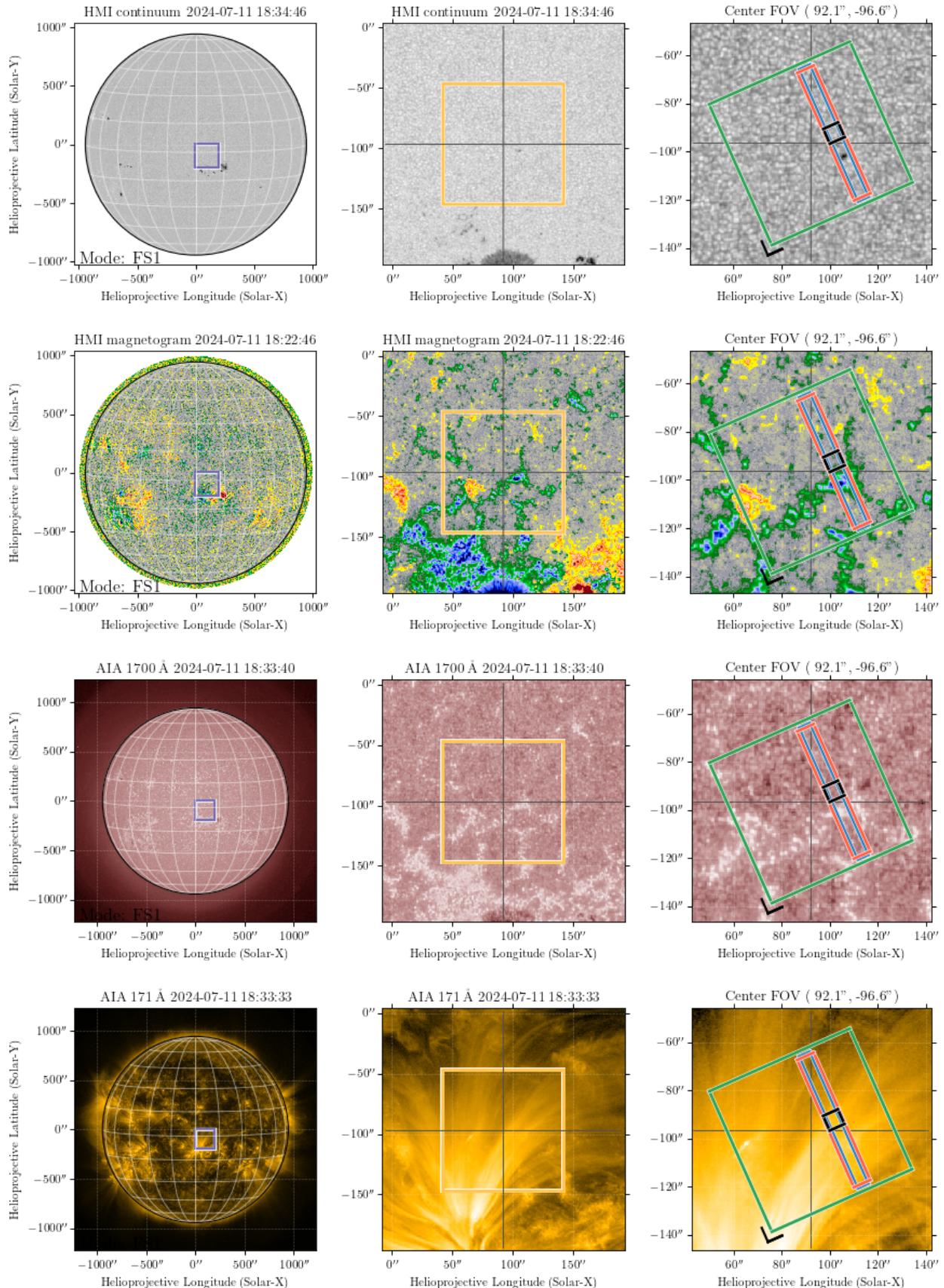
### 3.2 FS – Part II



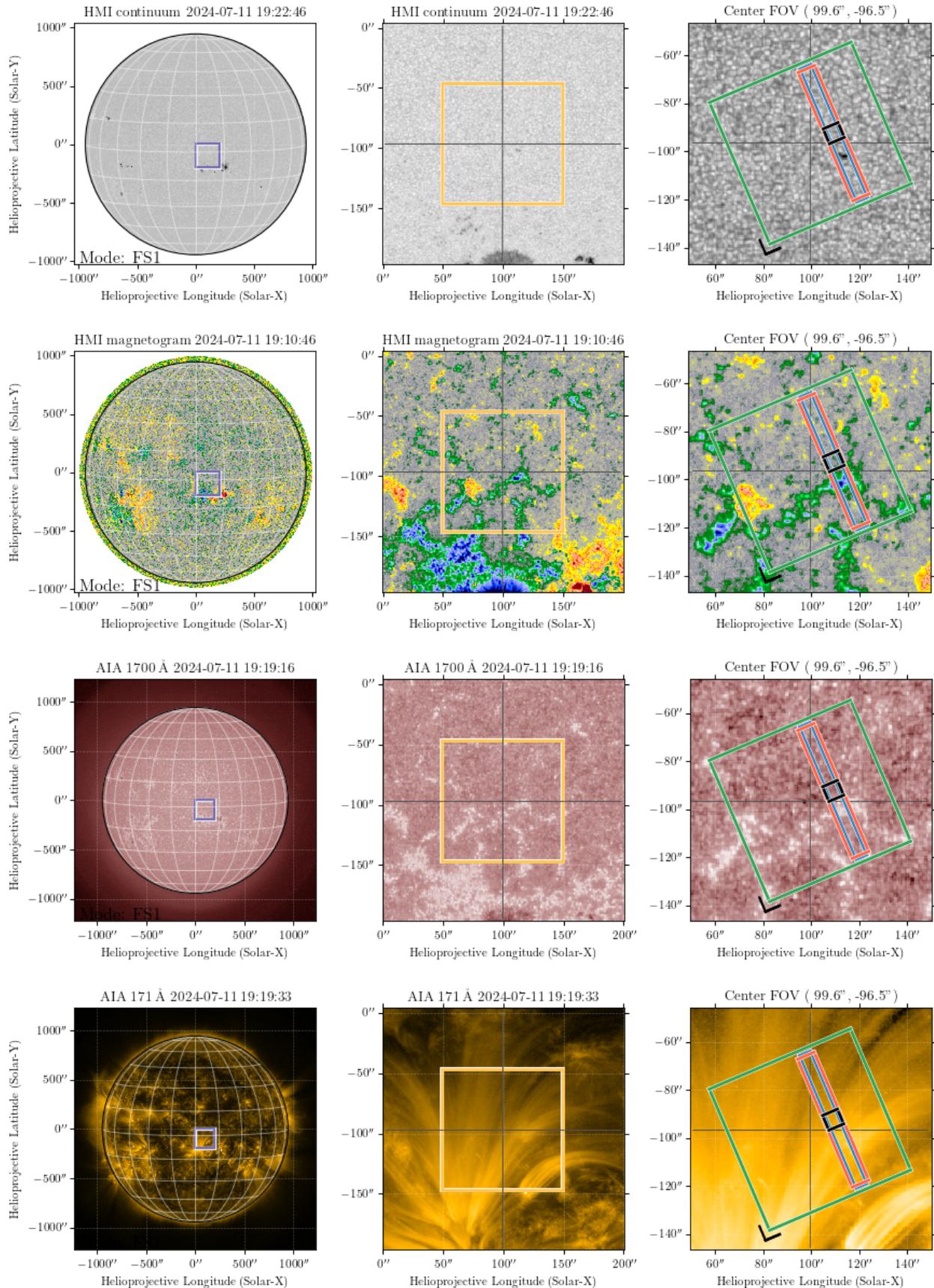
### 3.3 FS – Part III



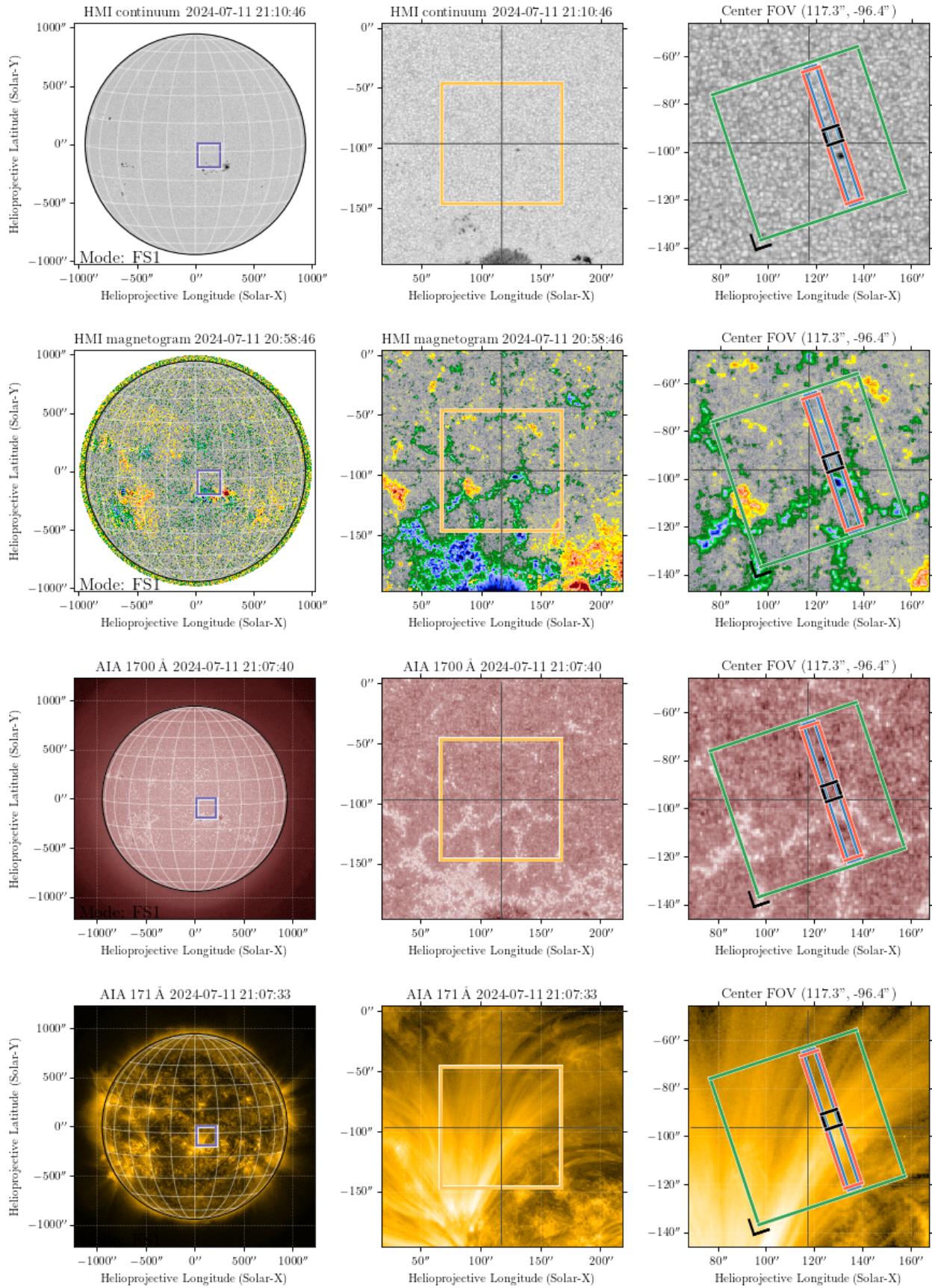
### 3.4 FS - Part IV



### 3.5 FS - Part IV



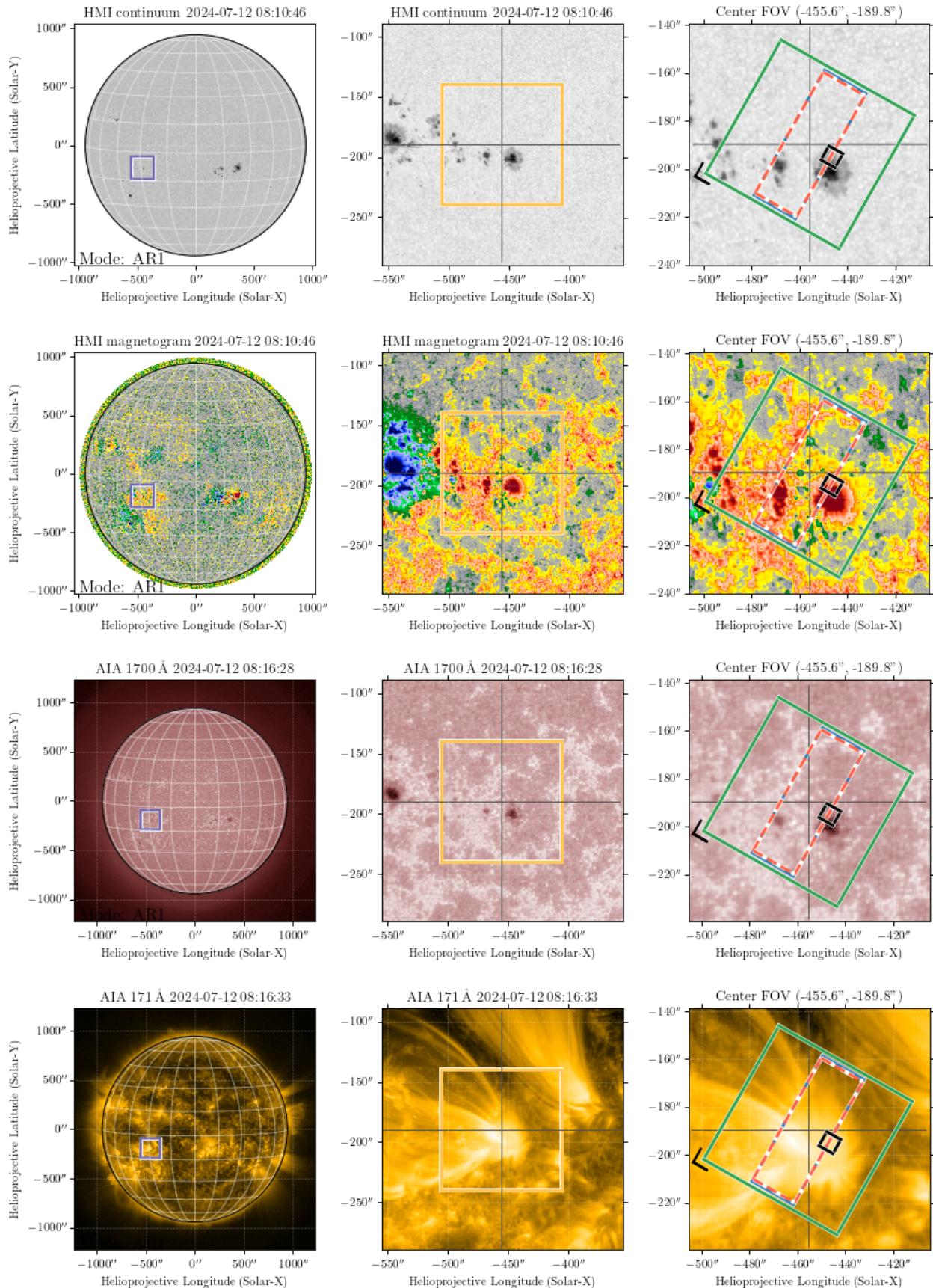
### 3.6 FS - Part VI



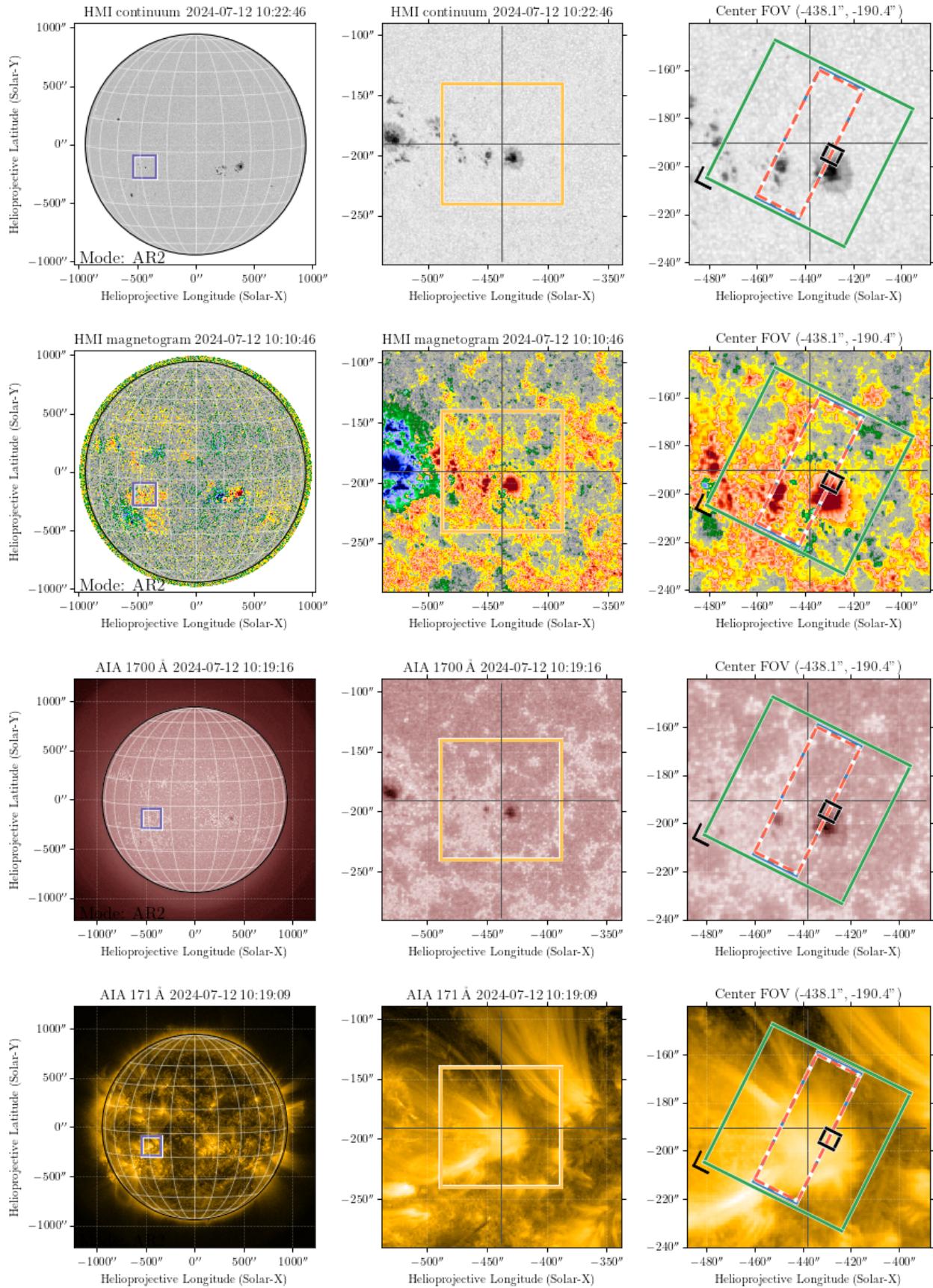
End of Timeline

## 4 Start of Timeline – AR\_1

### 4.1 AR1



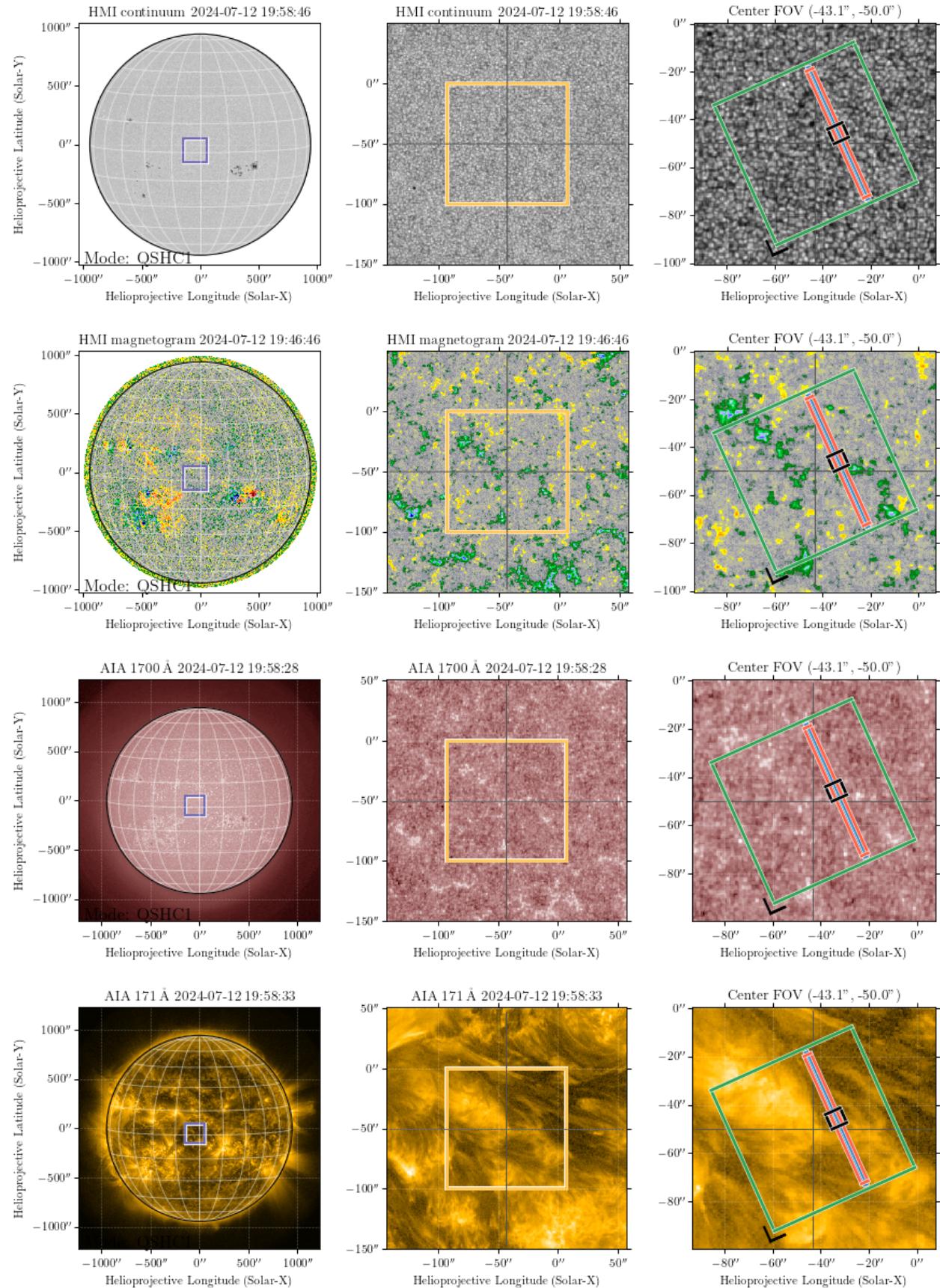
## 4.2 AR2



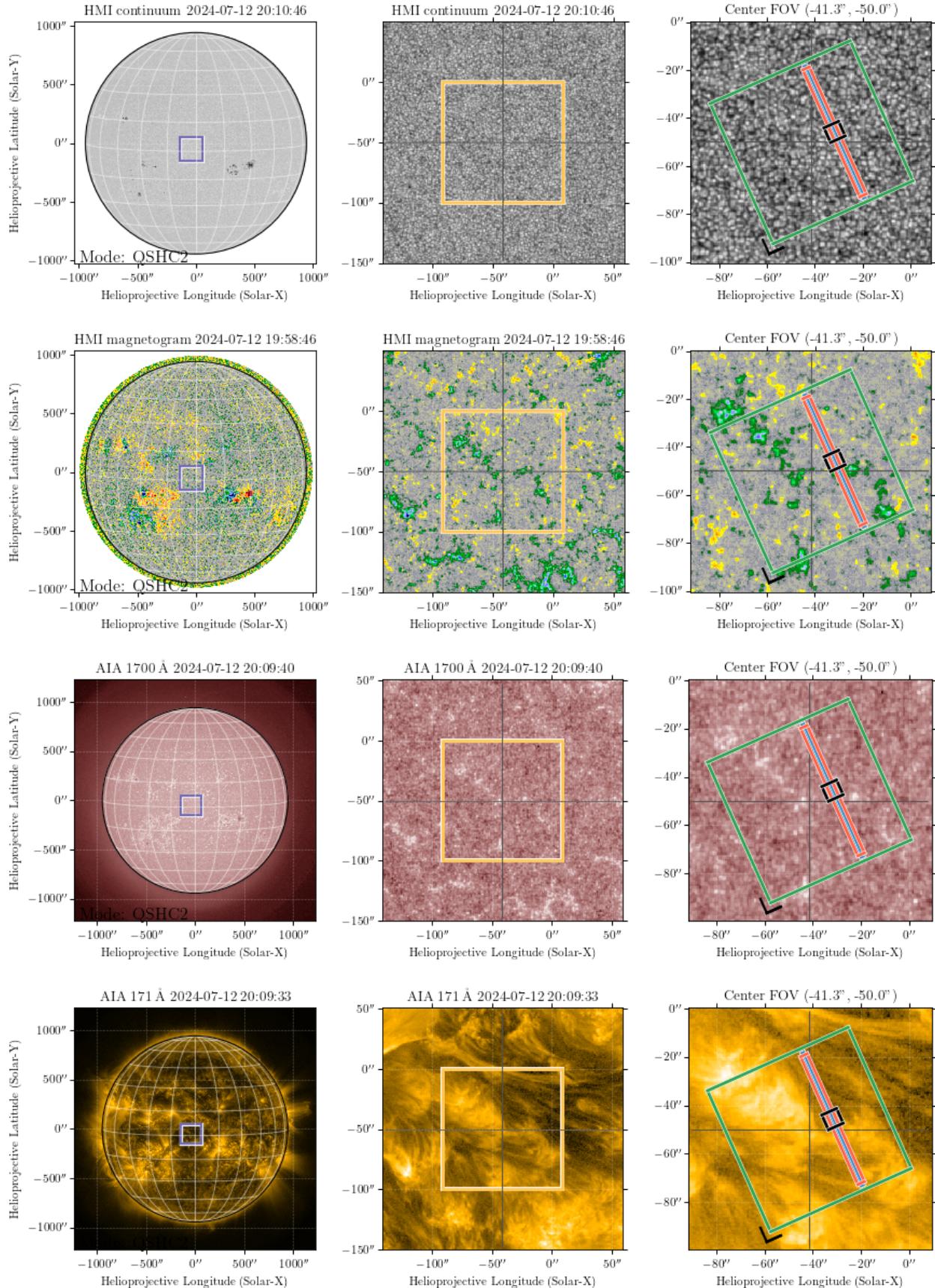
End of Timeline

## 5 Start of Timeline QSHC\_1 - Quiet Sun high cadence

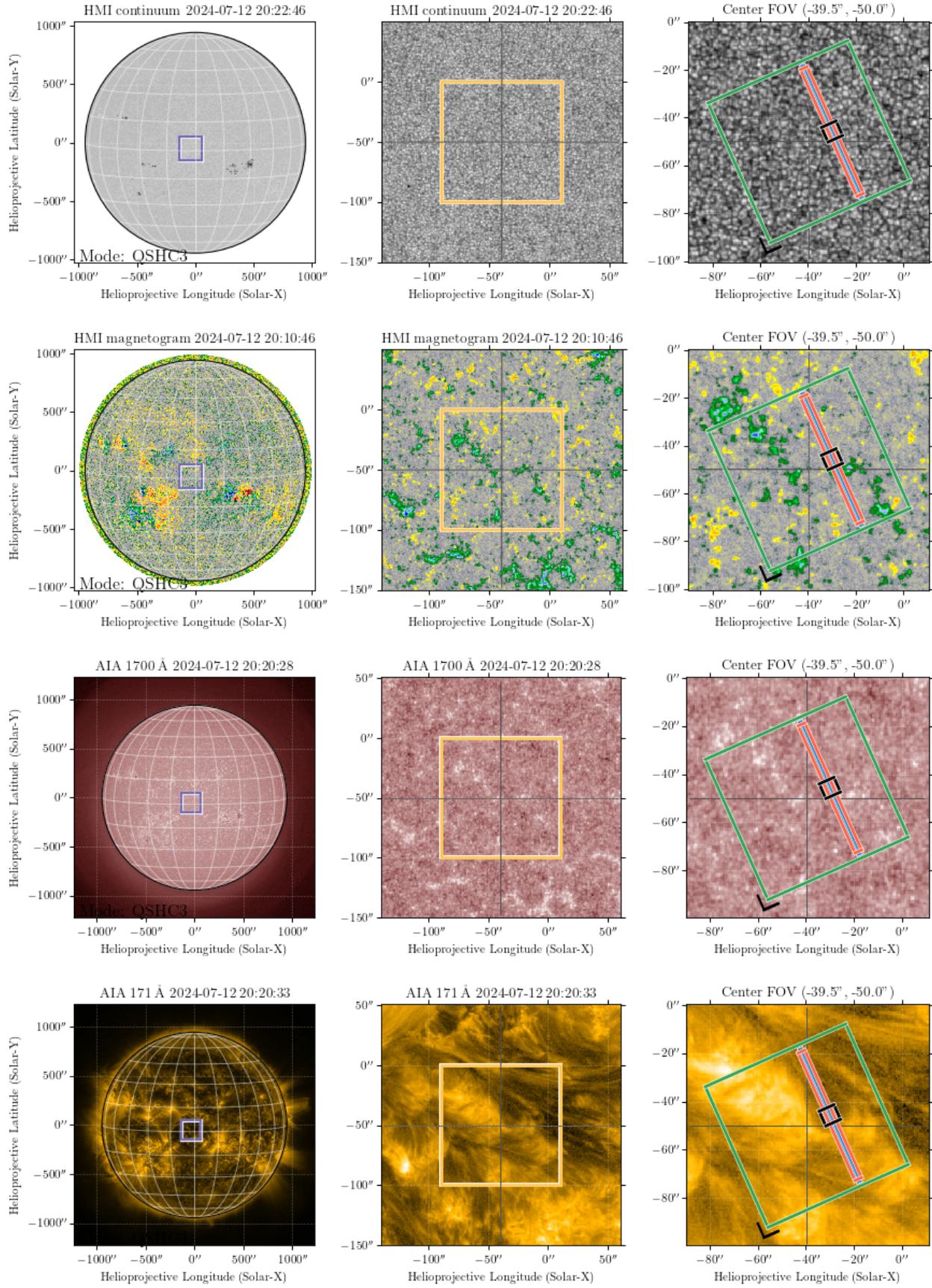
### 5.1 QSHC1



## 5.2 QSHC2



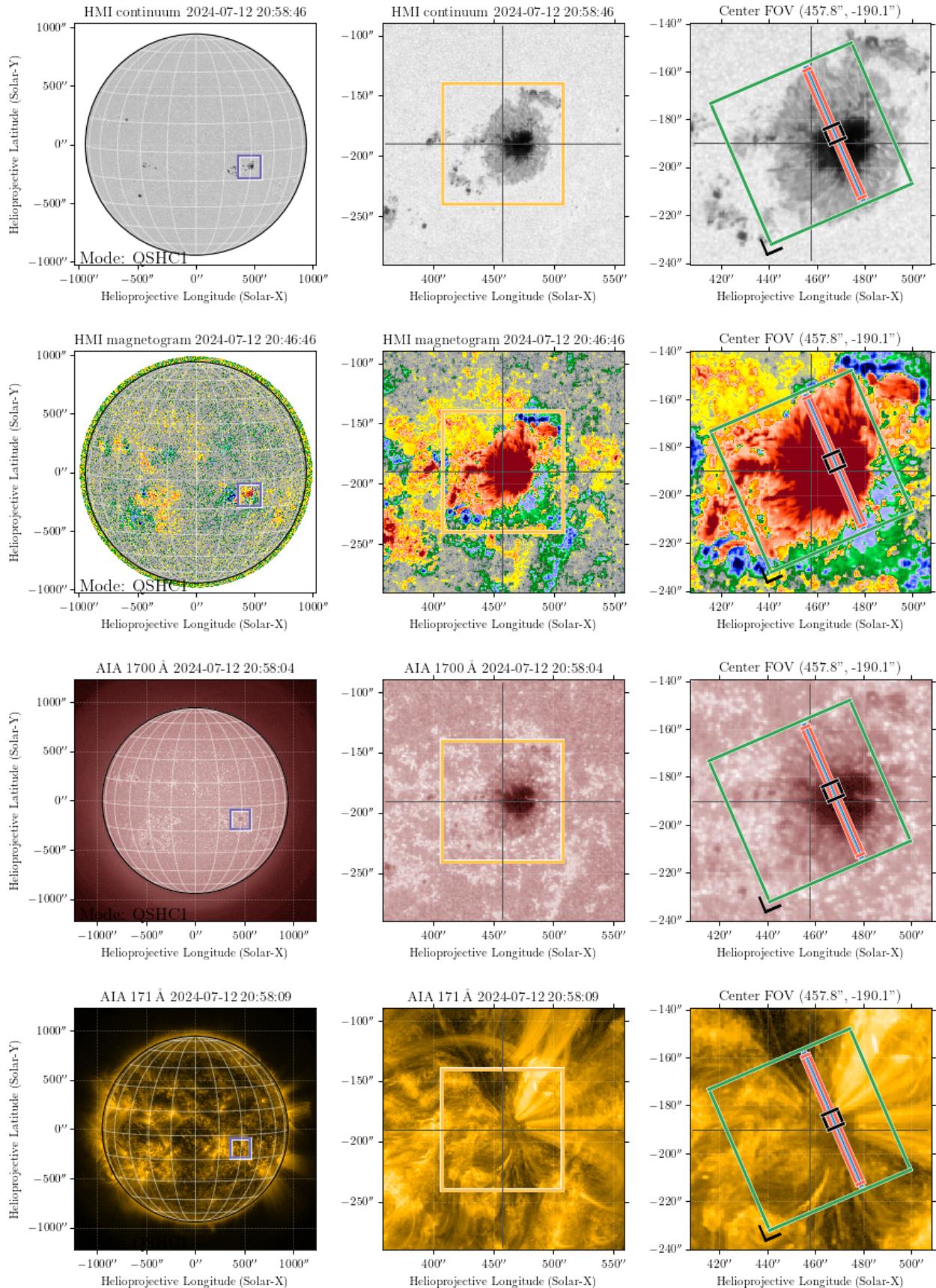
### 5.3 QSHC3



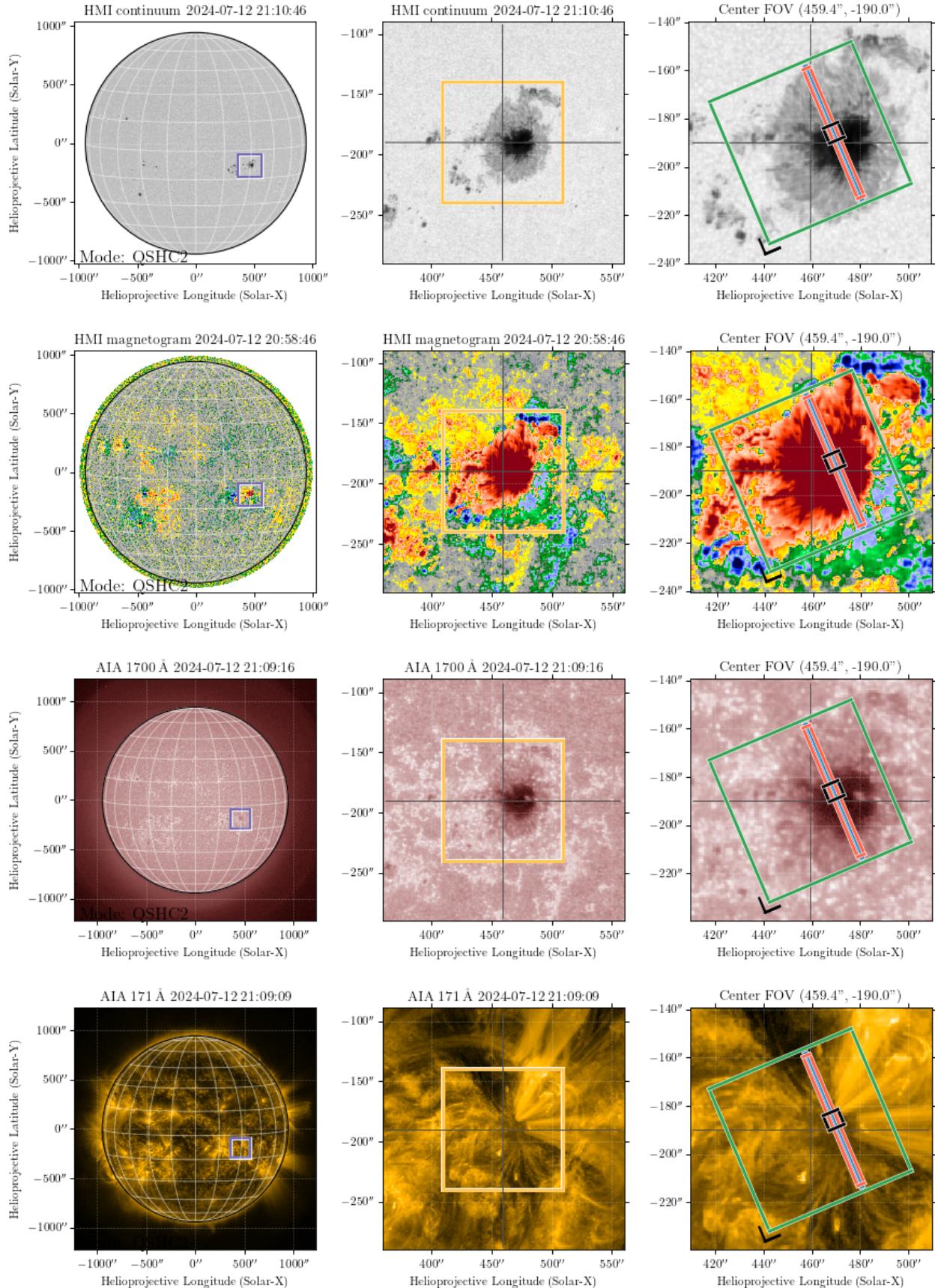
End of Timeline

## 6 Start of Timeline QSHC\_1 - at a sunspot

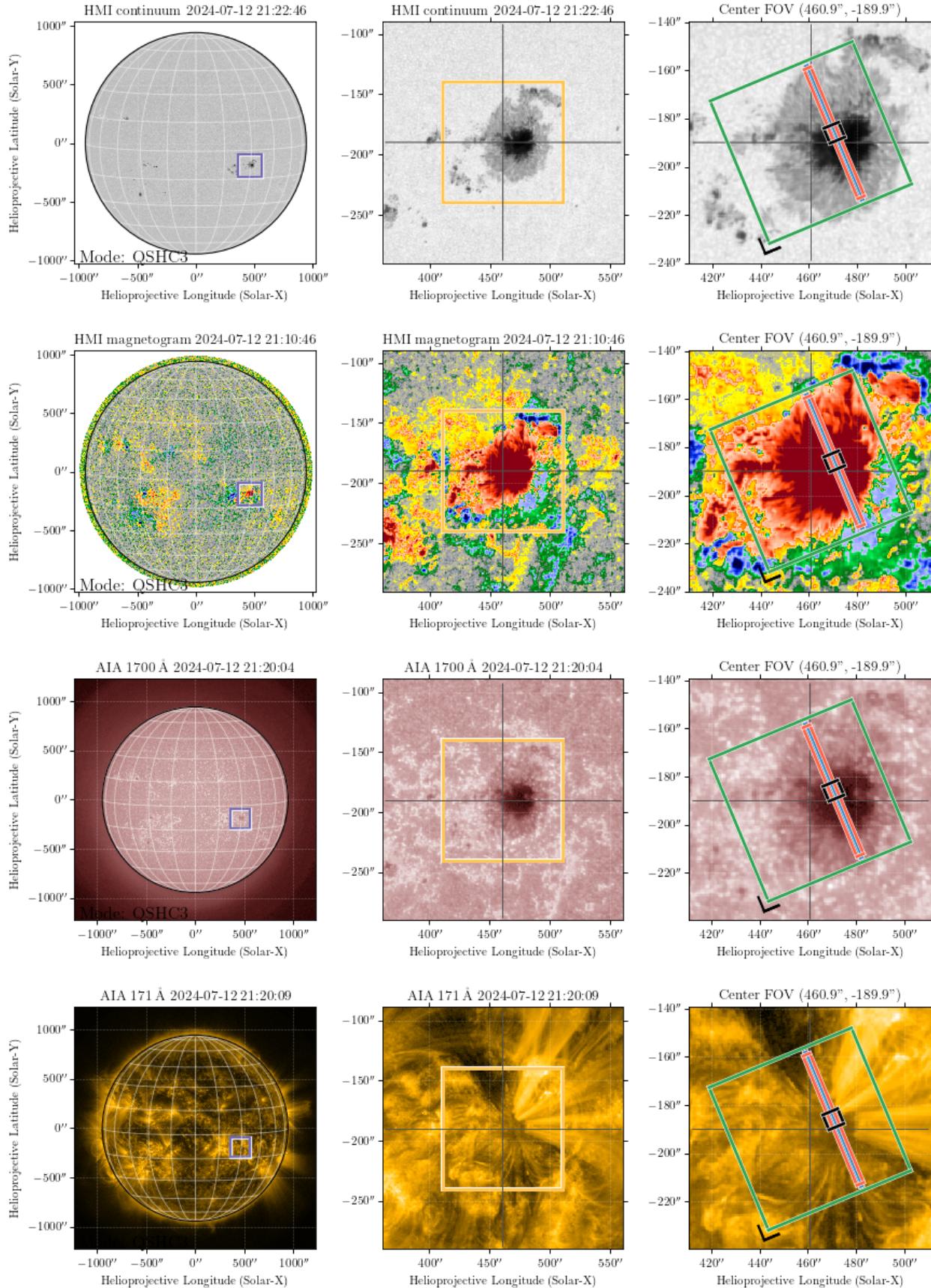
### 6.1 QSHC1



## 6.2 QSHC2



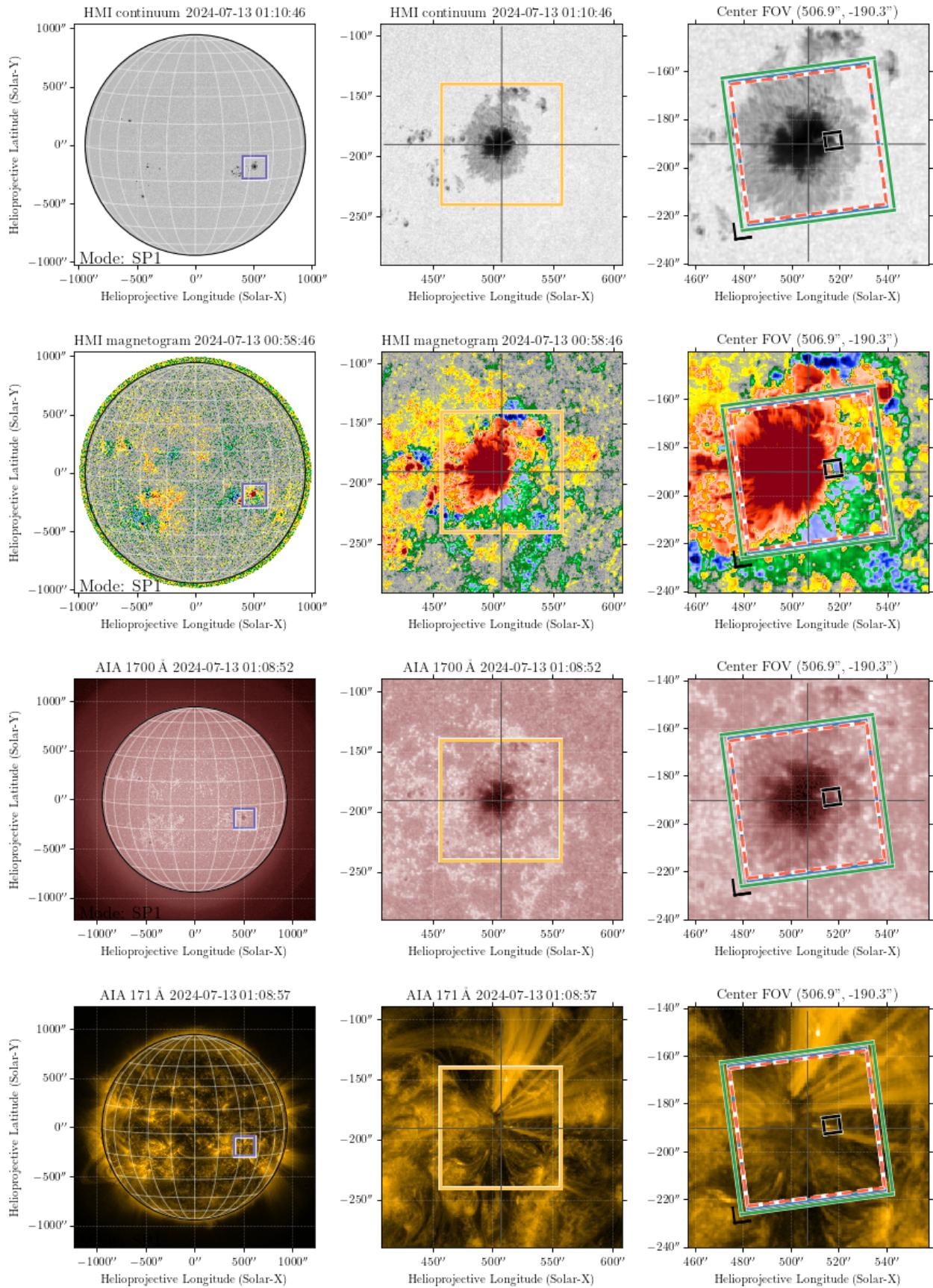
### 6.3 QSHC3



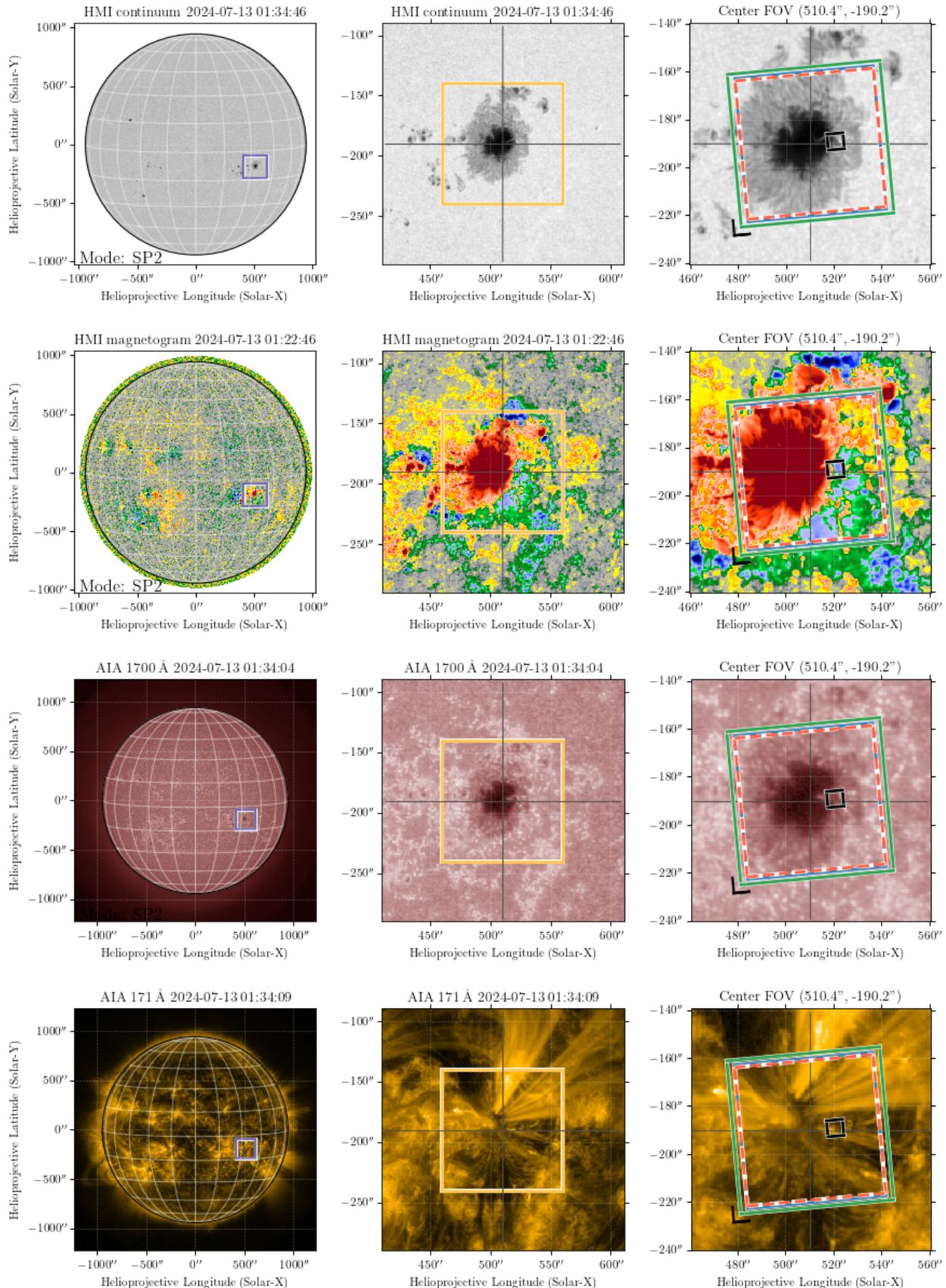
End of Timeline

## 7 Start of Timeline SP\_1

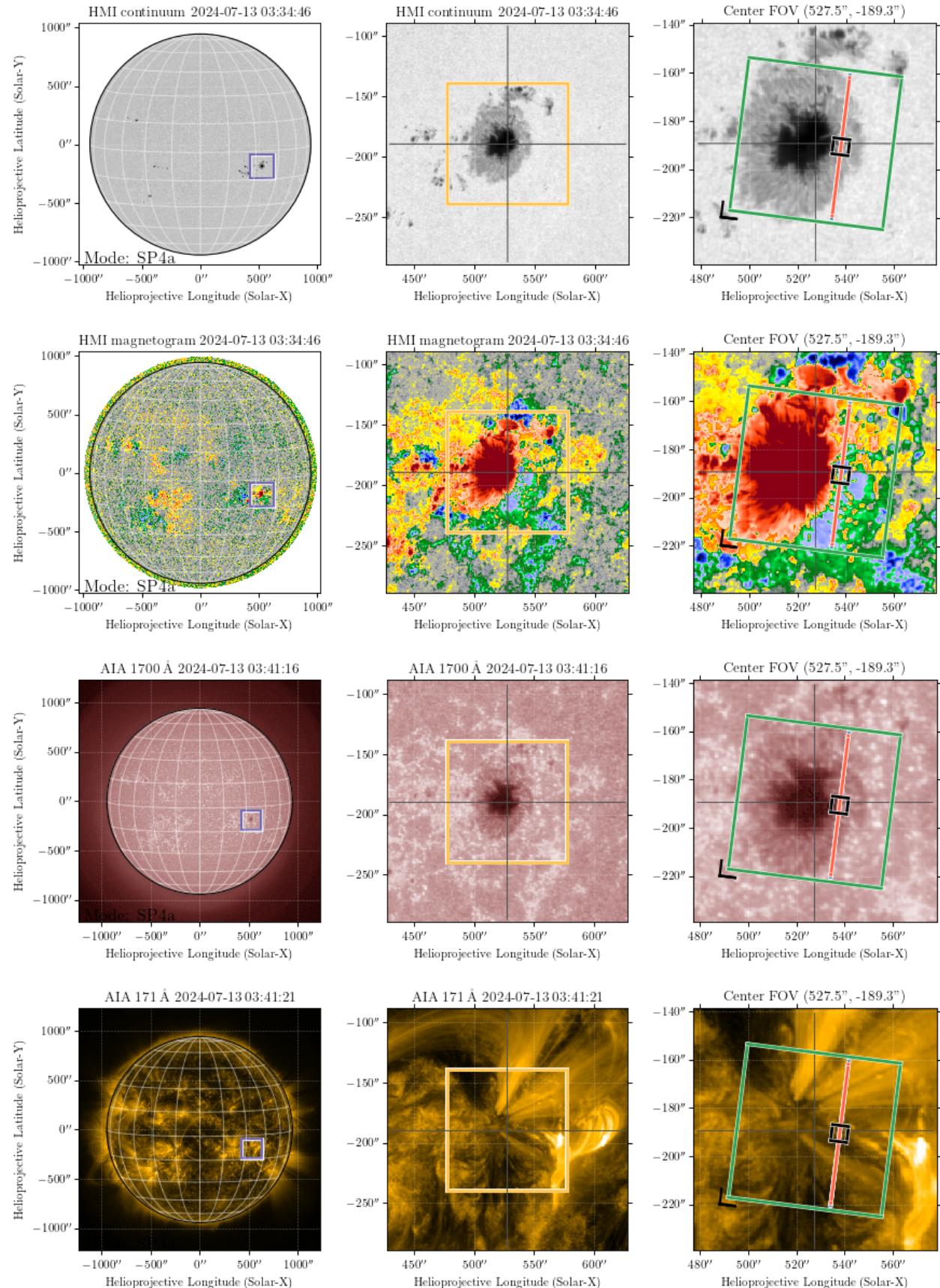
### 7.1 SP1



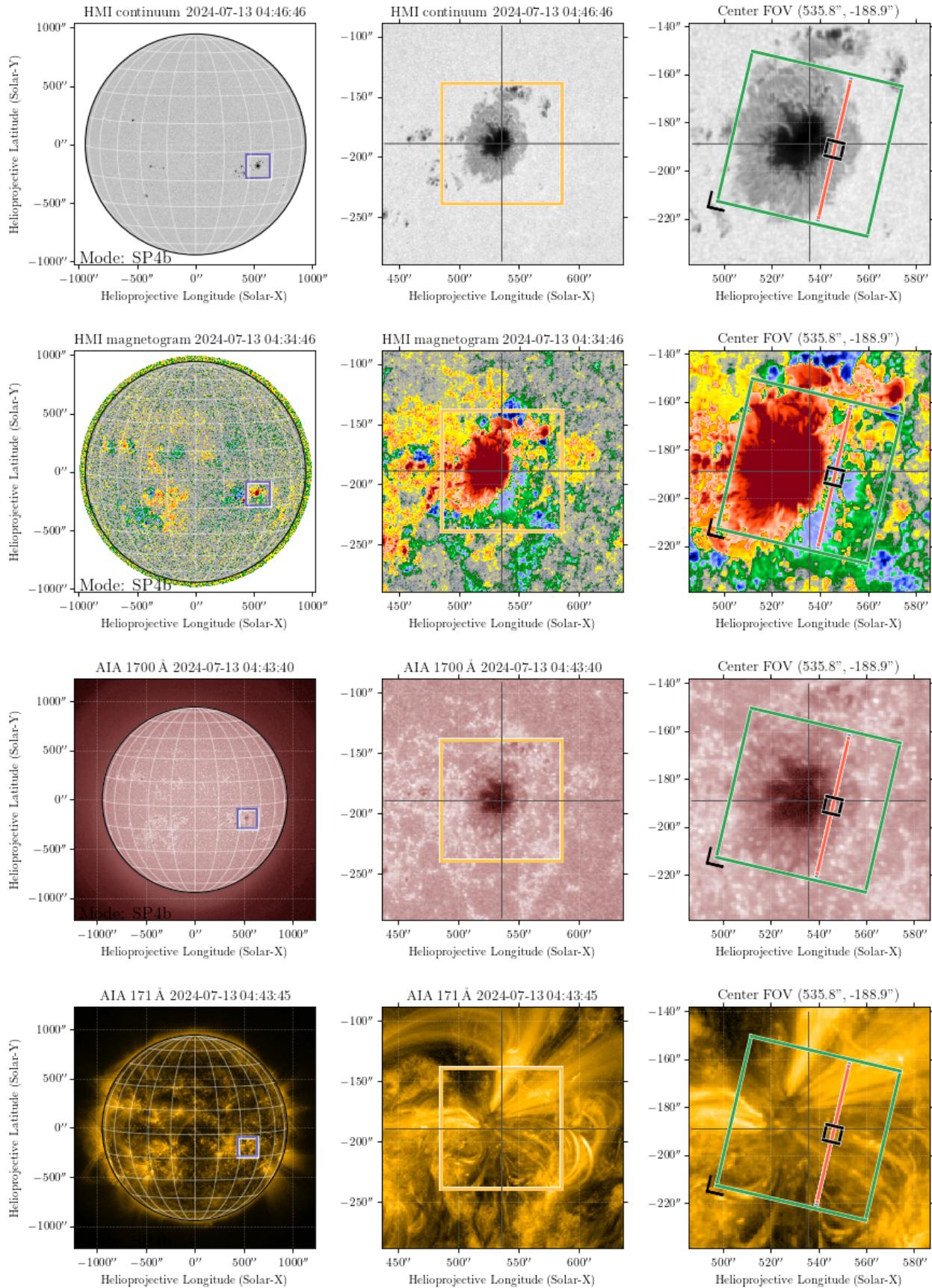
## 7.2 SP2



### 7.3 SP4a



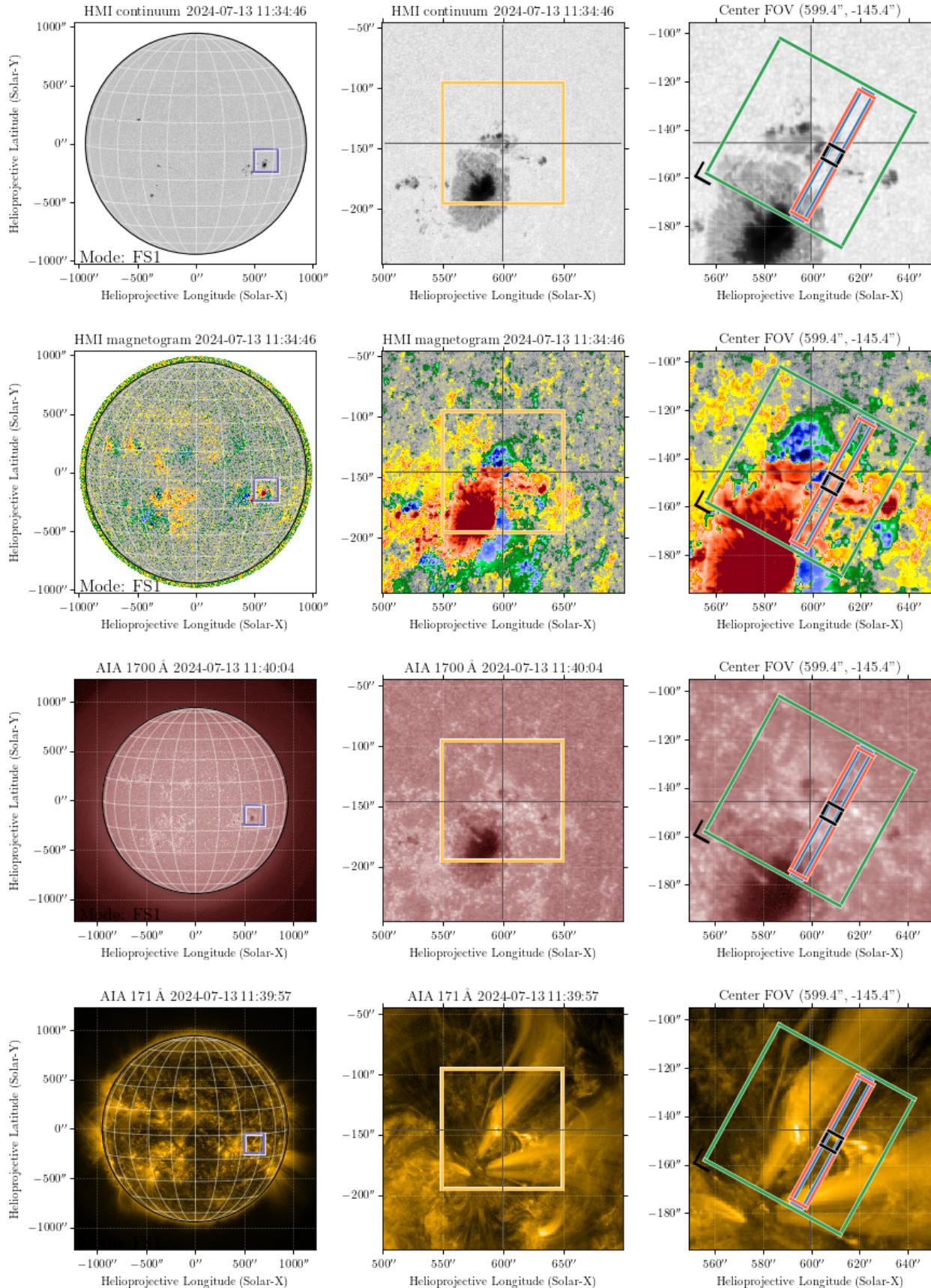
## 7.4 SP4b



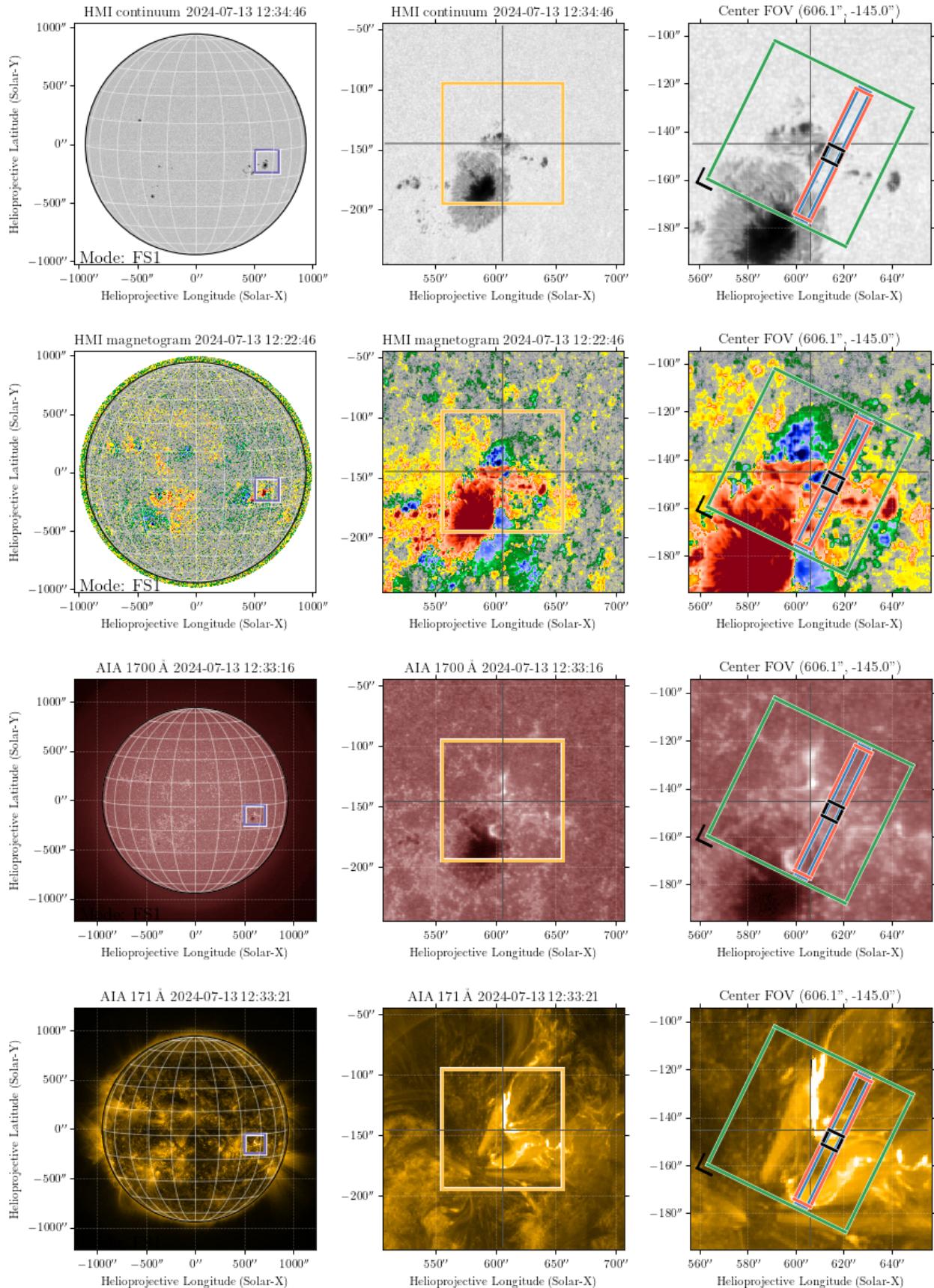
End of Timeline

## 8 Start of Timeline FS\_1 of an AR13738 – at 11:30 M-class flare

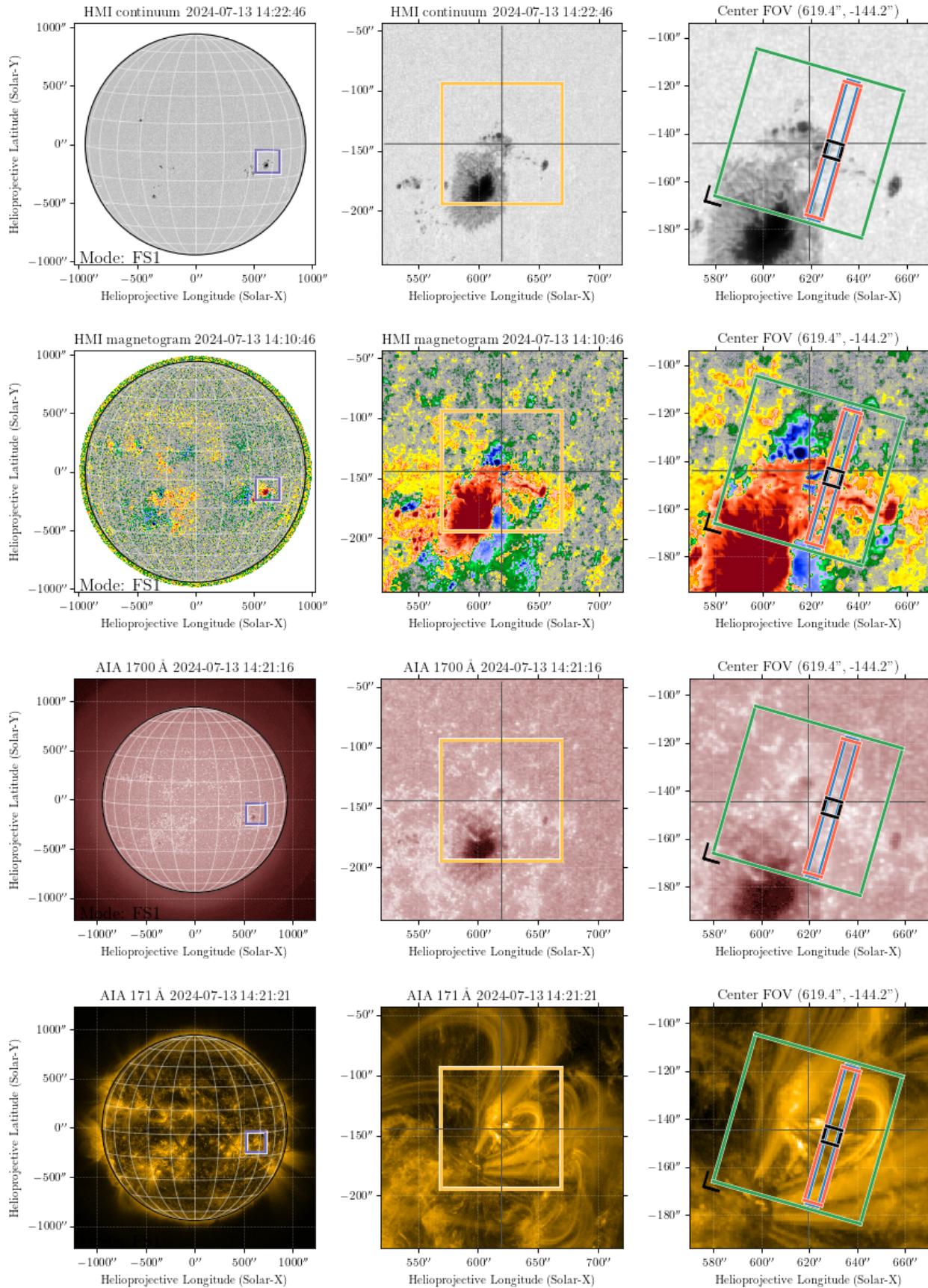
### 8.1 FS of AR – Part I – M-class flare



## 8.2 FS of AR – Part II

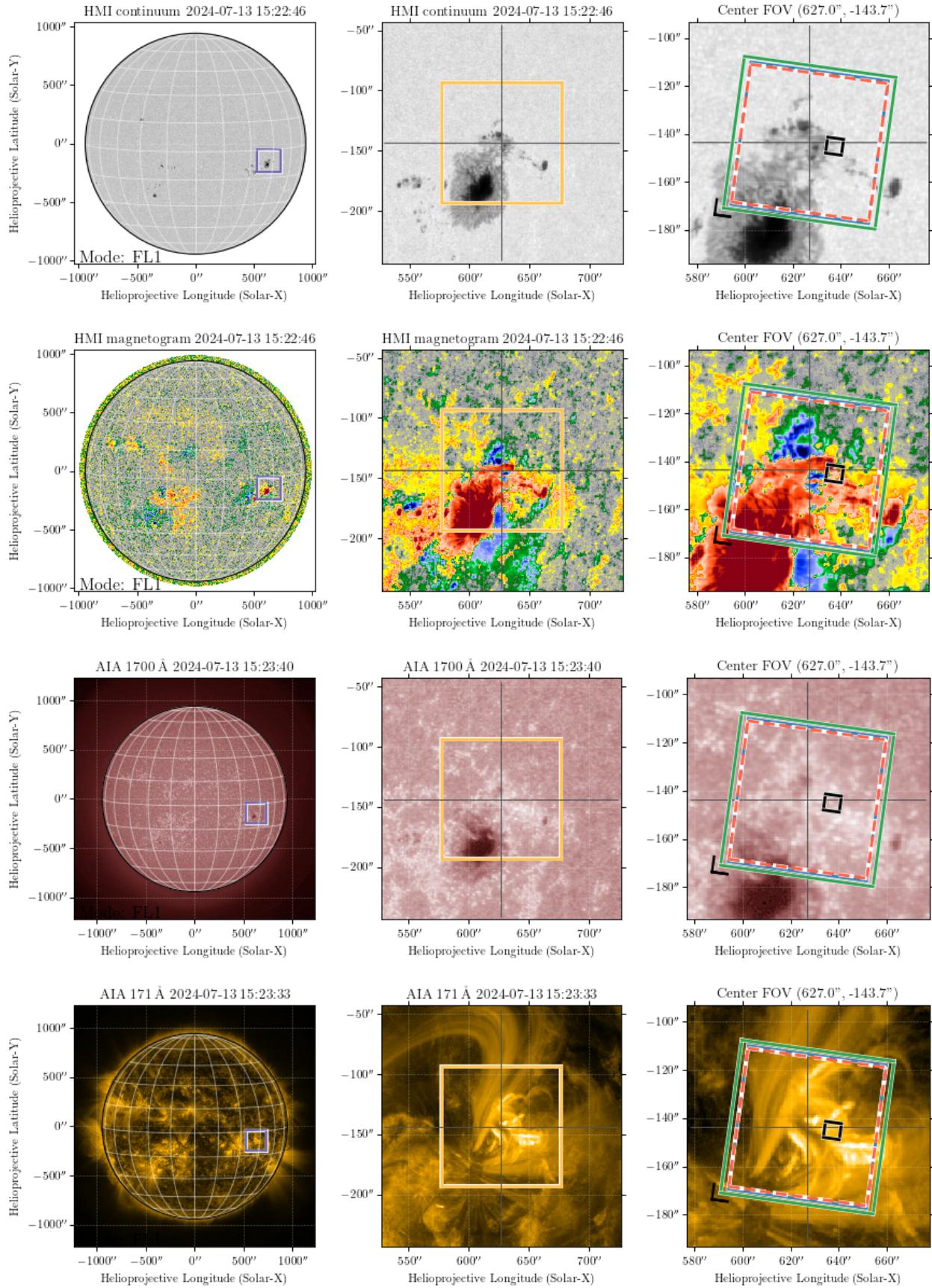


### 8.3 FS of AR – Part III



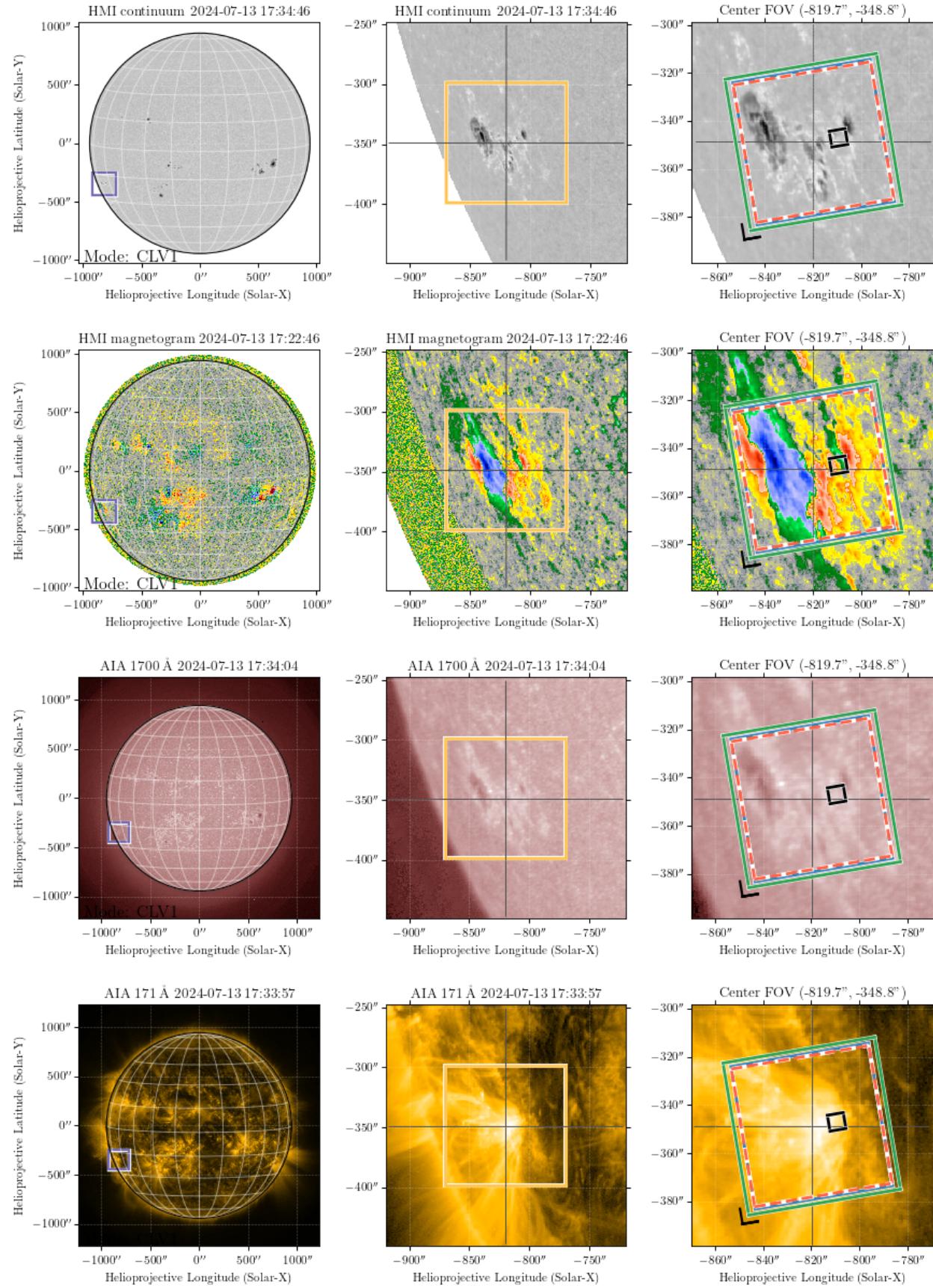
End of Timeline

## 9 Start of Timeline FL\_1 (shorten) - AR13738



End of Timeline

## 10 Start of Timeline CLV\_1 (shorten)



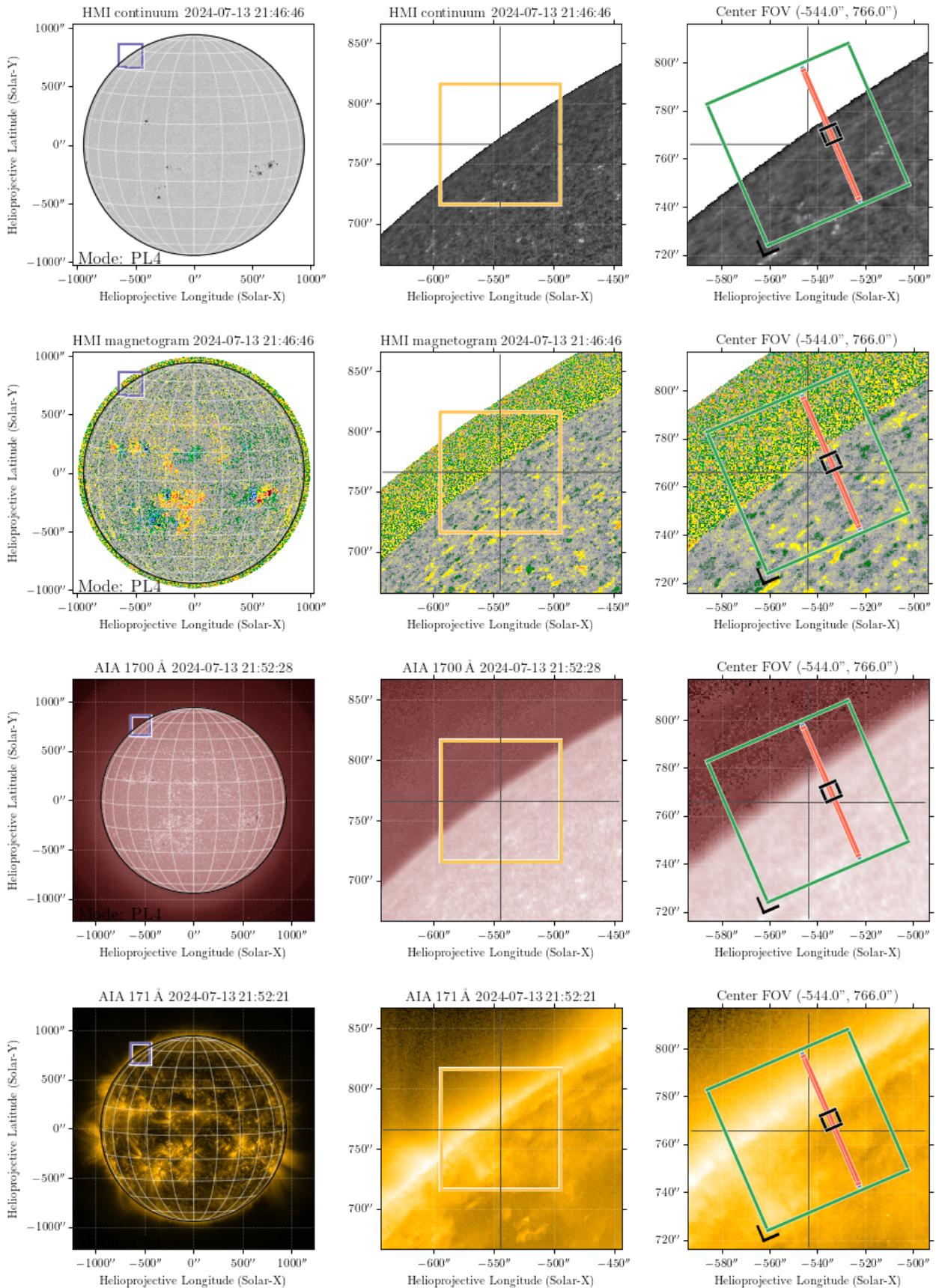

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End of Timeline

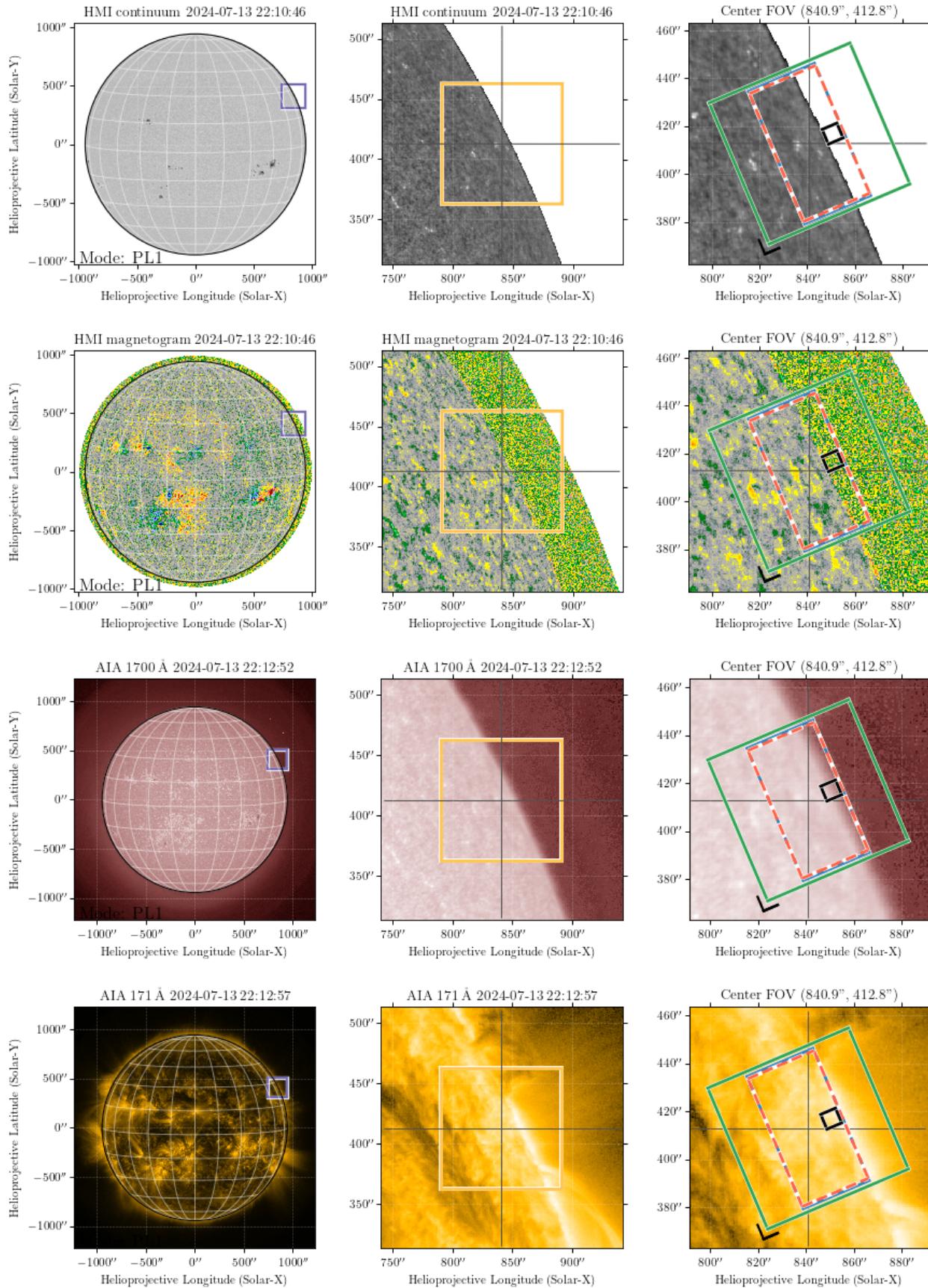
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## 11 Start of Timeline PL\_1 (surplus manual command)

### 11.1 PL4

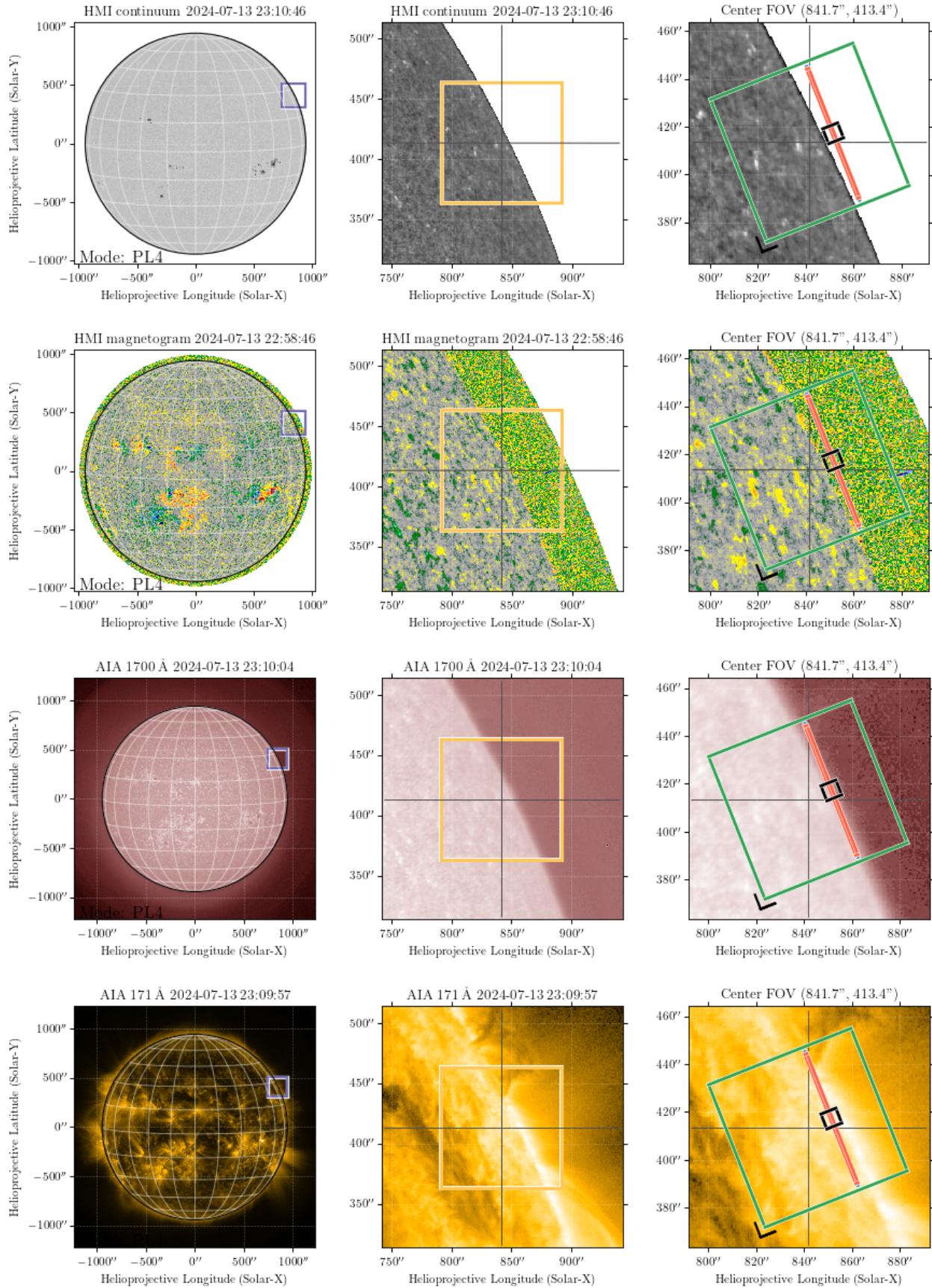


## 11.2 PL1



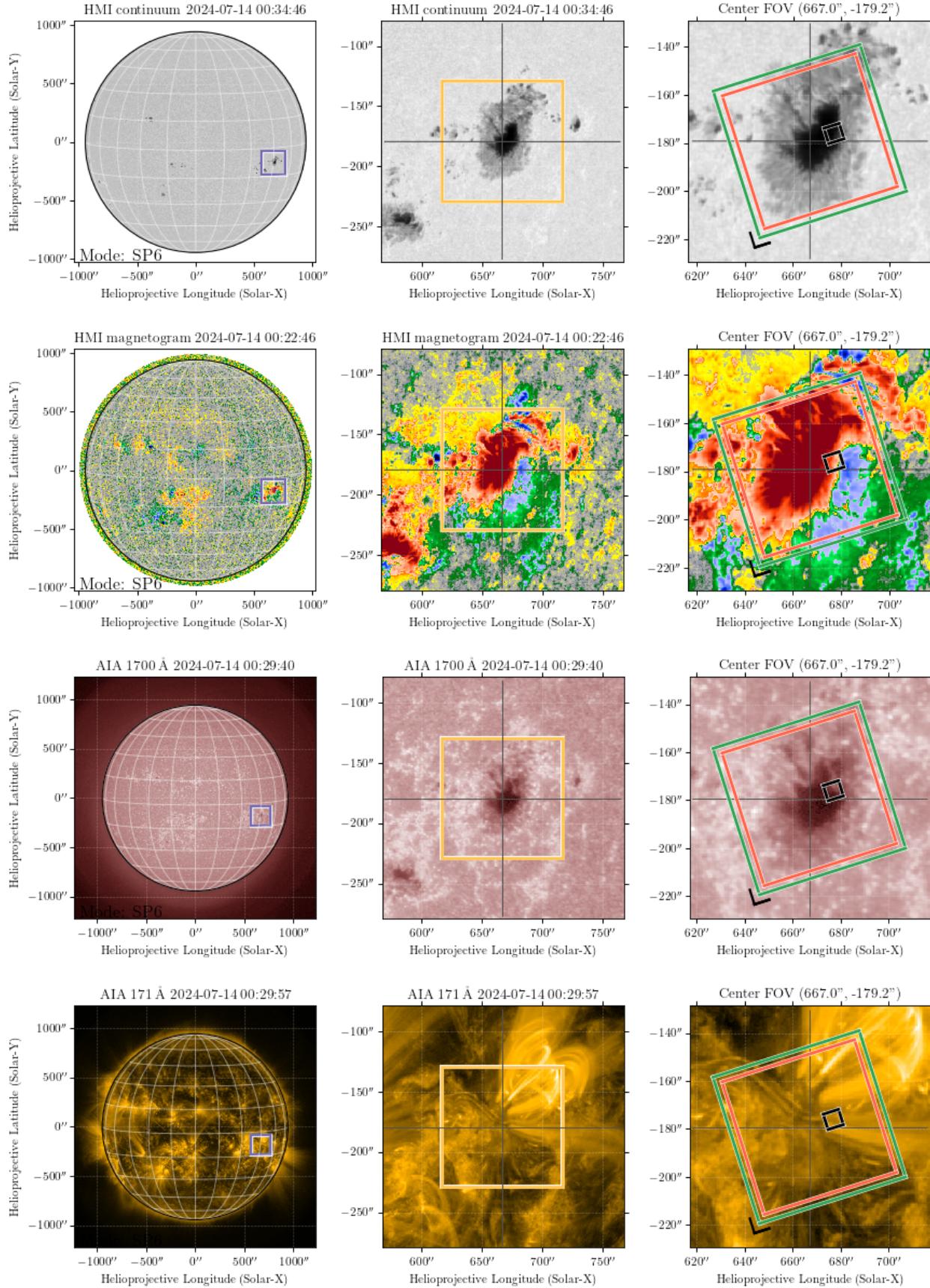
End of Timeline

## 12 Start of Timeline PL\_1 (surplus manual command)



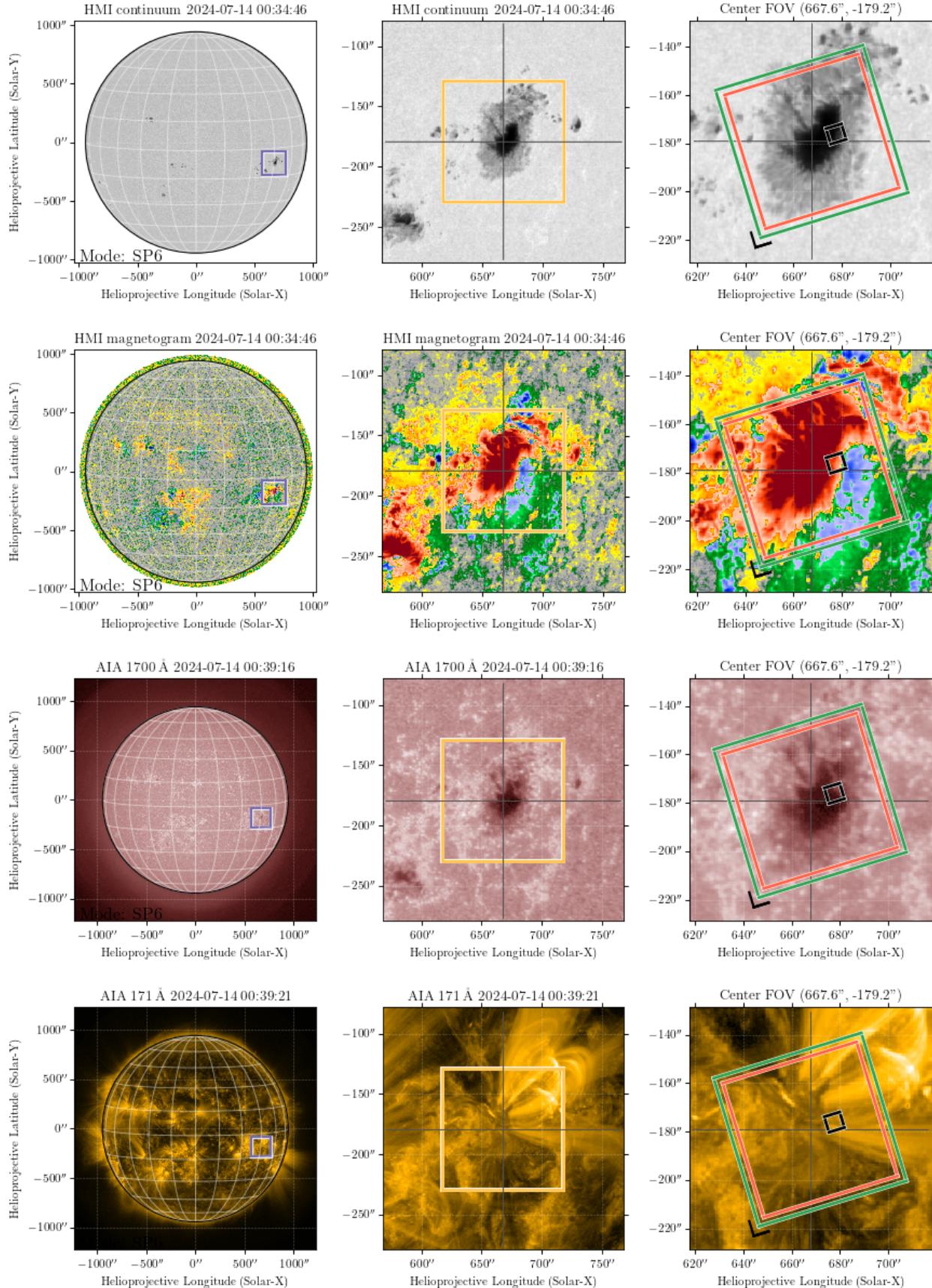
End of Timeline

## 13 Start of Timeline SP\_4



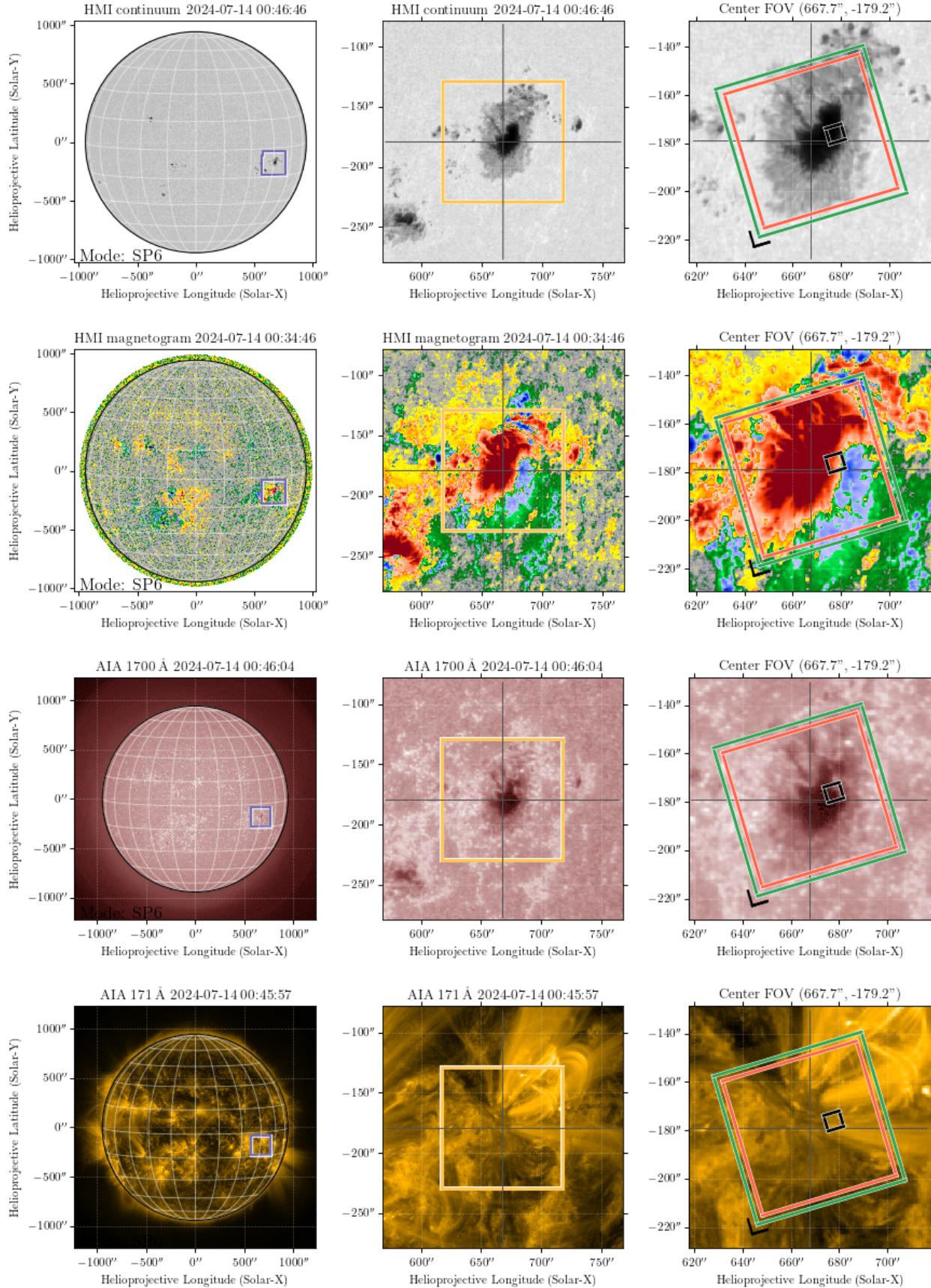
End of Timeline

## 14 Start of Timeline SP\_4



End of Timeline

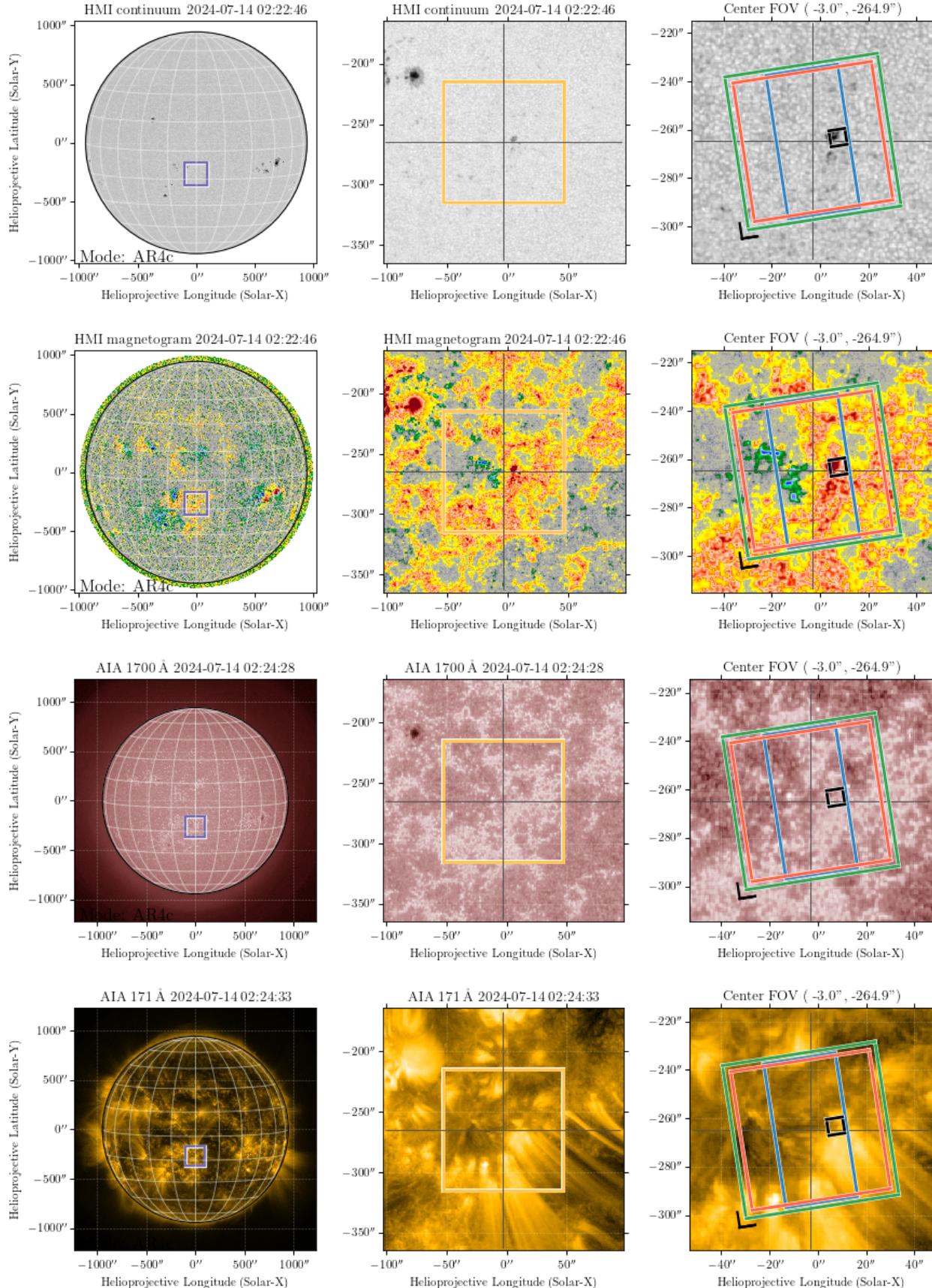
## 15 Start of Timeline SP\_4



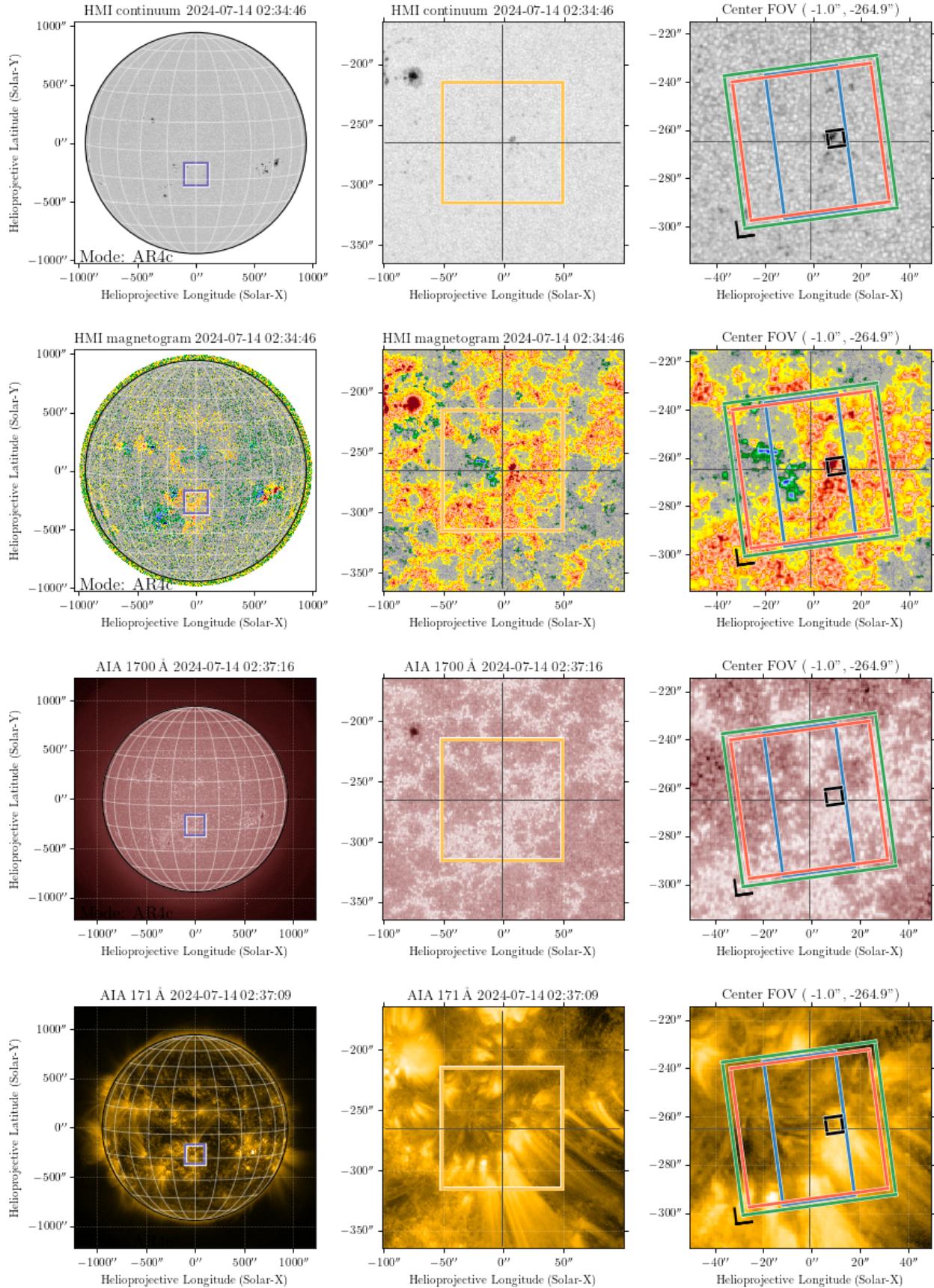
End of Timeline

## 16 Start of Timeline

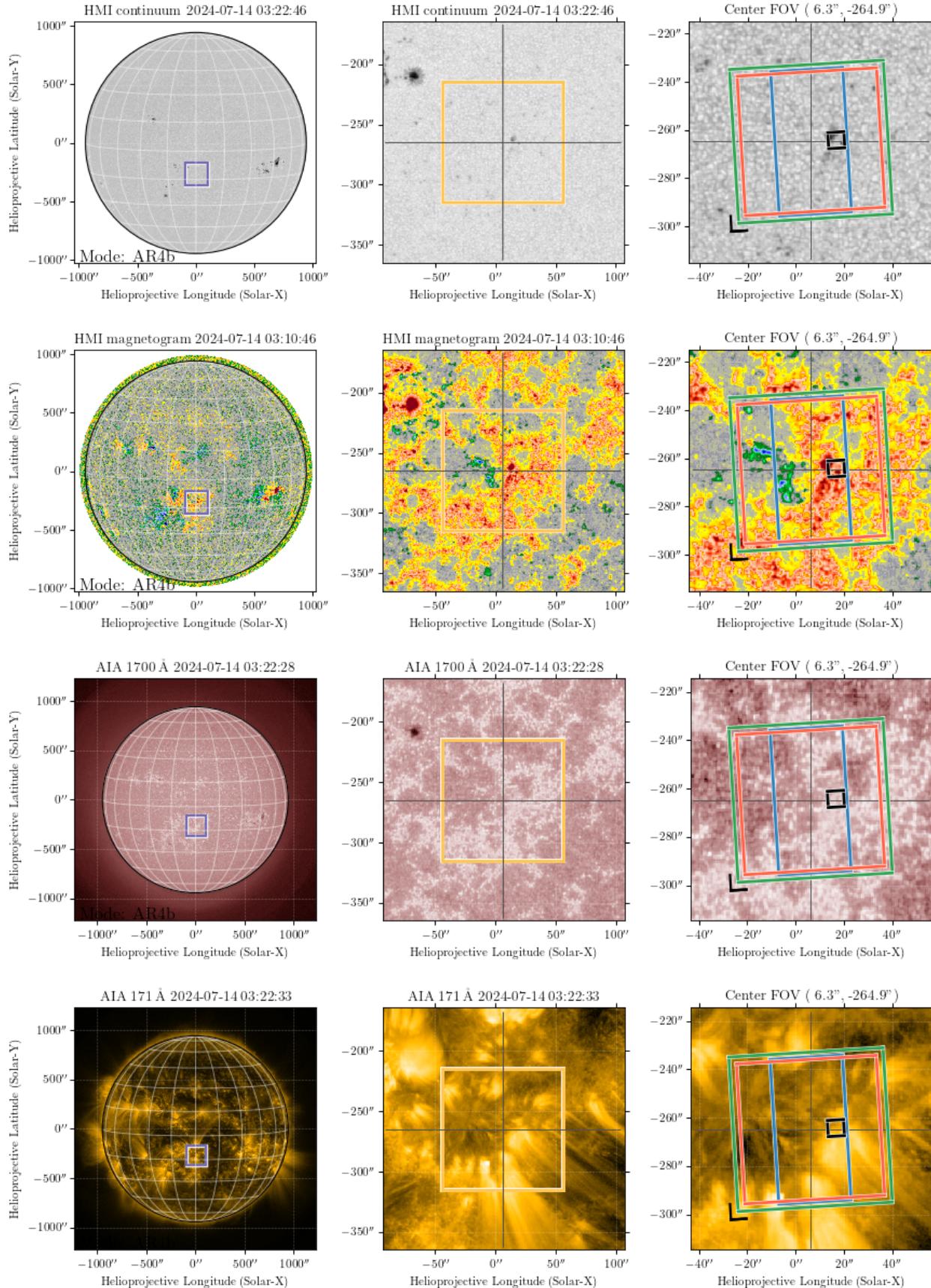
### 16.1 AR4c



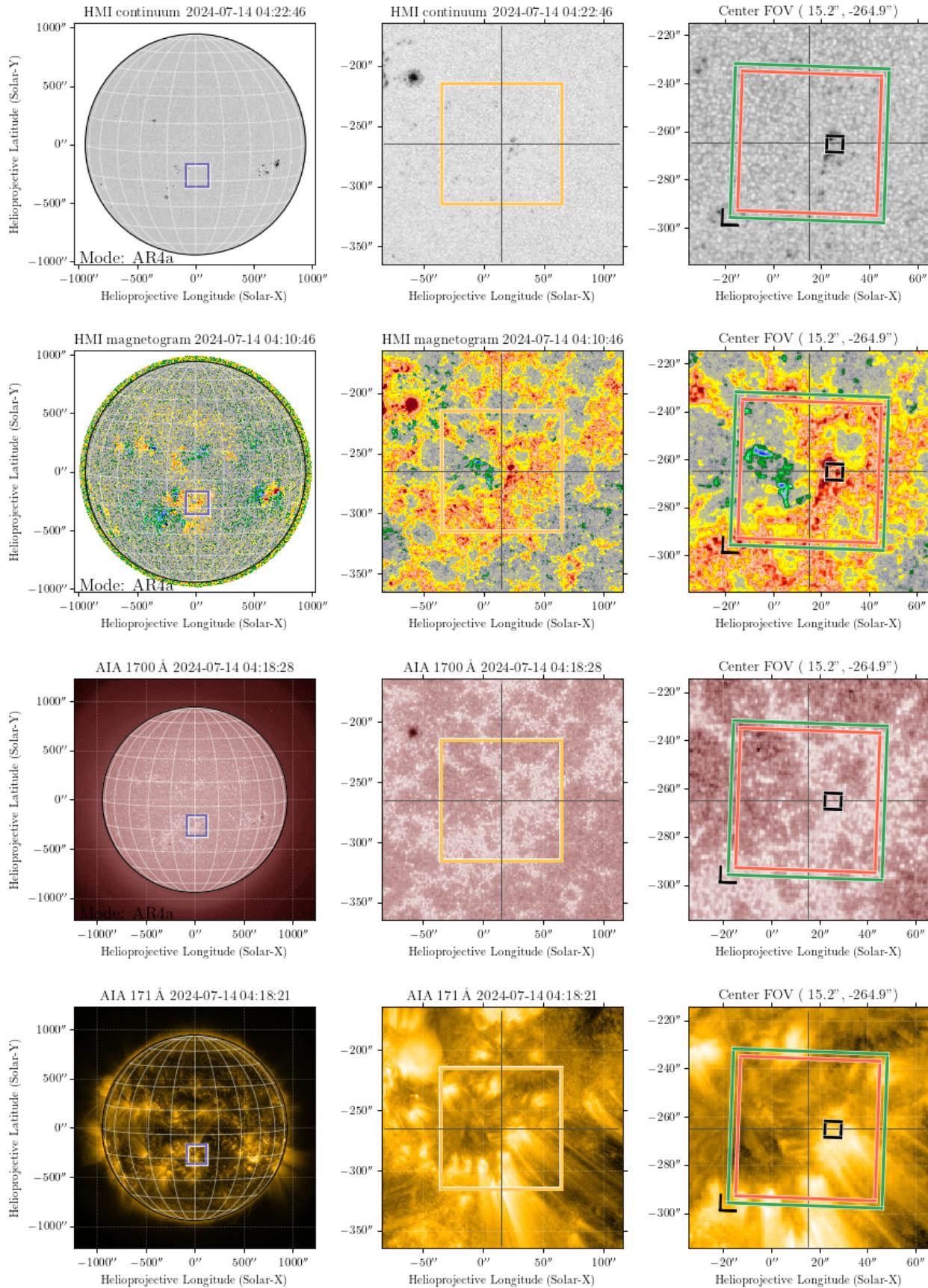
## 16.2 AR4c



### 16.3 AR4b



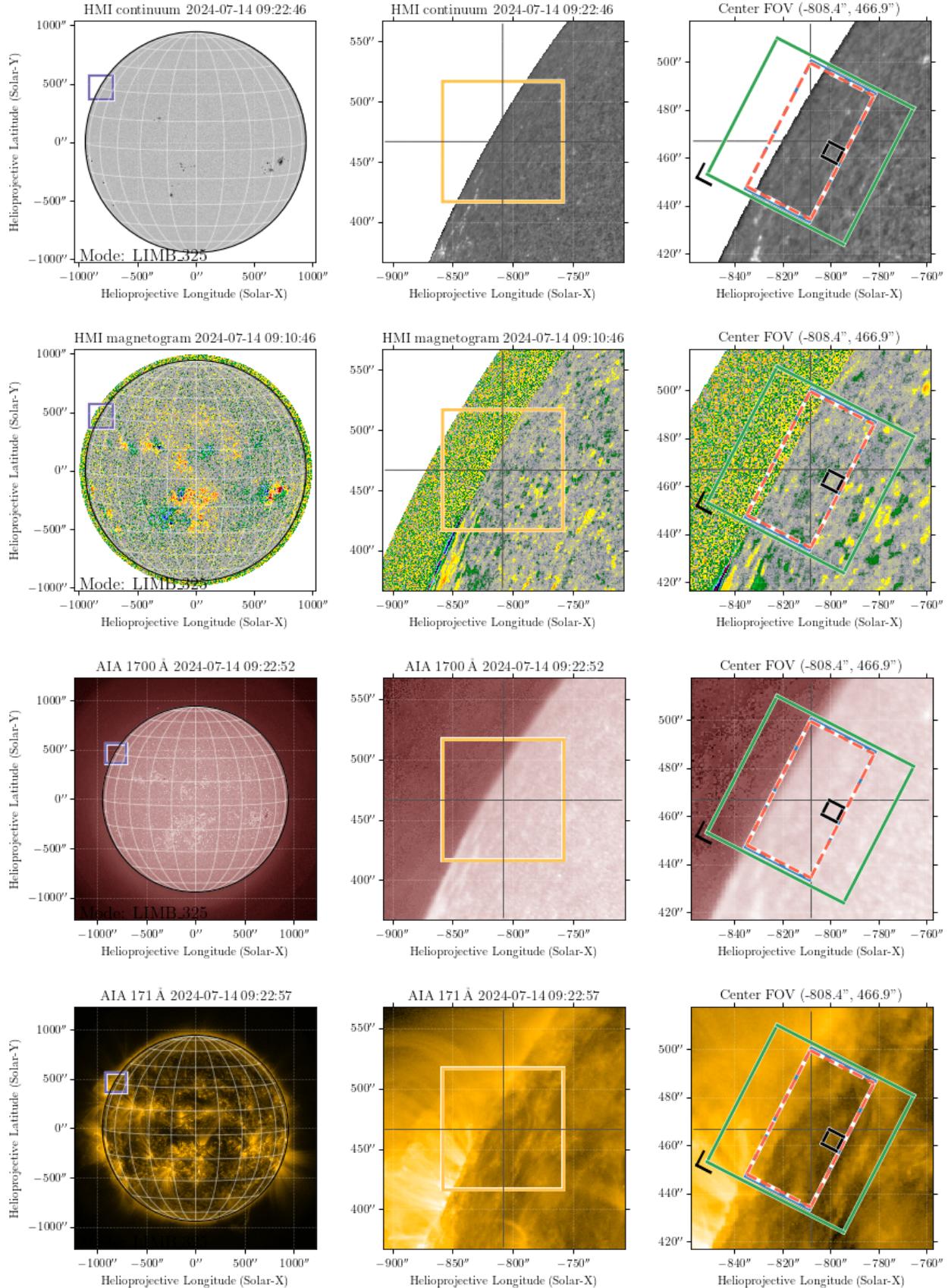
## 16.4 AR4a



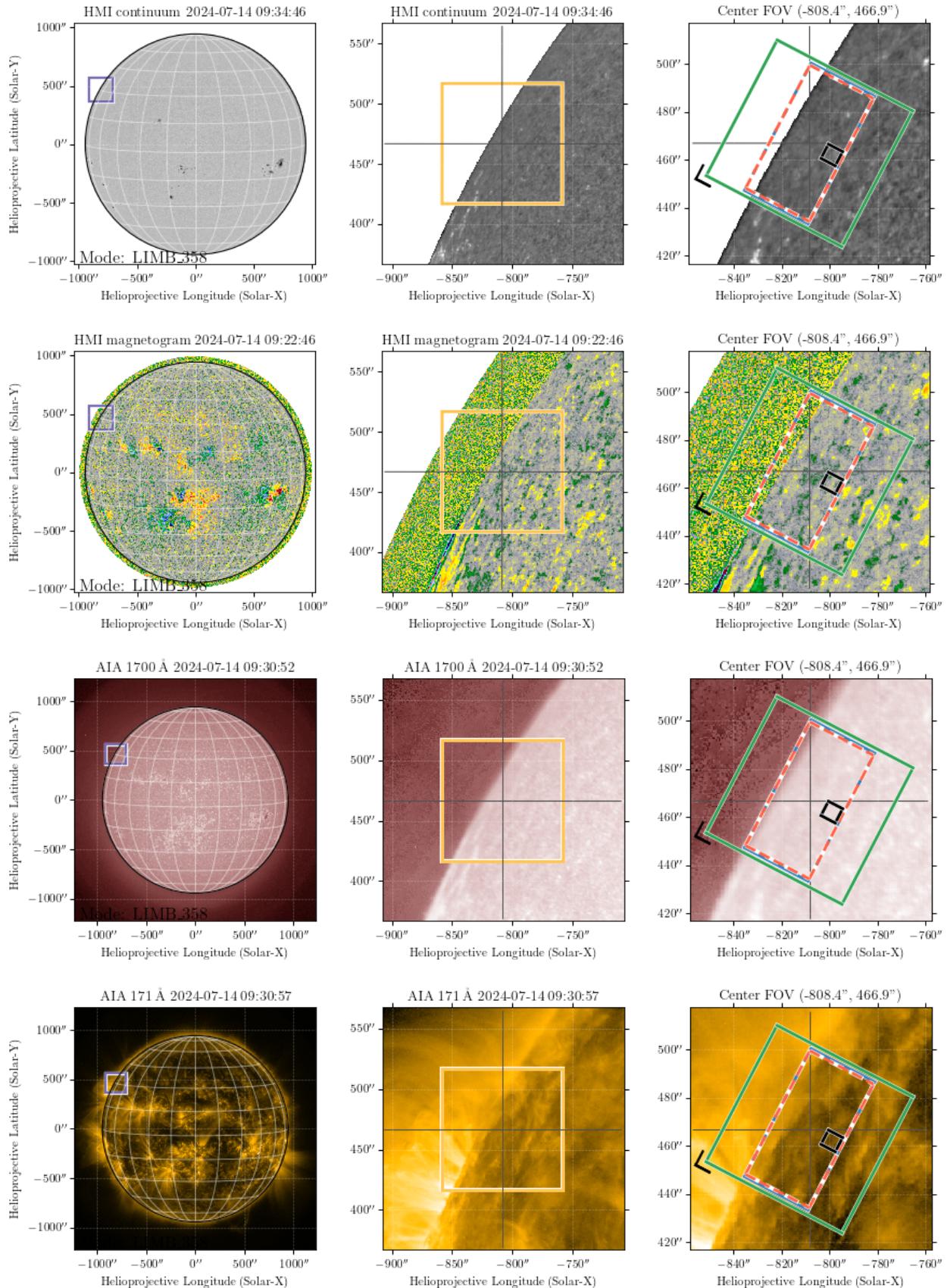
End of Timeline

## 17 Start of Timeline Limb manual

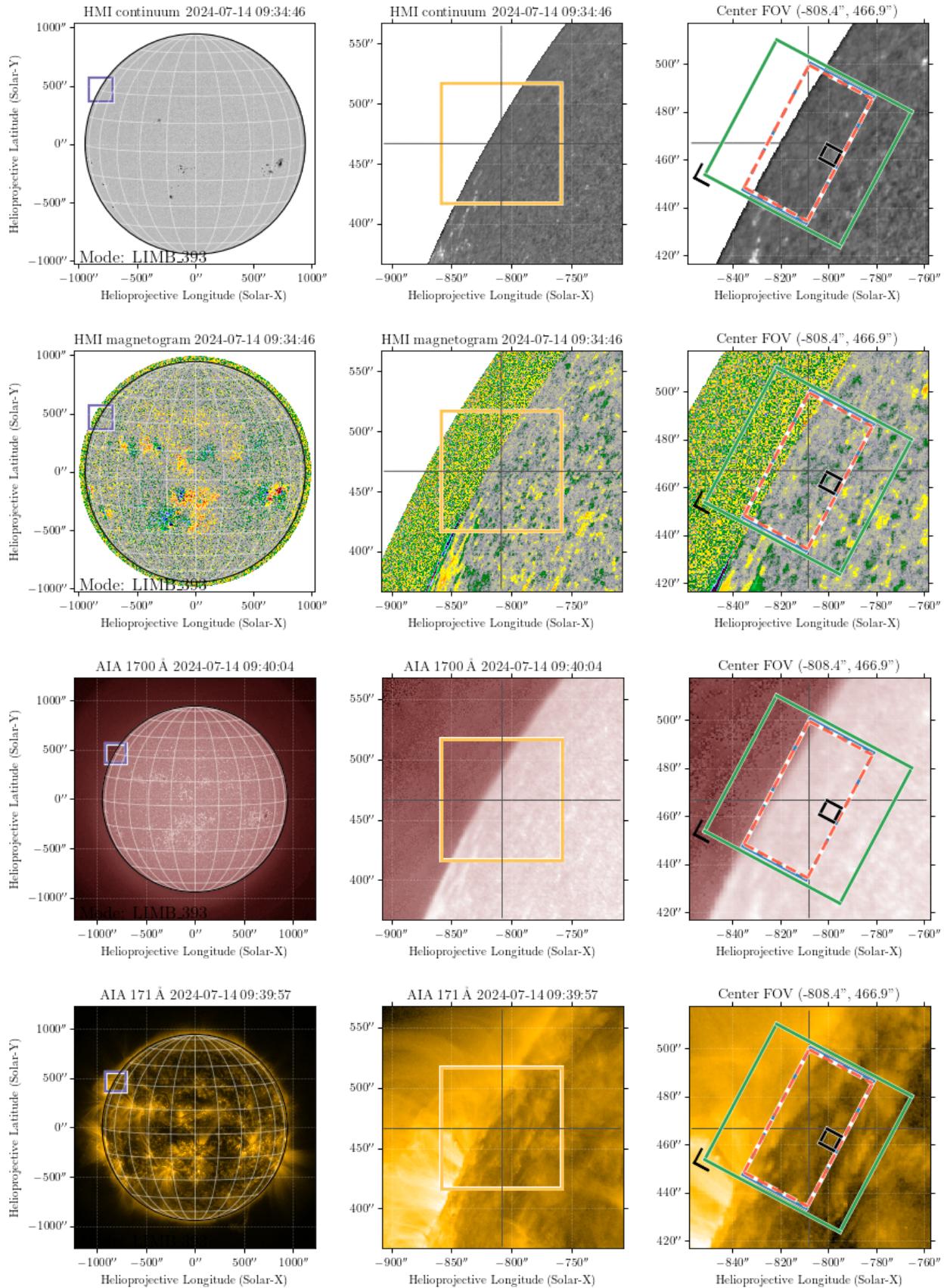
### 17.1 LIMB 325Å



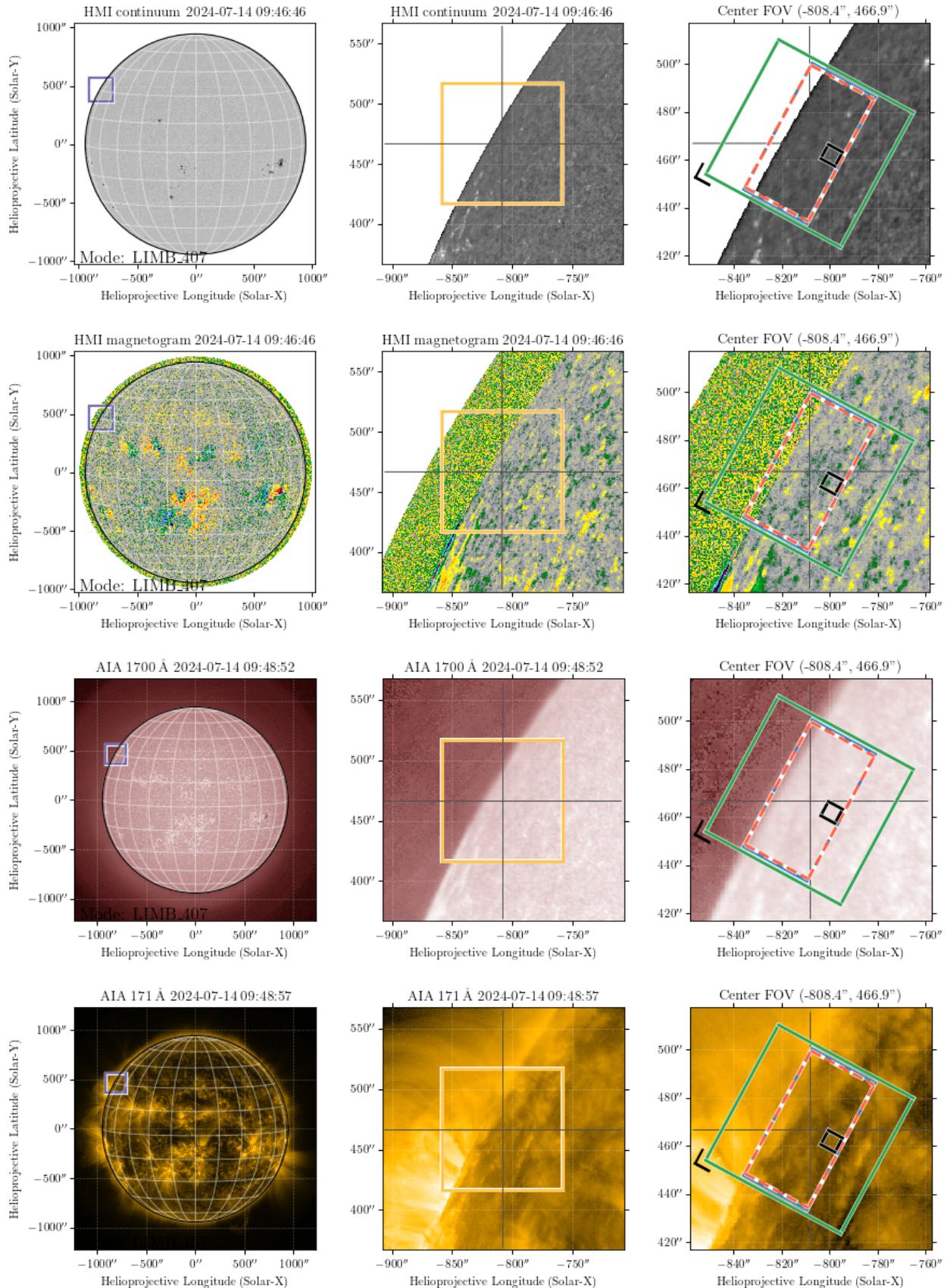
## 17.2 LIMB 358Å



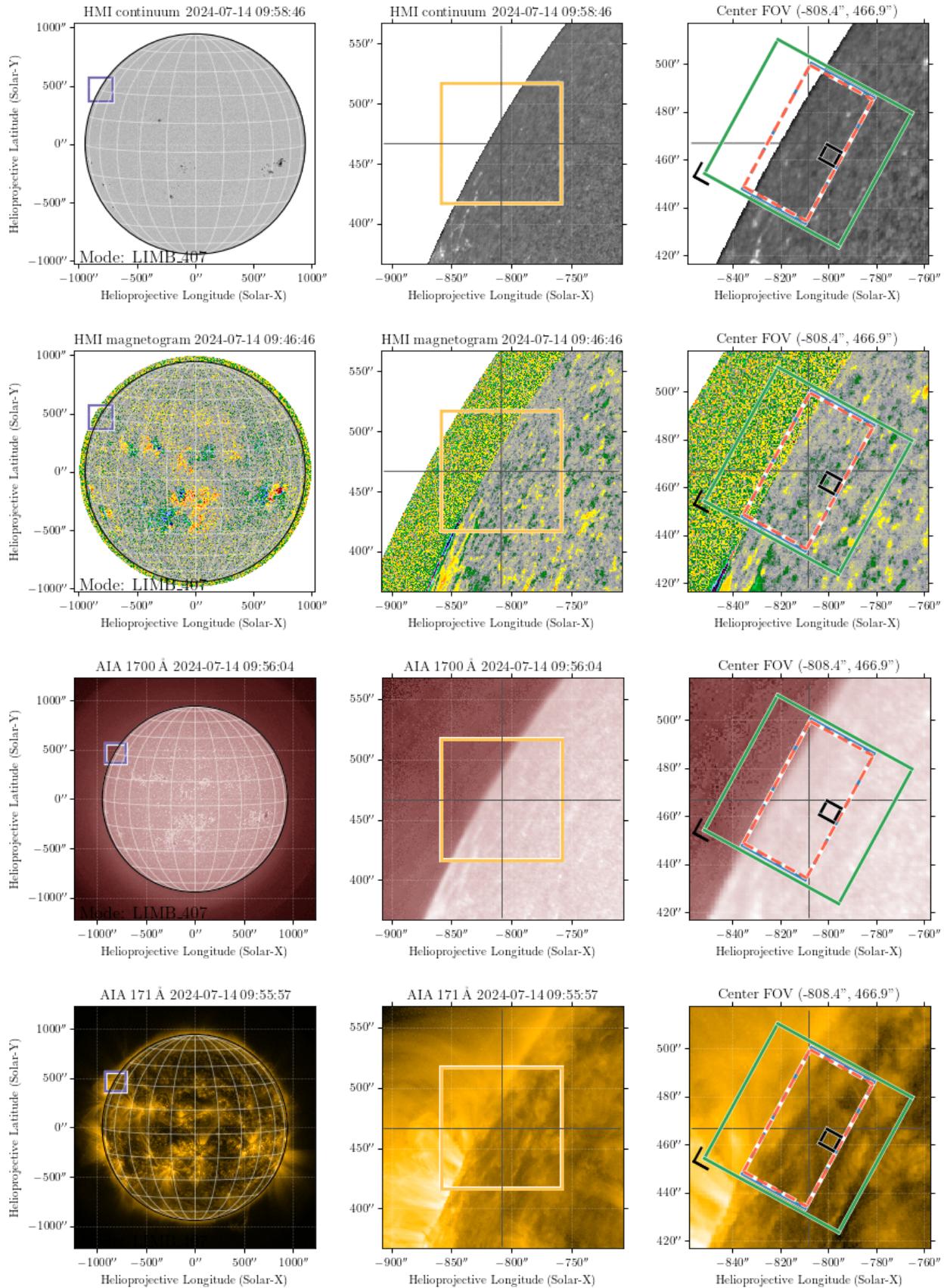
### 17.3 LIMB 393Å



## 17.4 LIMB 407 Å – obs1



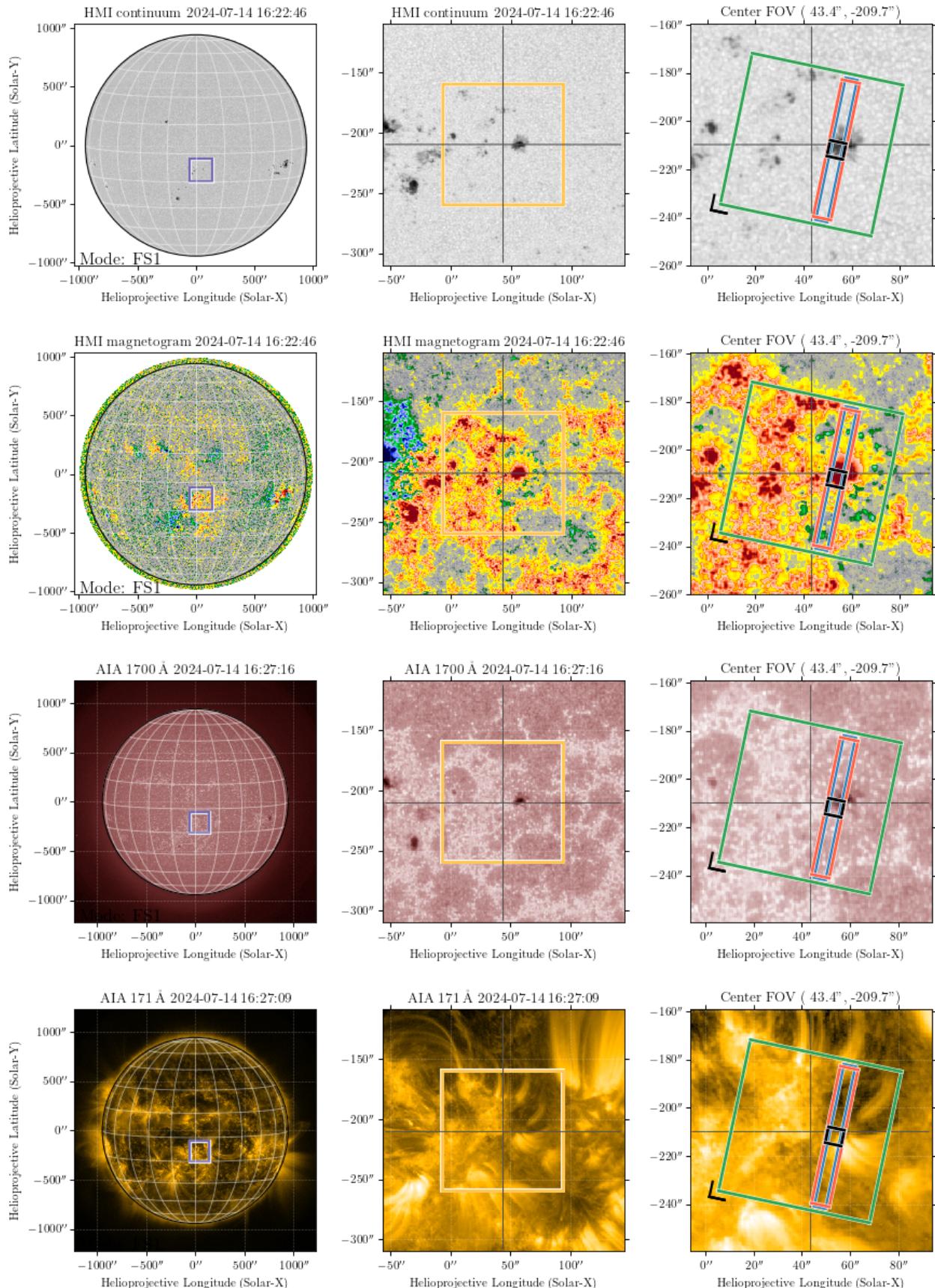
## 17.5 LIMB 407 Å – obs2



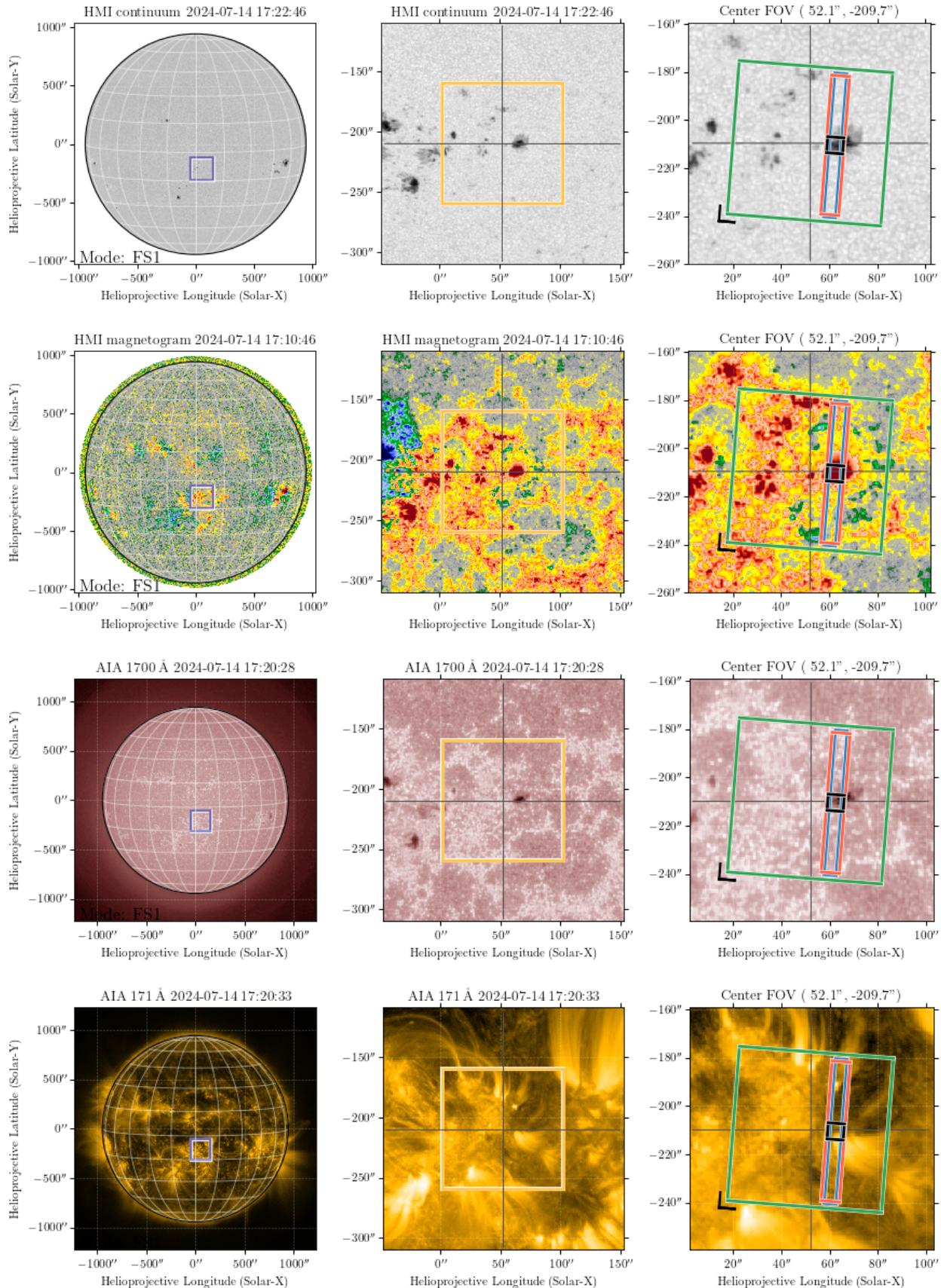
End of Timeline

## 18 Start of Timeline FS\_1 (shorten) – second part

### 18.1 FS of AR – Part IV



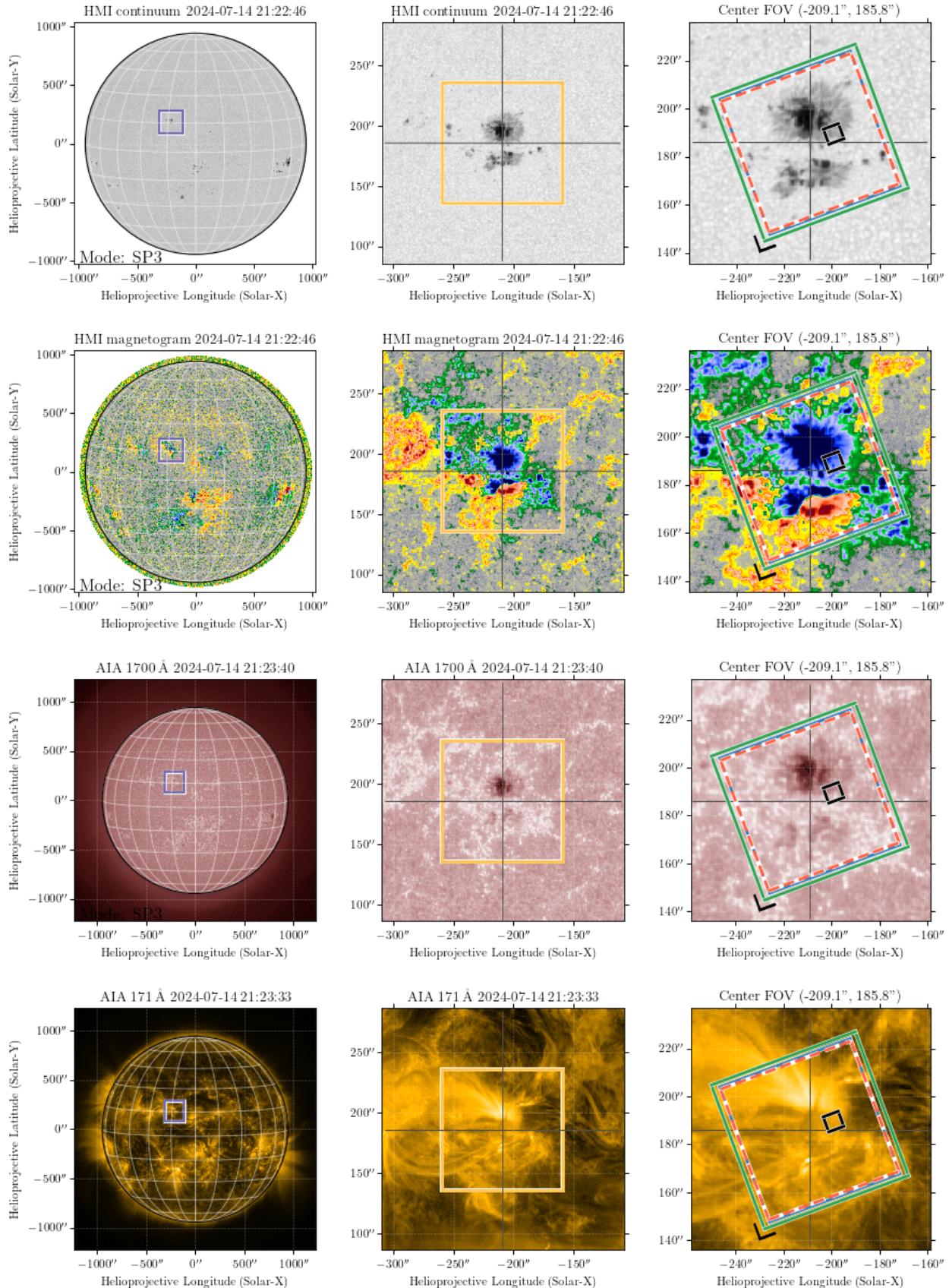
## 18.2 FS of AR – Part V



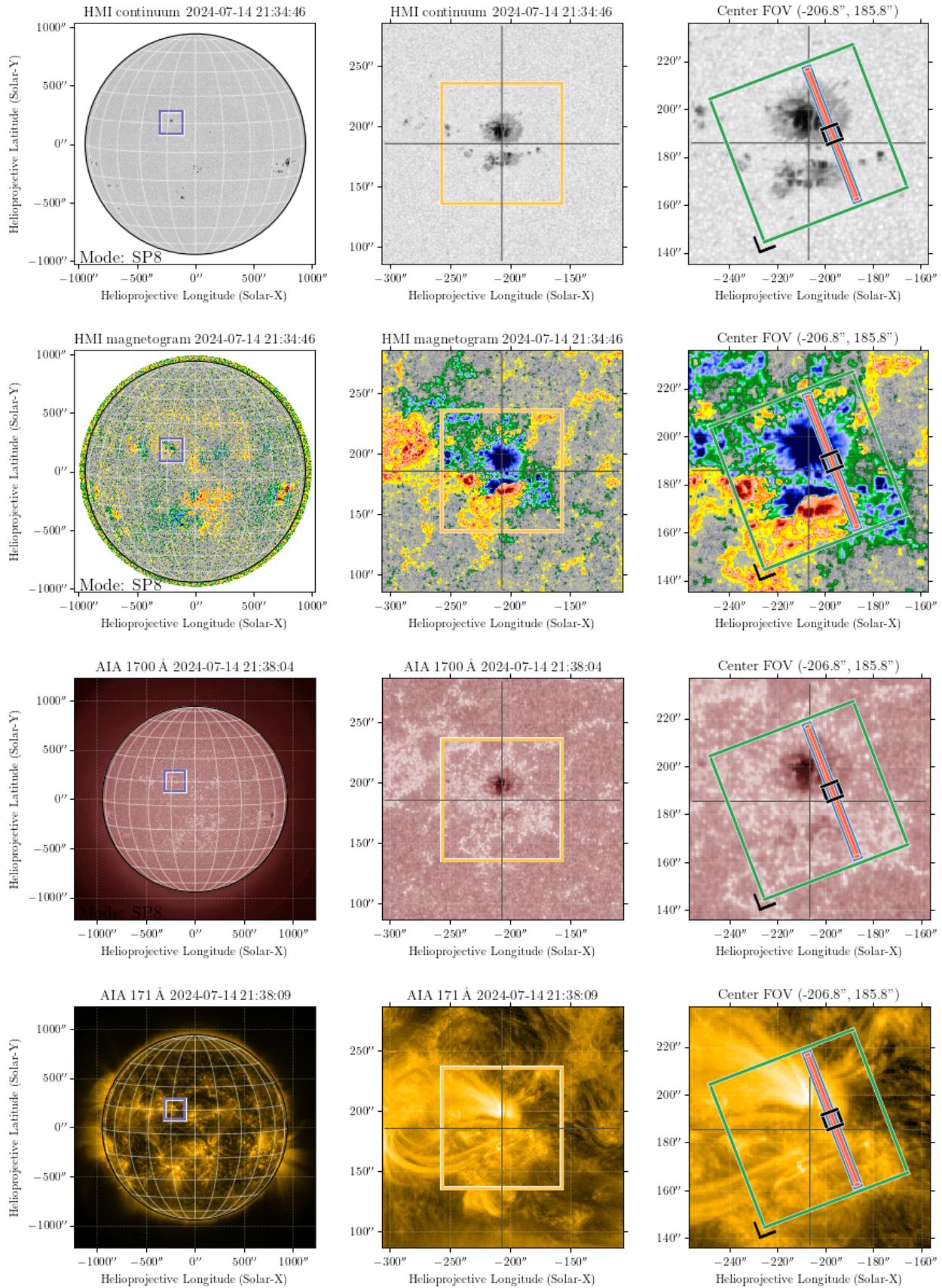
End of Timeline

## 19 Start of Timeline SP\_2

### 19.1 SP3



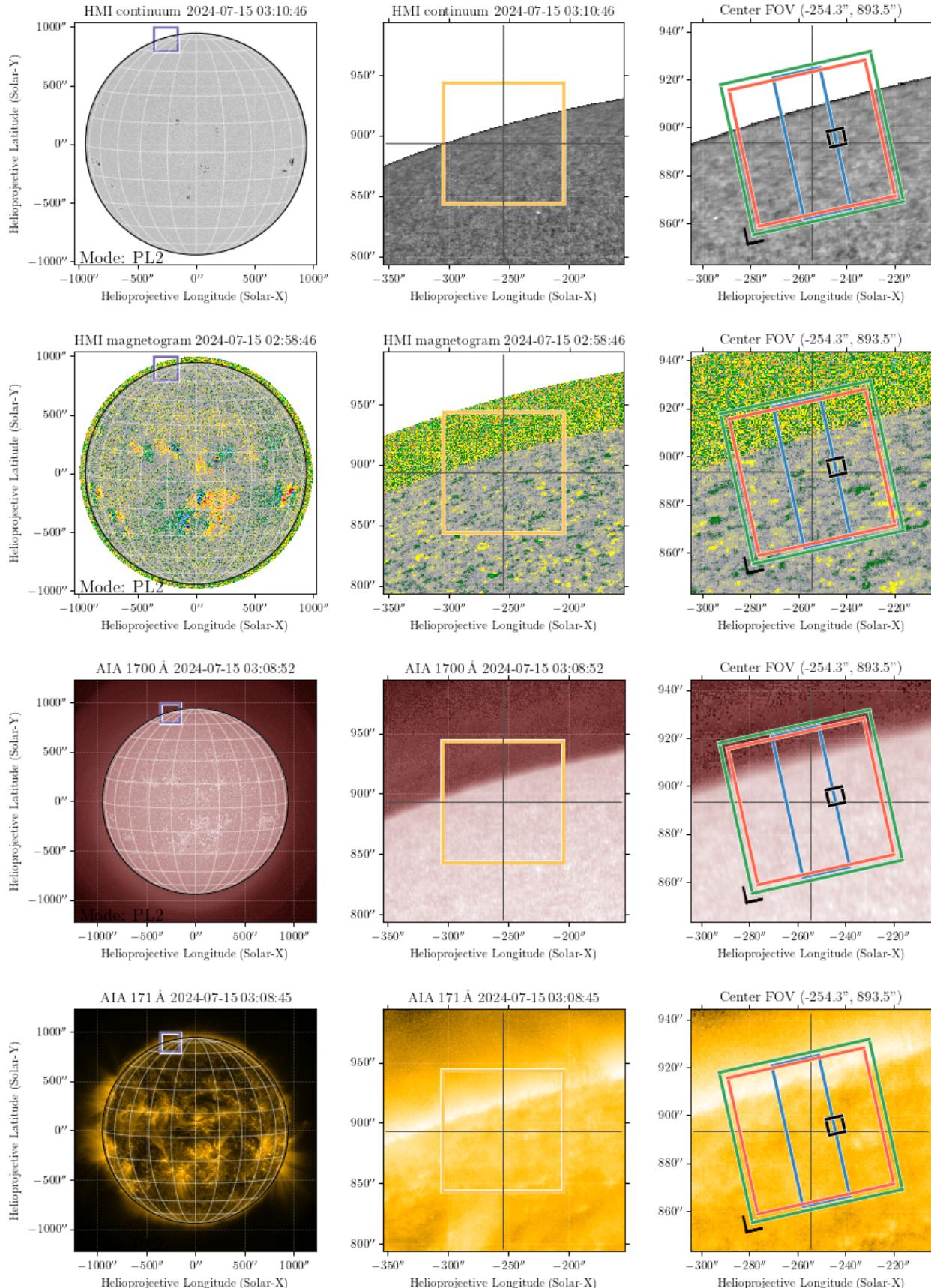
## 19.2 SP8



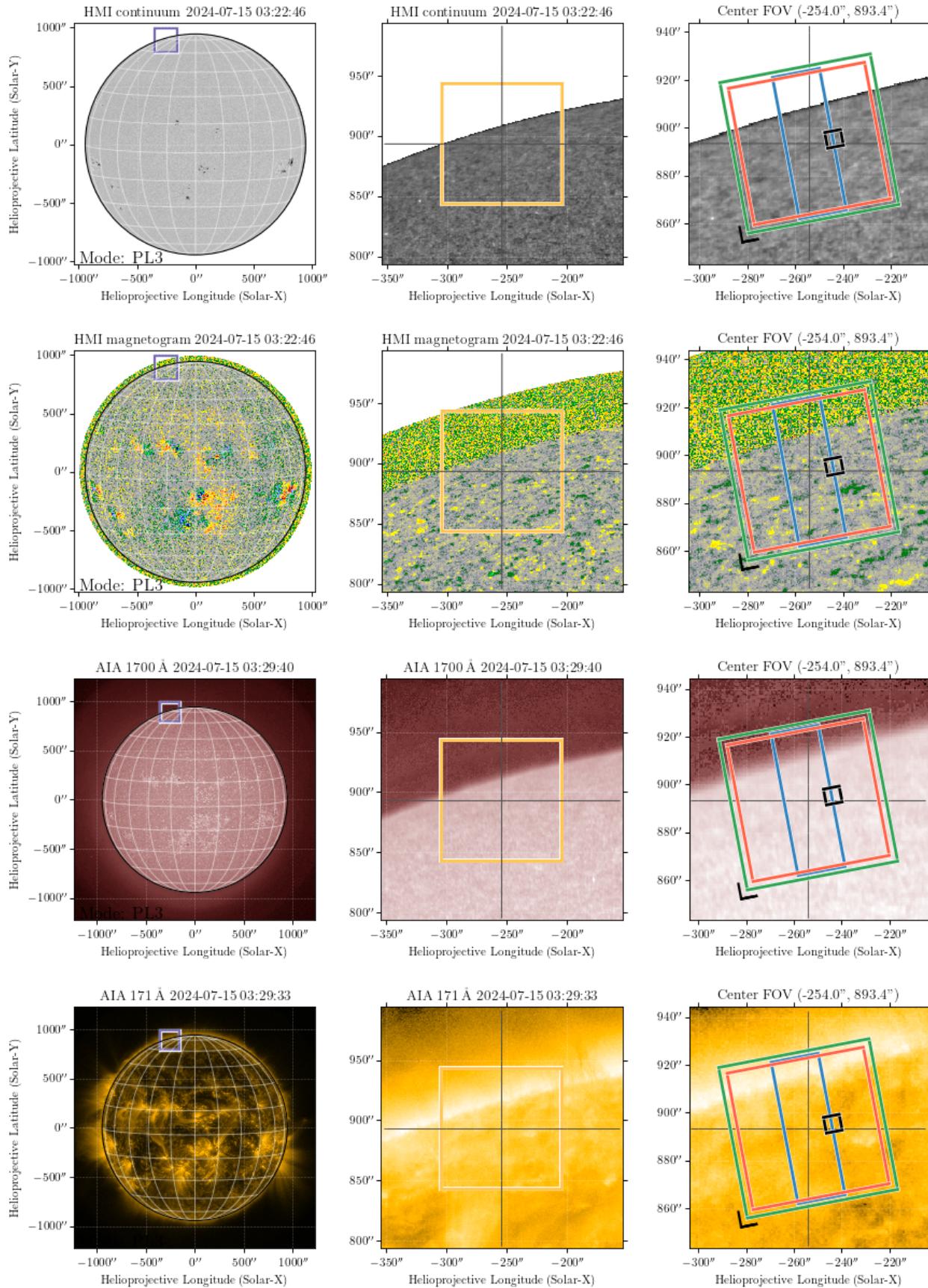
End of Timeline

## 20 Start of Timeline PL\_2

### 20.1 PL2

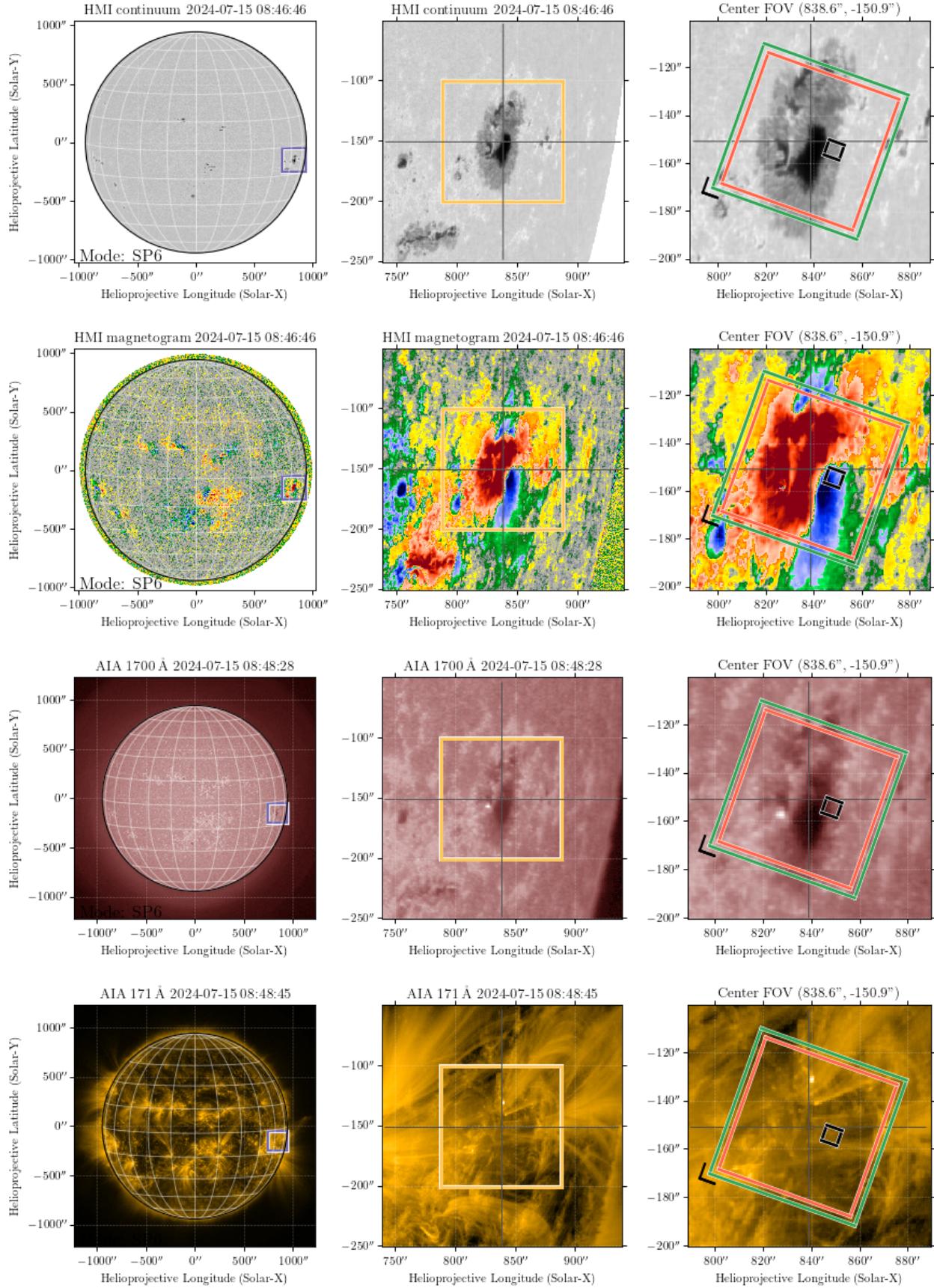


## 20.2 PL3



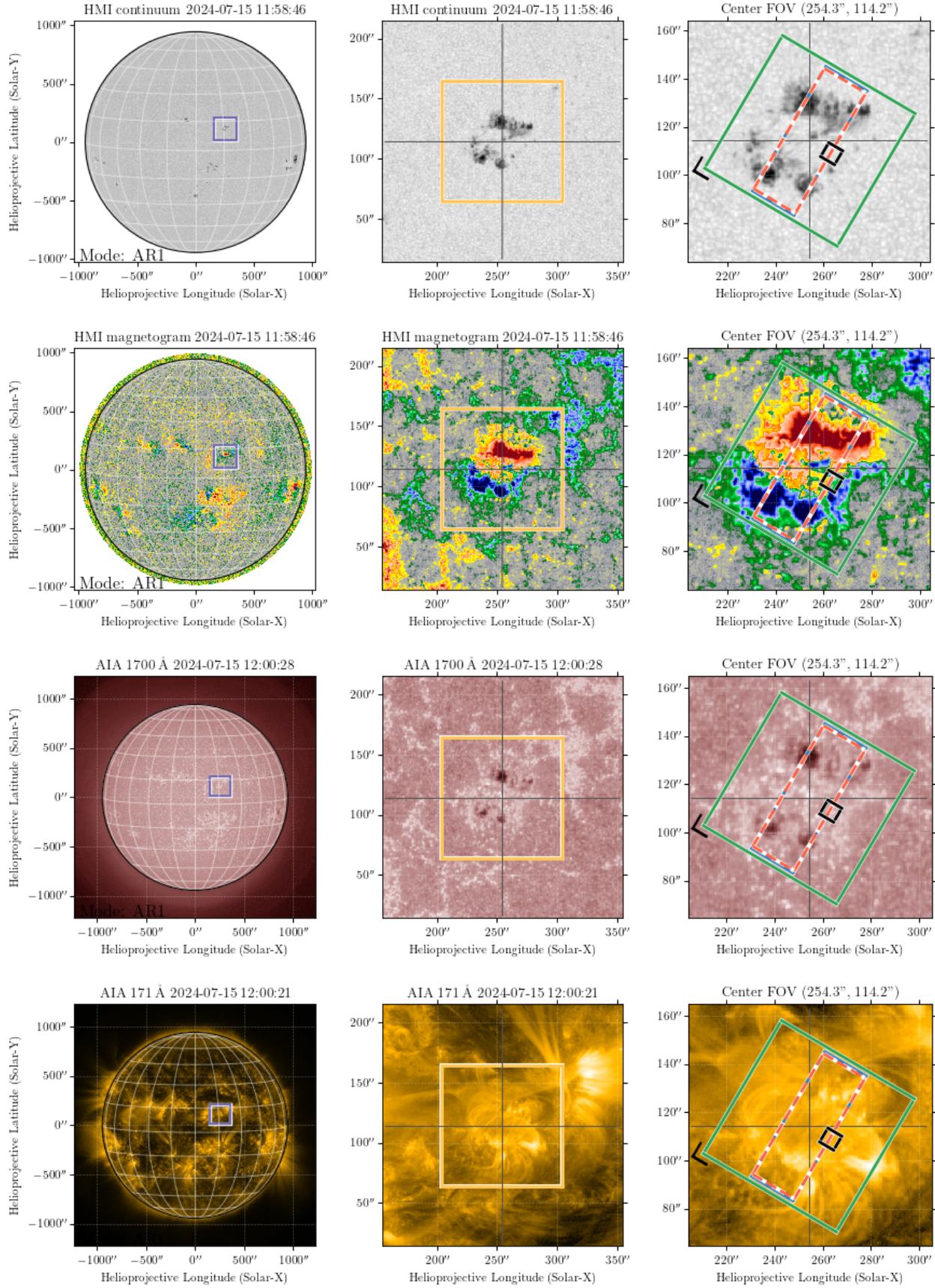
End of Timeline

## 21 Start of Timeline SP4 (manual)



End of Timeline

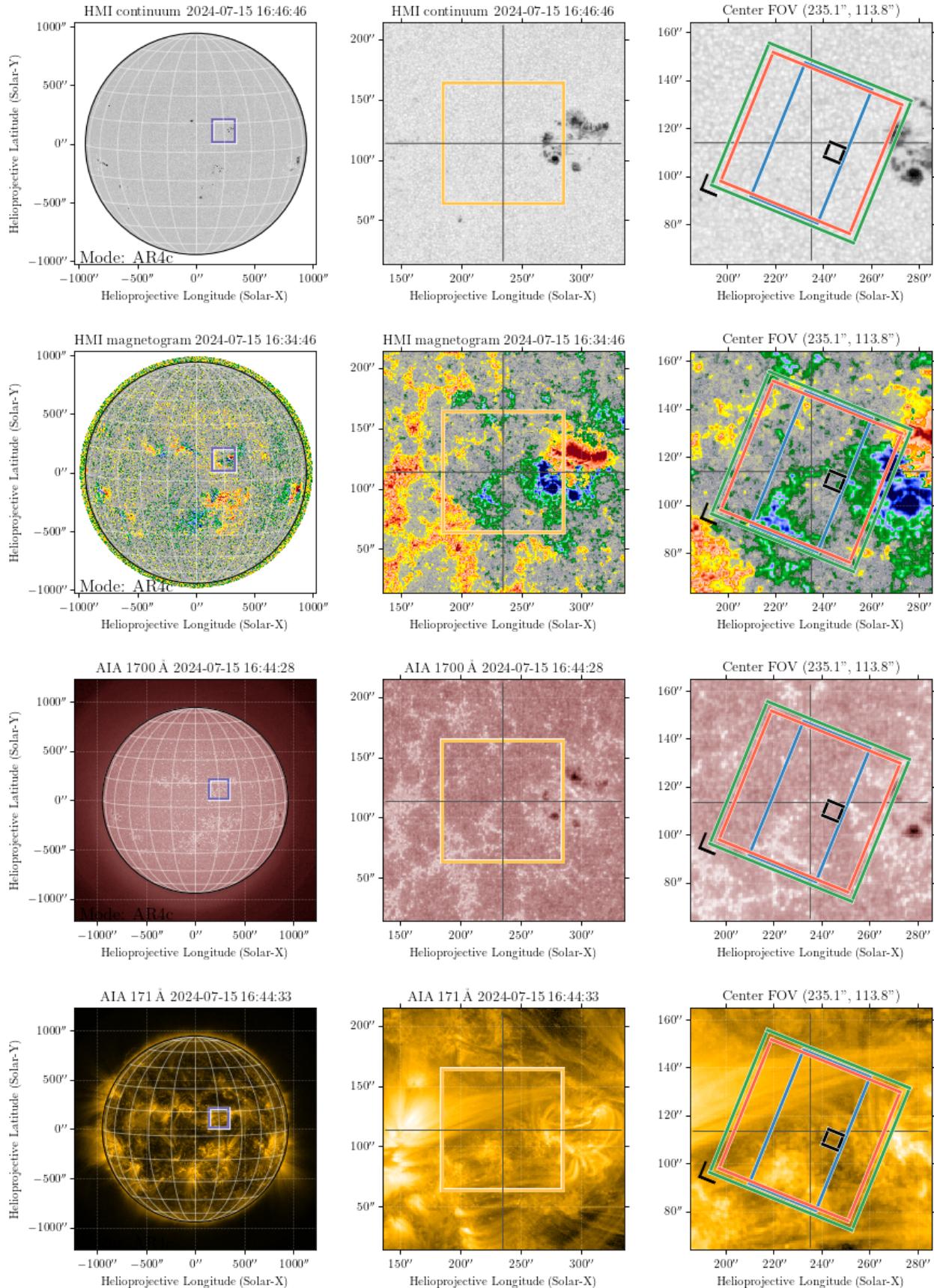
## 22 Start of Timeline EMF\_1



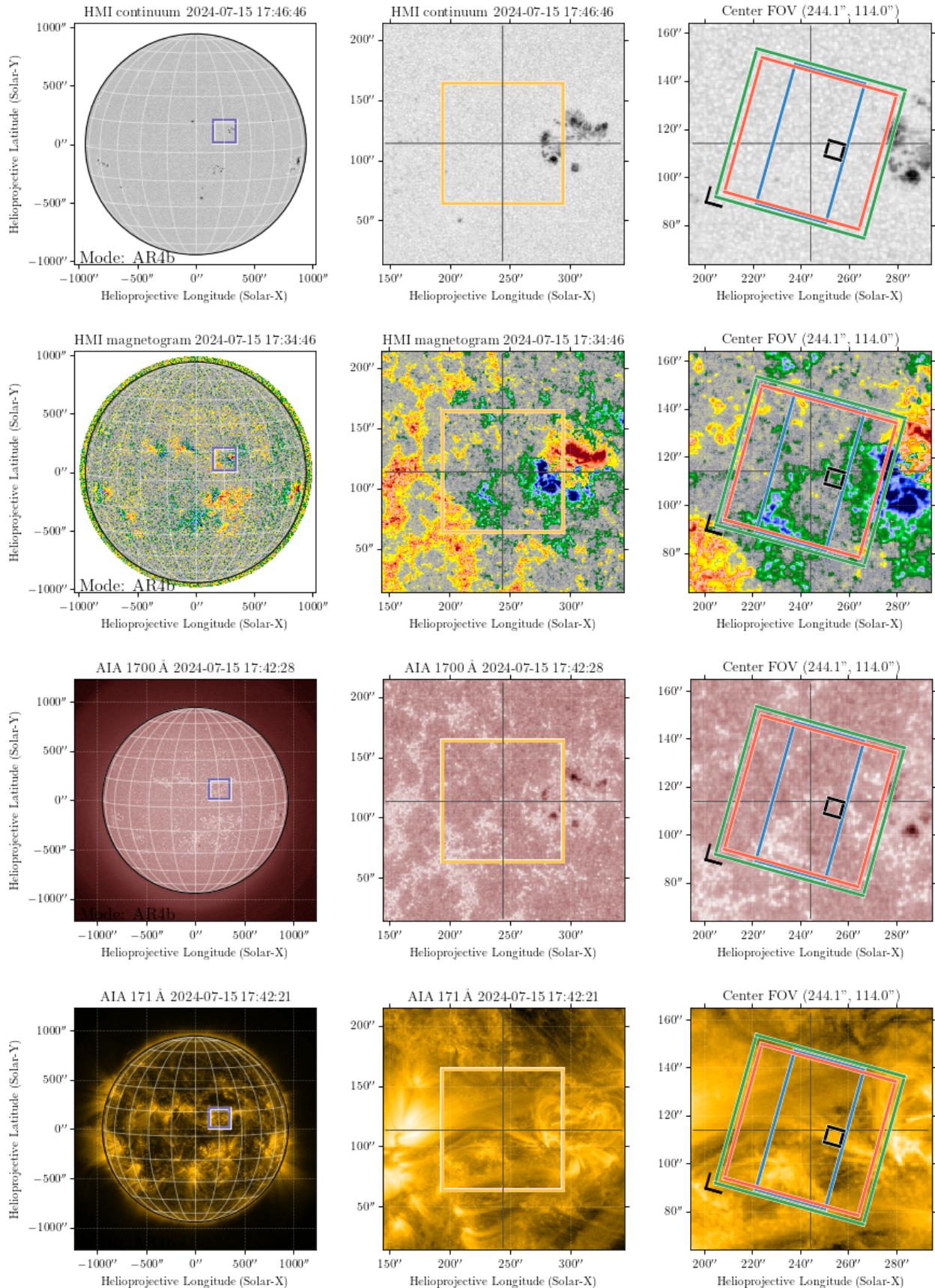
End of Timeline

## 23 Start of Timeline AR\_3

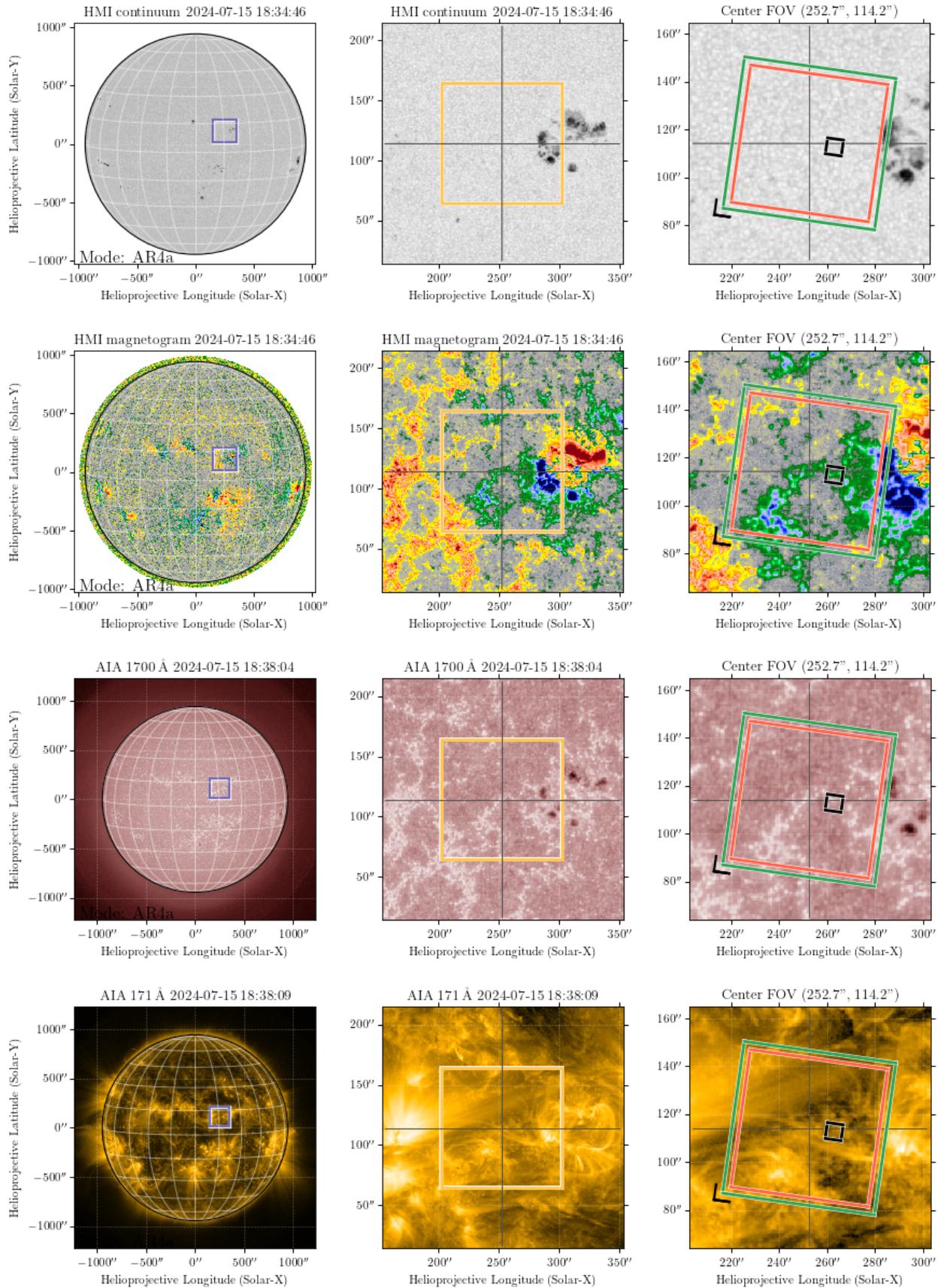
### 23.1 AR4c



## 23.2 AR4b



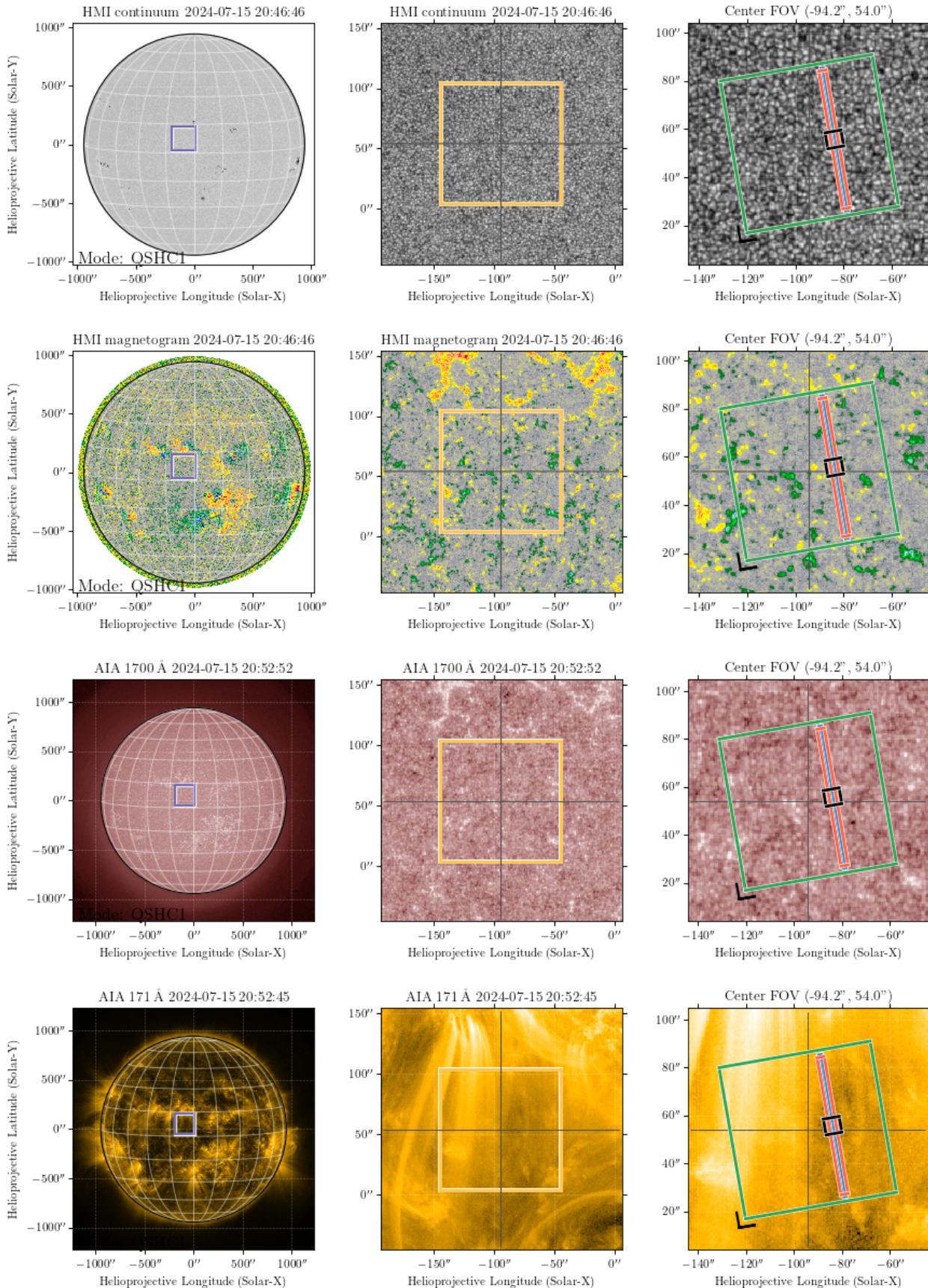
### 23.3 AR4a



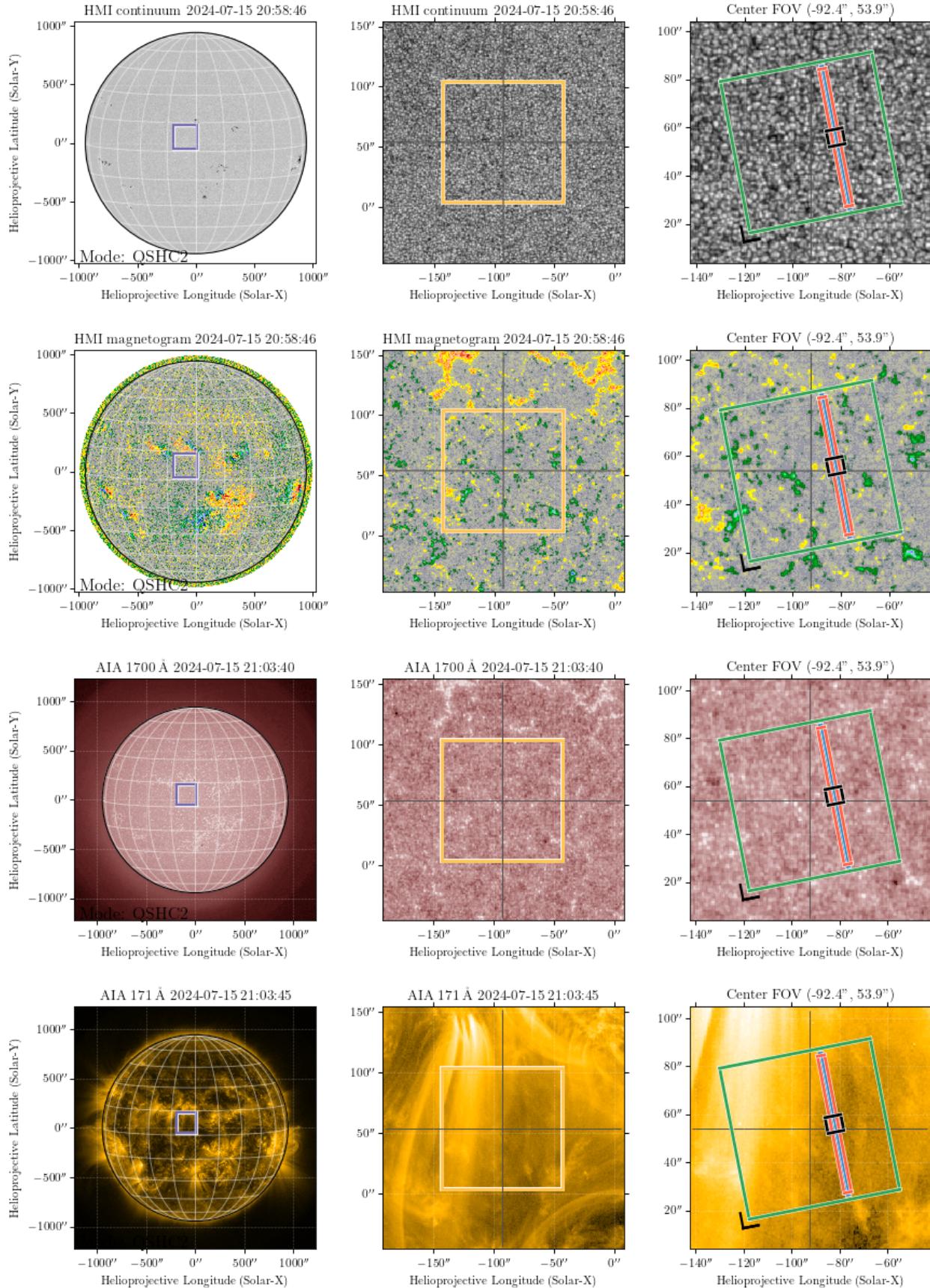
End of Timeline

## 24 Start of Timeline QSDC\_HC

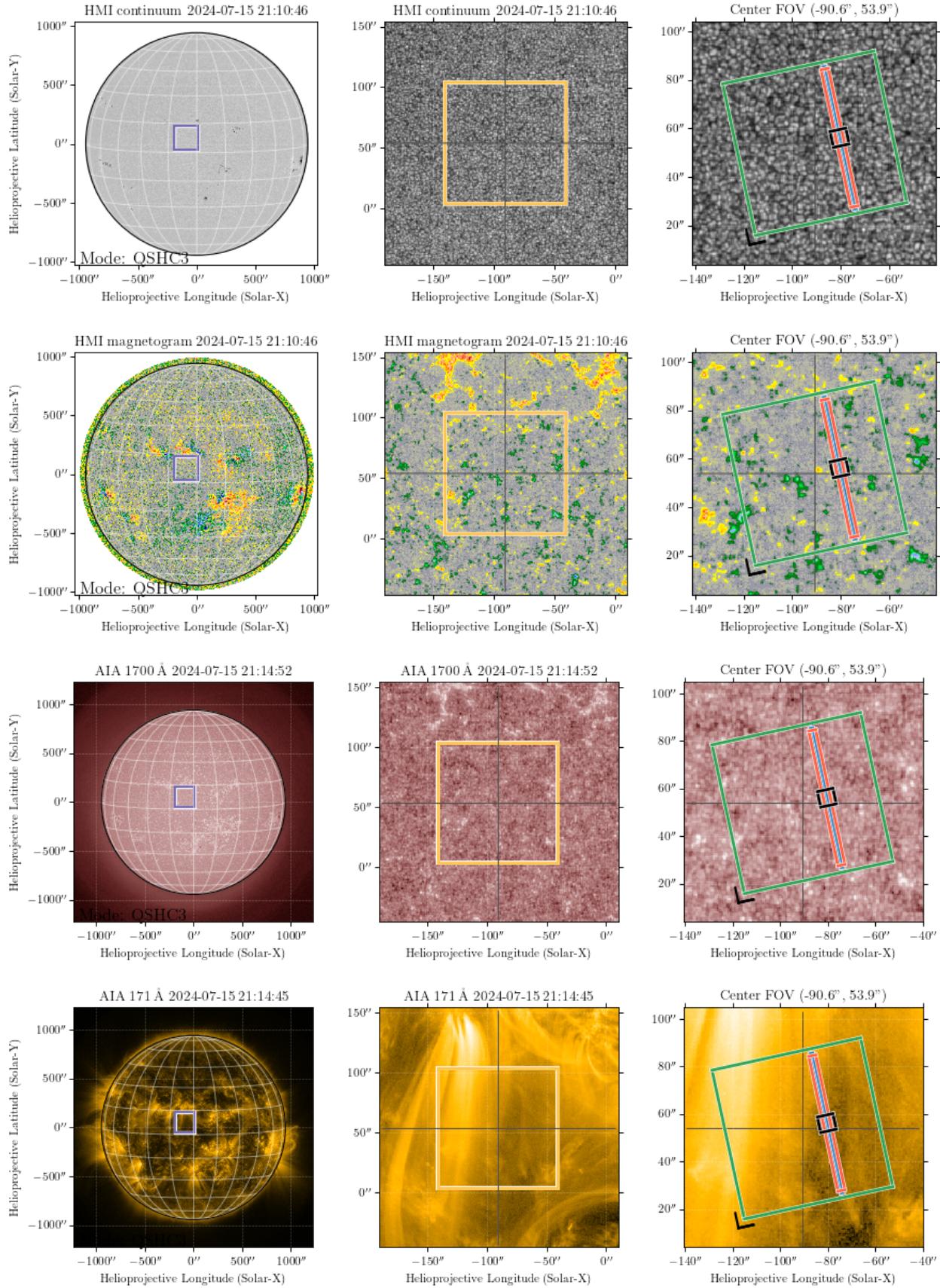
### 24.1 QSDCHC1



## 24.2 QSDCHC2



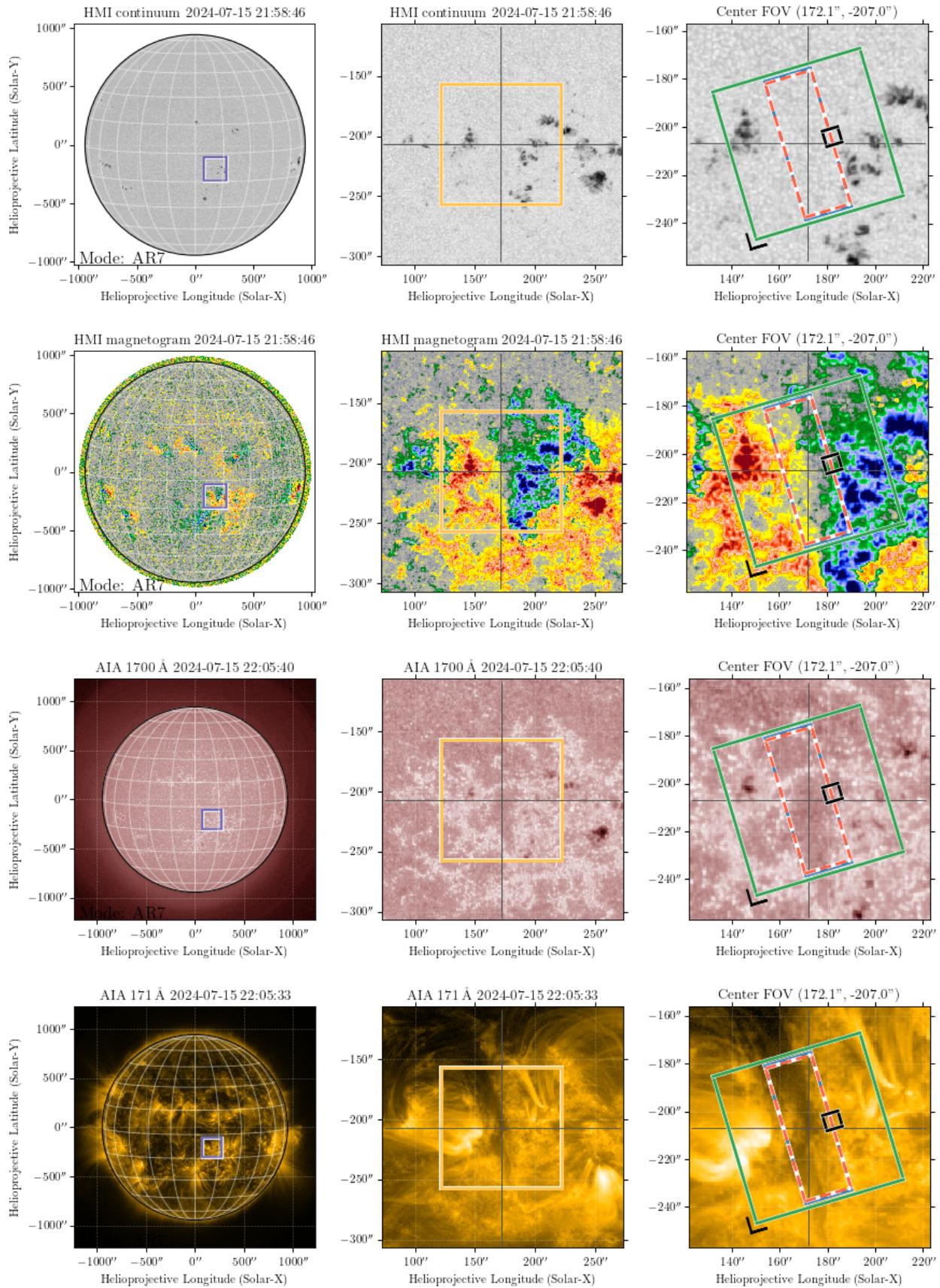
## 24.3 QSDCHC3



End of Timeline

## 25 Start of Timeline AR\_5

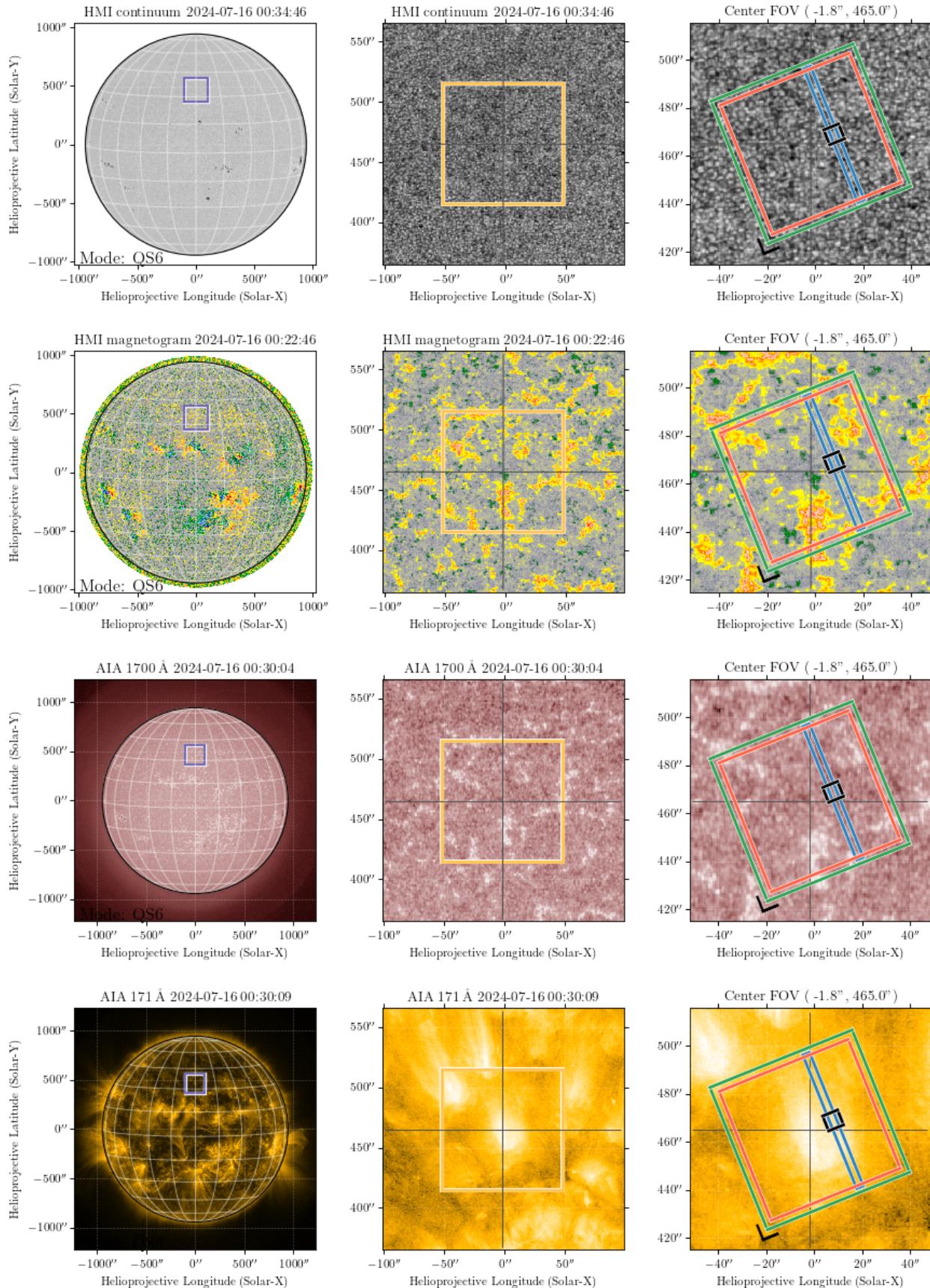
### 25.1 AR7



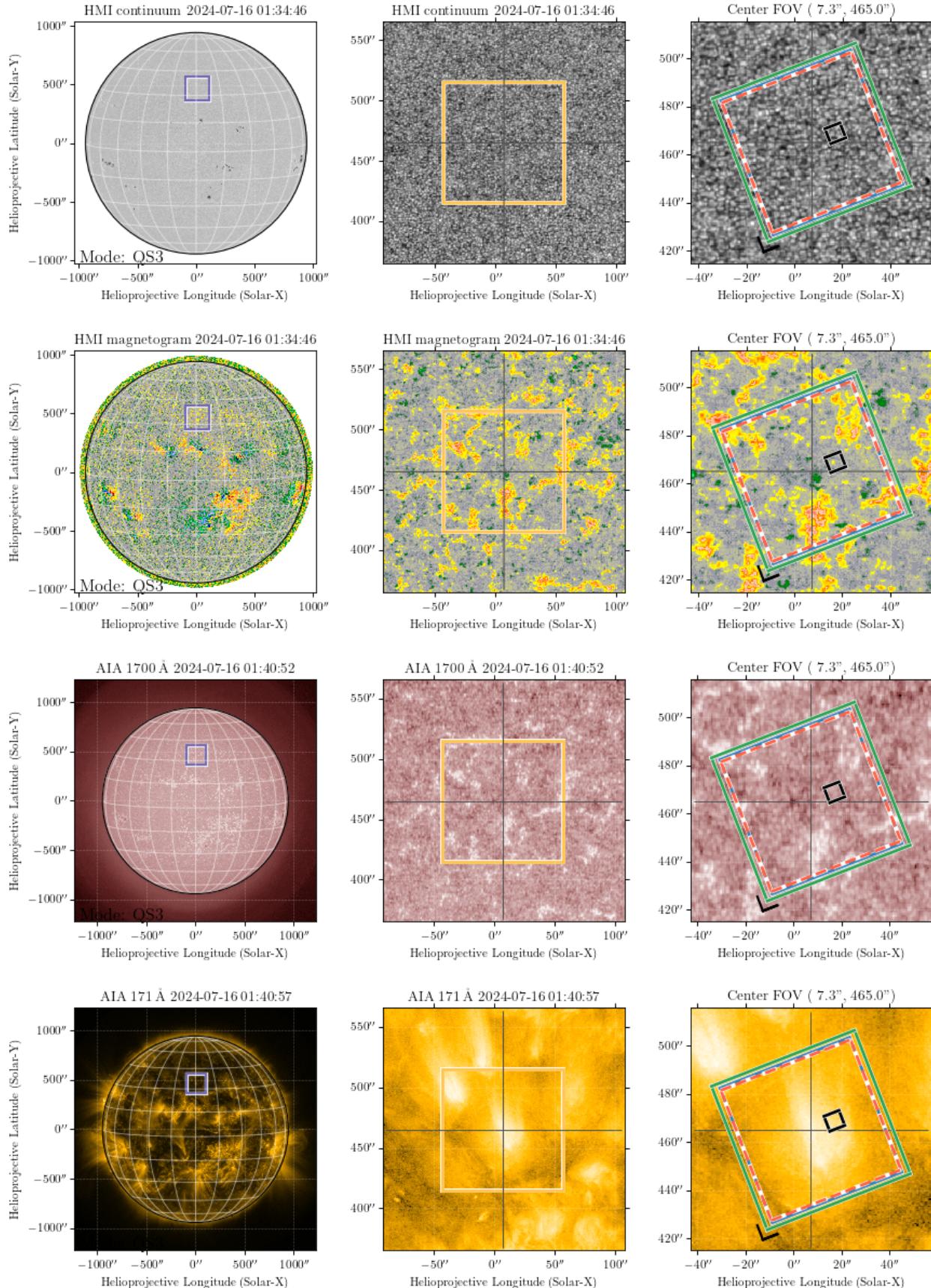
End of Timeline

## 26 Start of Timeline QSDC\_2 - Quiet Sun in a coronal hole

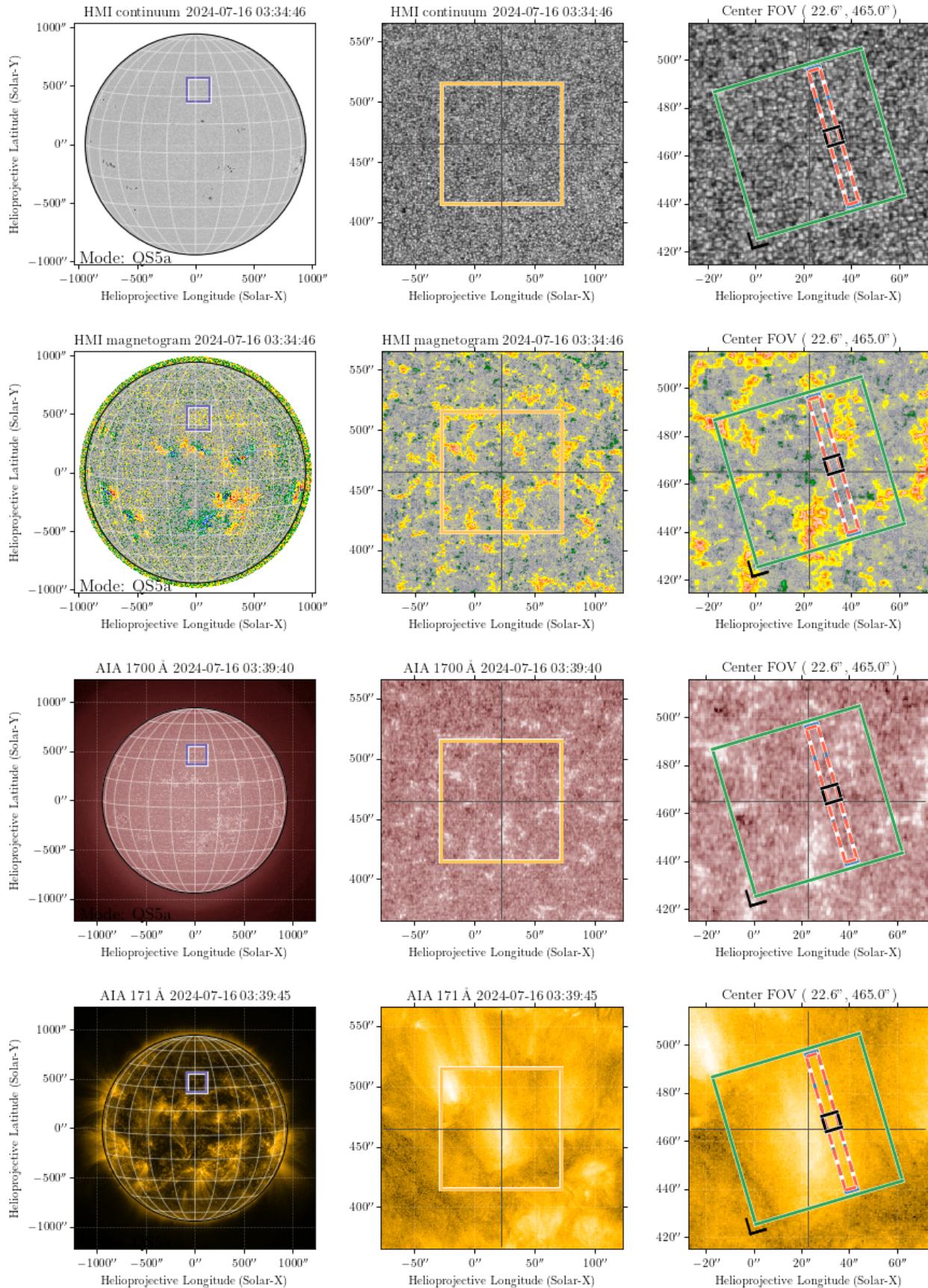
### 26.1 QS6



## 26.2 QS3

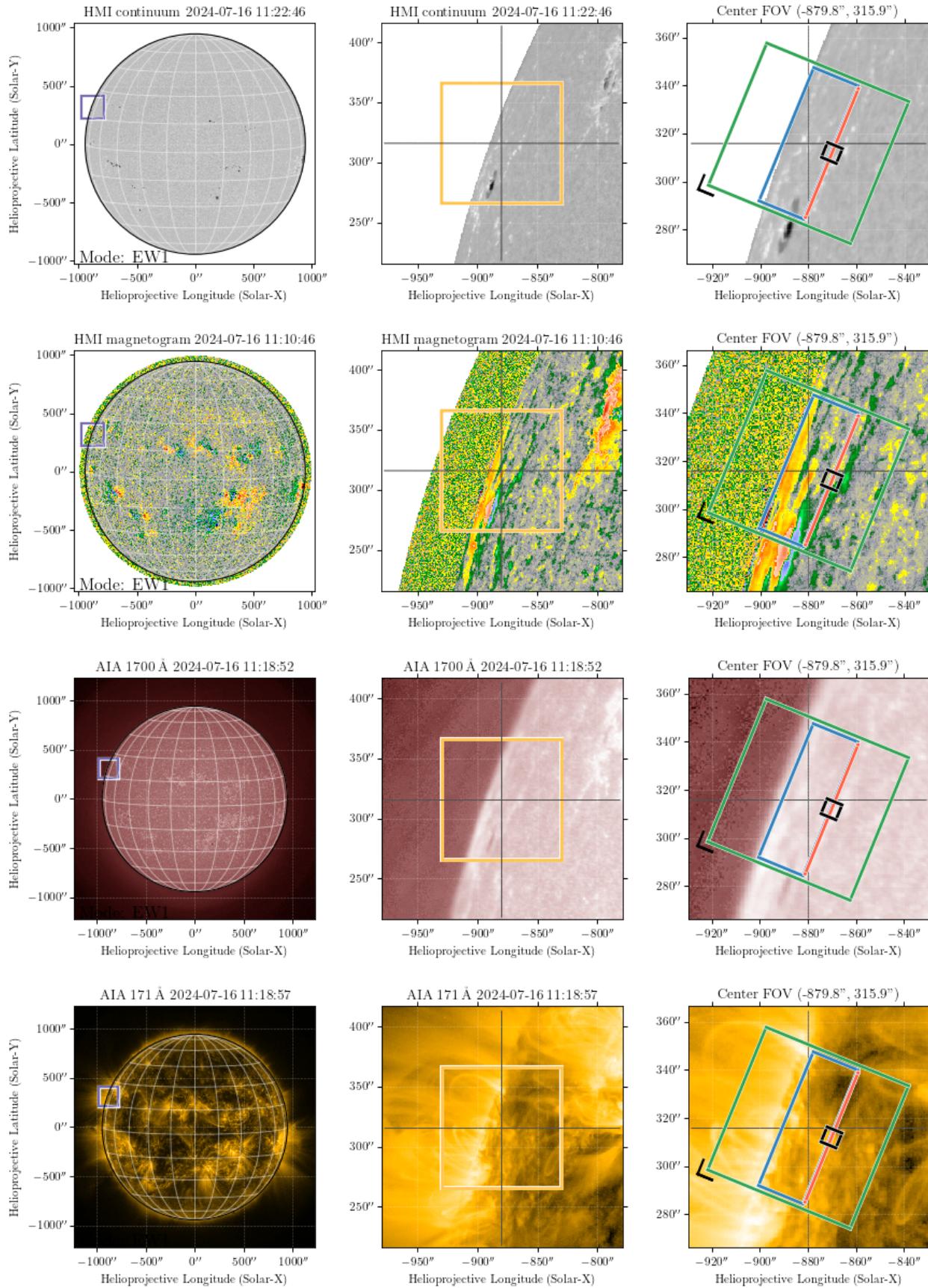


### 26.3 QS5a



End of Timeline

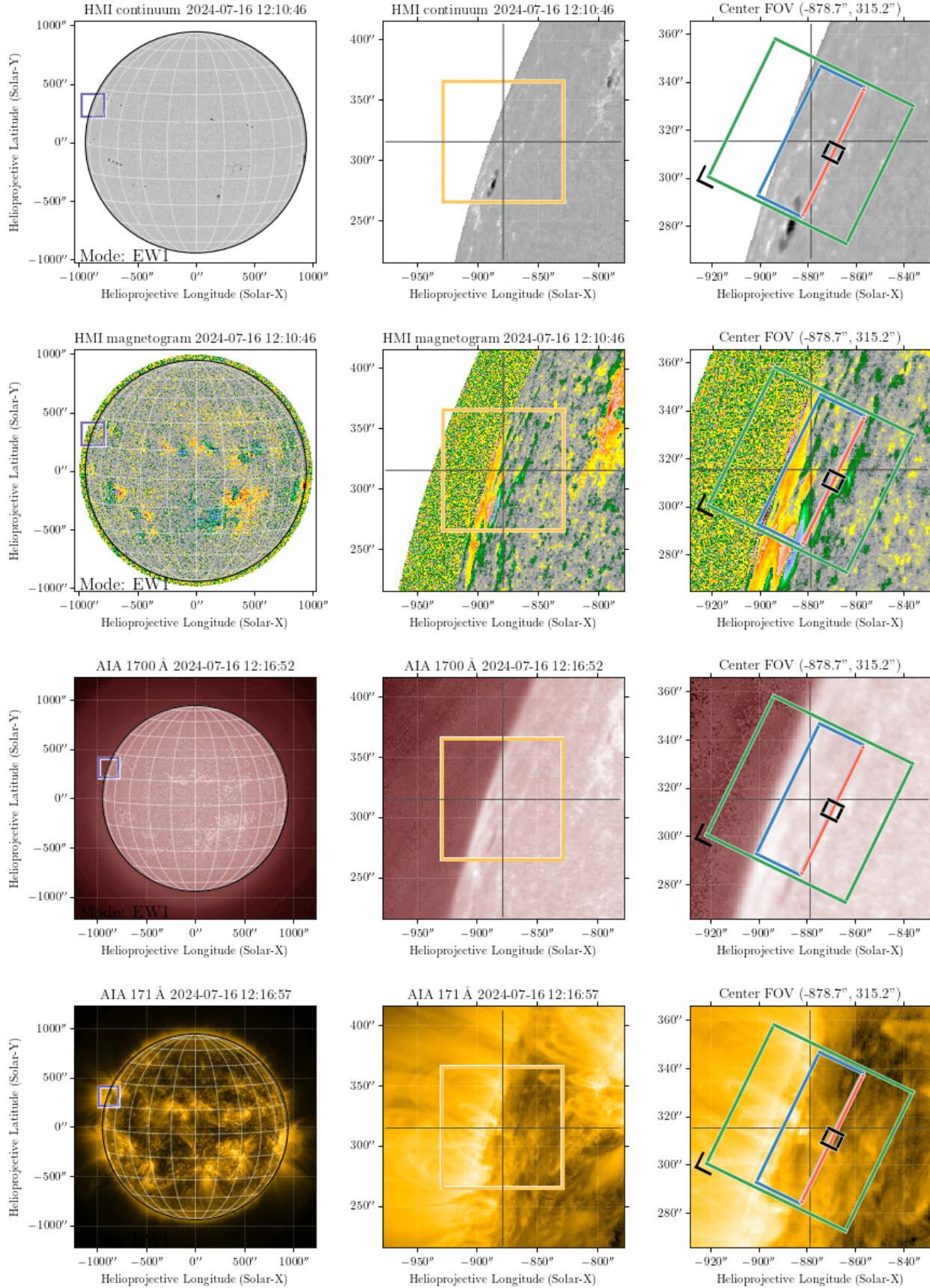
## 27 Start of Timeline Flare watch due to low elevation – Limb M3.1 flare observed!

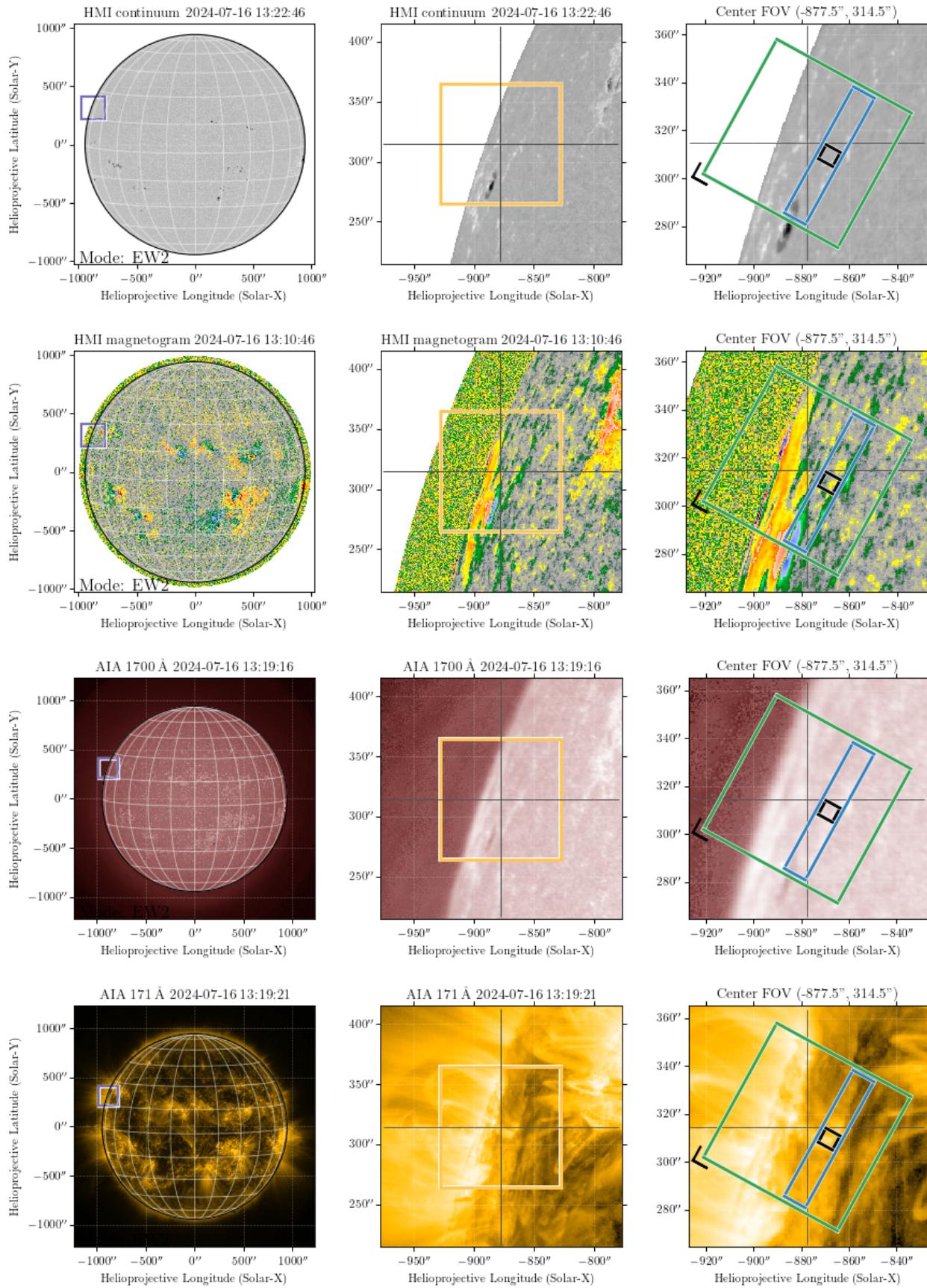


End of Timeline

## 28 Start of Timeline EW\_1 limb

### 28.1 EW1





End of Timeline