HINODE 協同観測 HOP 0128 の観測テーマ

Target of interest:

[1] Active Region

1a. Low Cadence (EFR:evolution, velocity)
1b. High Cadence (Sunspot Dynamics:
wave propagation)

[2] Chromospheric jets

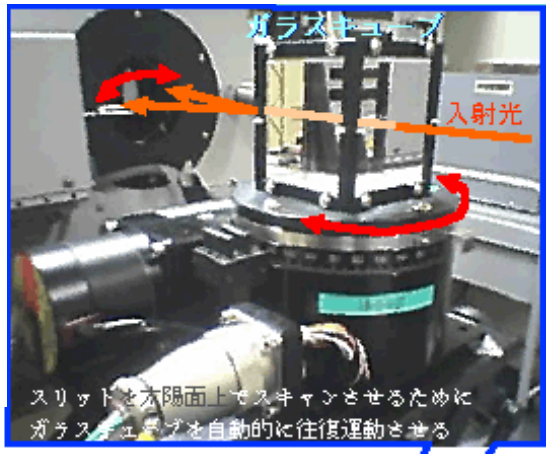
Evidence of magnetic reconnections
Difference depending on place

[3] Dark Filament

Oscillation, wave propagation

<< 2009年度 HOP0128 with DST/HS >>

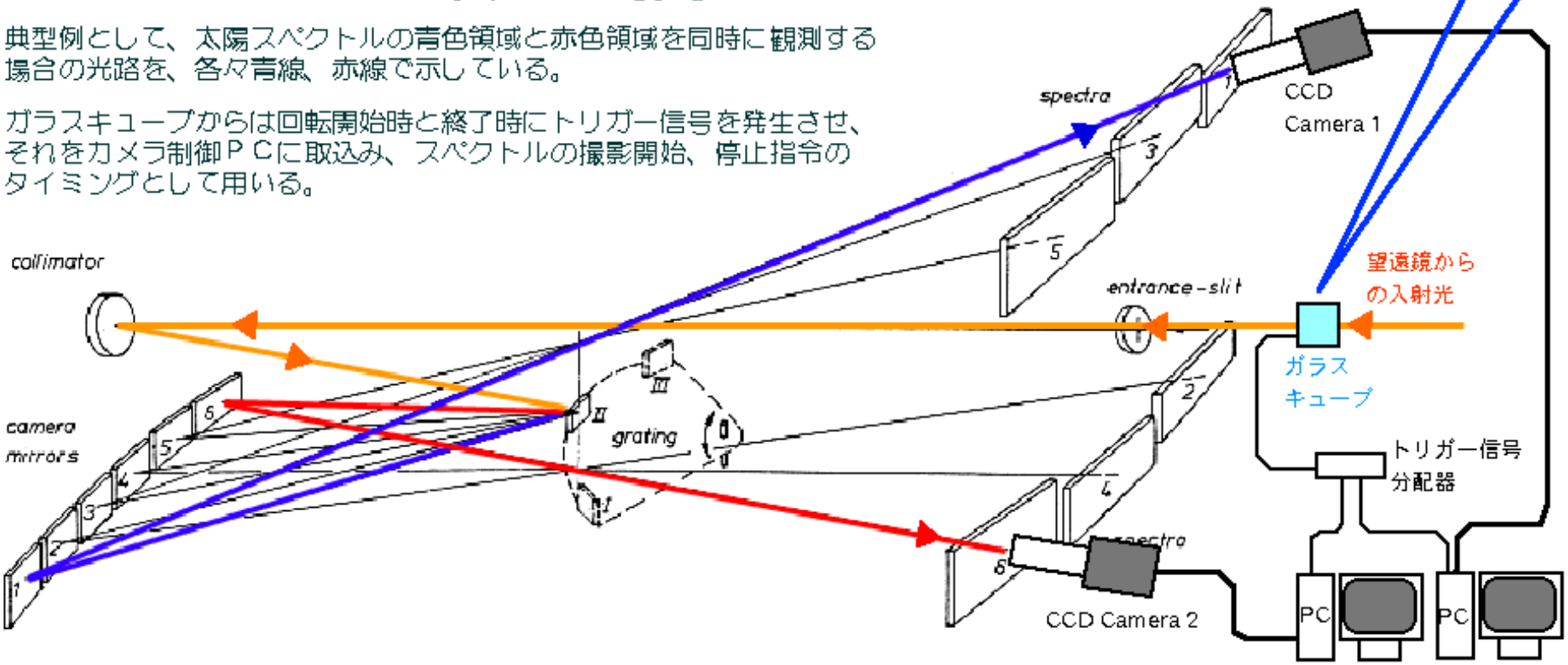
* CCD1 & CCD2 are the same.
* Controll solfwares are also the same.
  => cadence & start-end timing are the same.
* New wavelength-combination: Ca II & Na D
  (though mainly Ca II & H-alpha)



水平式分光器周辺のスペクトロヘリオグラフの構成

典型例として、太陽スペクトルの青色領域と赤色領域を同時に観測する場合の光路を、各々青線、赤線で示している。

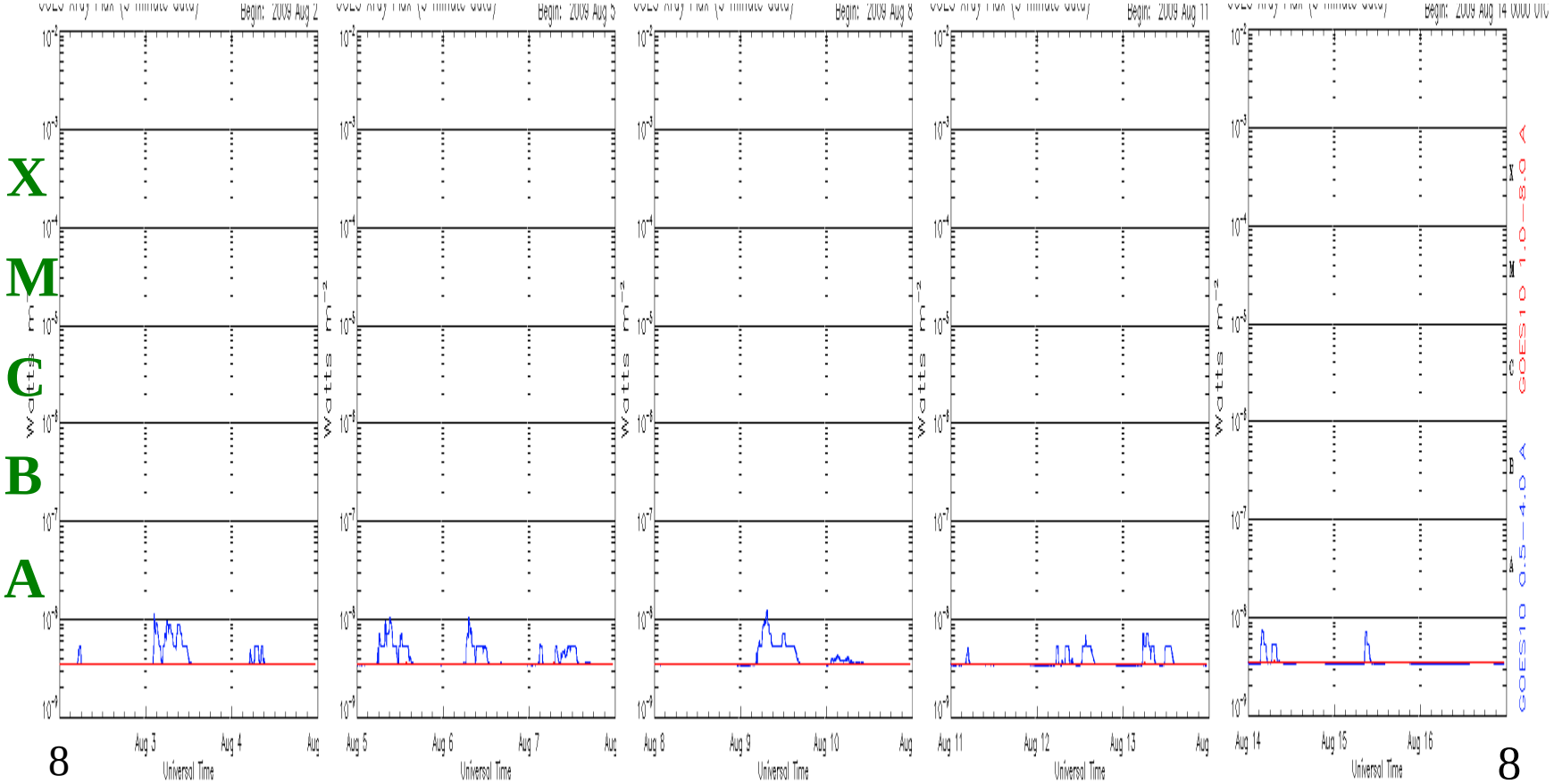
ガラスキューブからは回転開始時と終了時にトリガー信号を発生させ、それをカメラ制御ＰＣに取込み、スペクトルの撮影開始、停止指令のタイミングとして用いる。



<<Start and end dates>>

03-Aug-2009 (Mon) to 16-Aug-2009 (Sun)

GOES X-ray Flux



8月2日

8月17日

観測指定領域

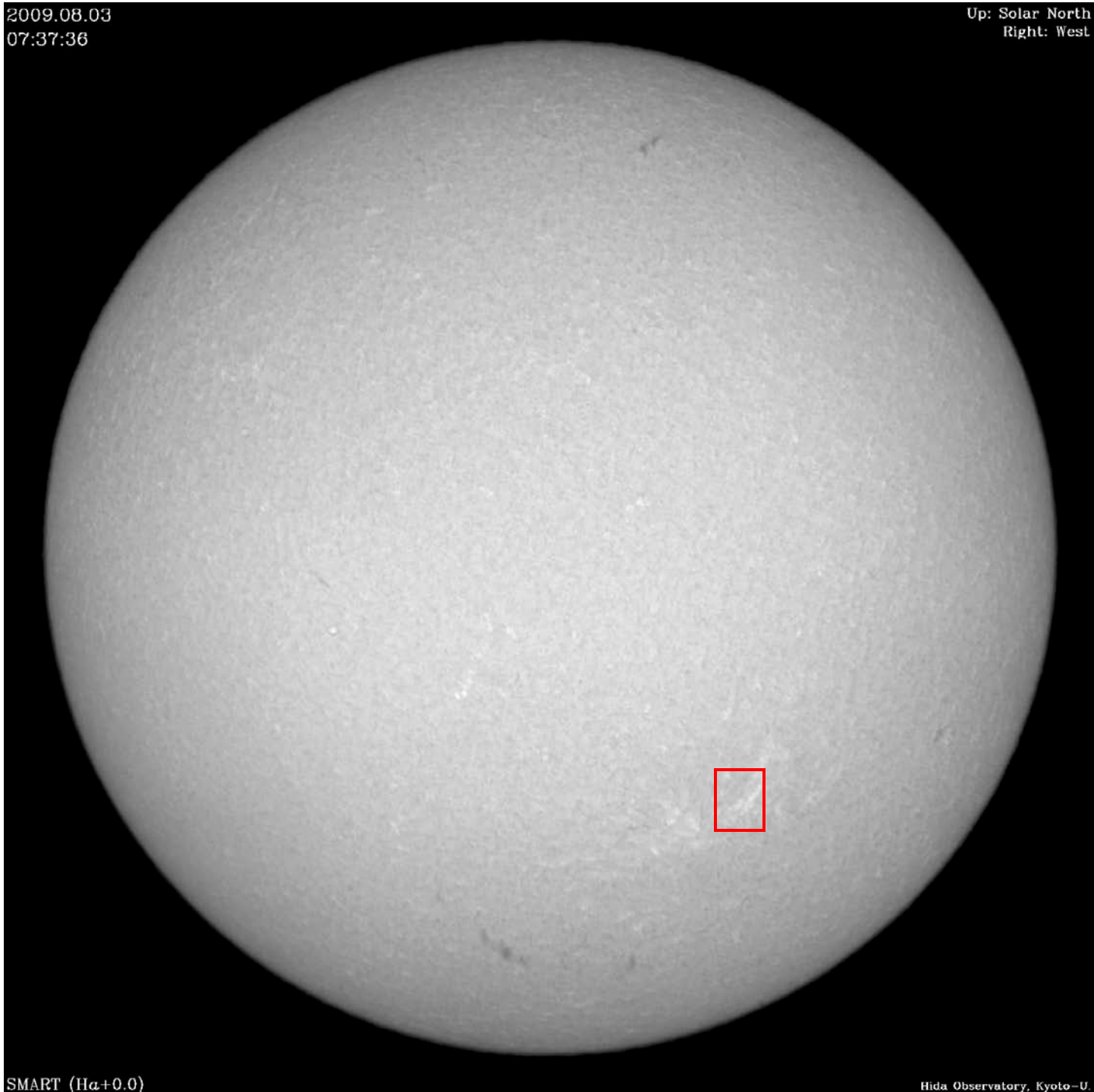
8月 3 日

After cloudy, fine

Targets: Chromospheric jets around the plage

Raster scans of Ca II K with high time-cadence.
Raster scans of H-alpha with the same cadence.
01:41-02:20 UT 02:27-03:23 UT

H-alpha imaging (slit monitor) at 5 wavelengths
00:52-03:23 UT



観測指定領域

8月 4日

Fine

Targets: Chromospheric jets around the plage

Raster scans of Ca II K with high time-cadence.

Raster scans of H-alpha with the same cadence.

23:58-01:16 UT (Comparatively stable data)

01:36-02:54 UT (Comparatively stable data)

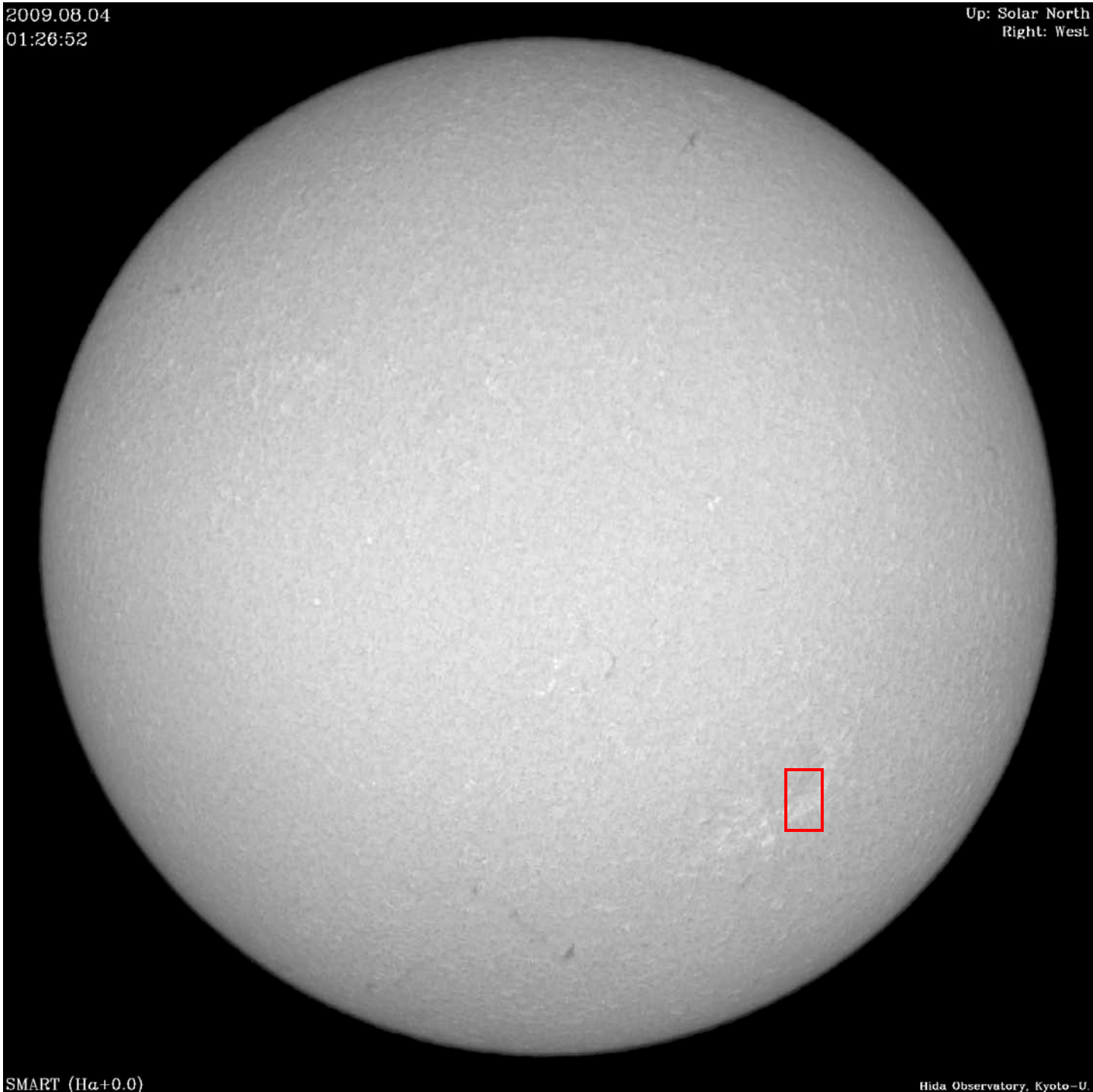
03:24-04:33 UT

04:55-05:36 UT (Comparatively stable data)

H-alpha imaging (slit monitor) at 5 wavelengths

22:52-01:18 UT

01:31-05:55 UT



観測指定領域

8月 5日

After cloudy, fine

Targets: Chromospheric jets around the plage

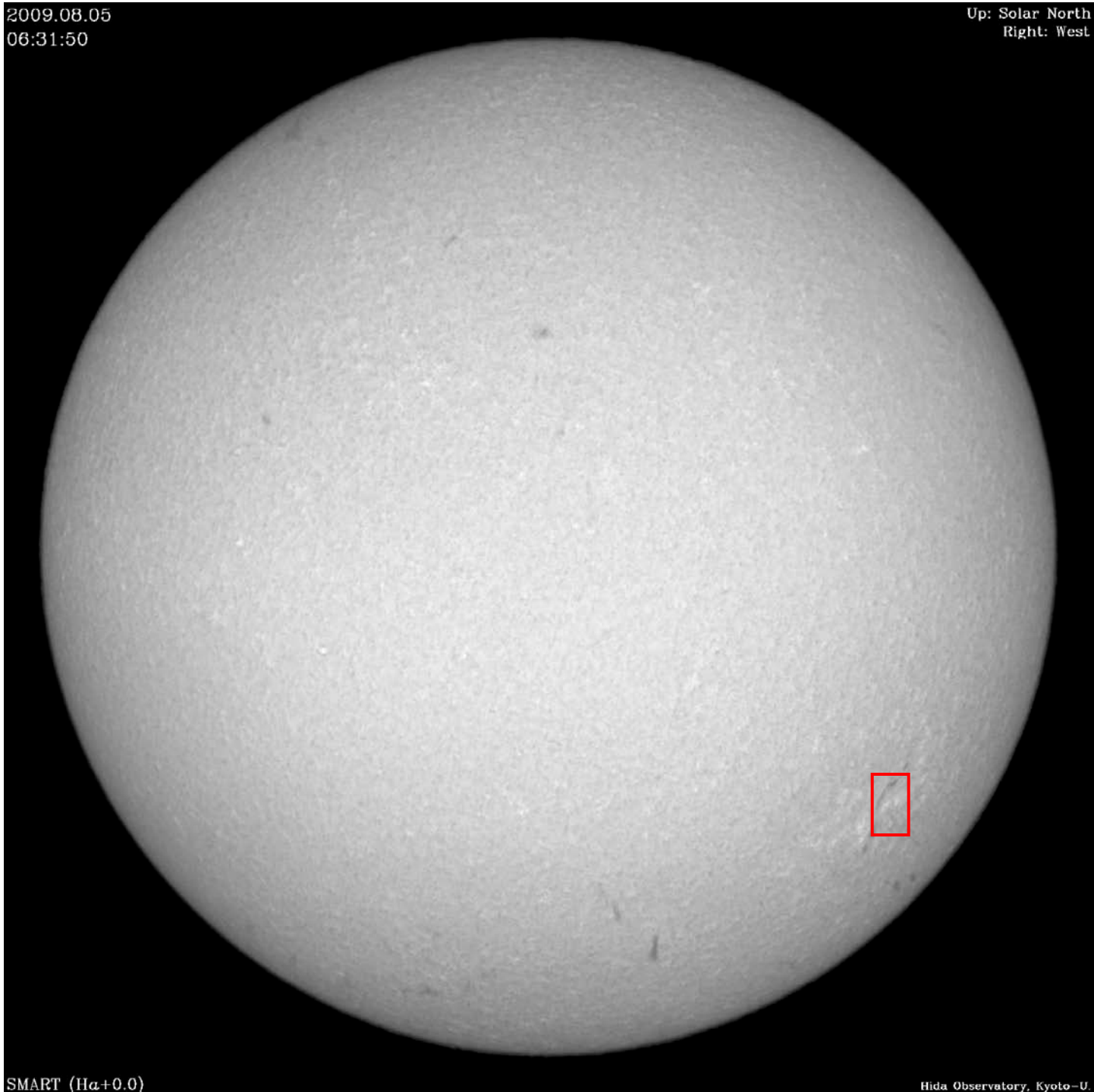
Raster scans of Ca II K with high time-cadence.

Raster scans of H-alpha with the same cadence.

01:33-02:04 UT

H-alpha imaging (slit monitor) at 5 wavelengths

01:23-02:04 UT



観測指定領域

8月 6日

Cloudy, occasionally fine

Targets: Test Observation near the limb (No HINODE observation)

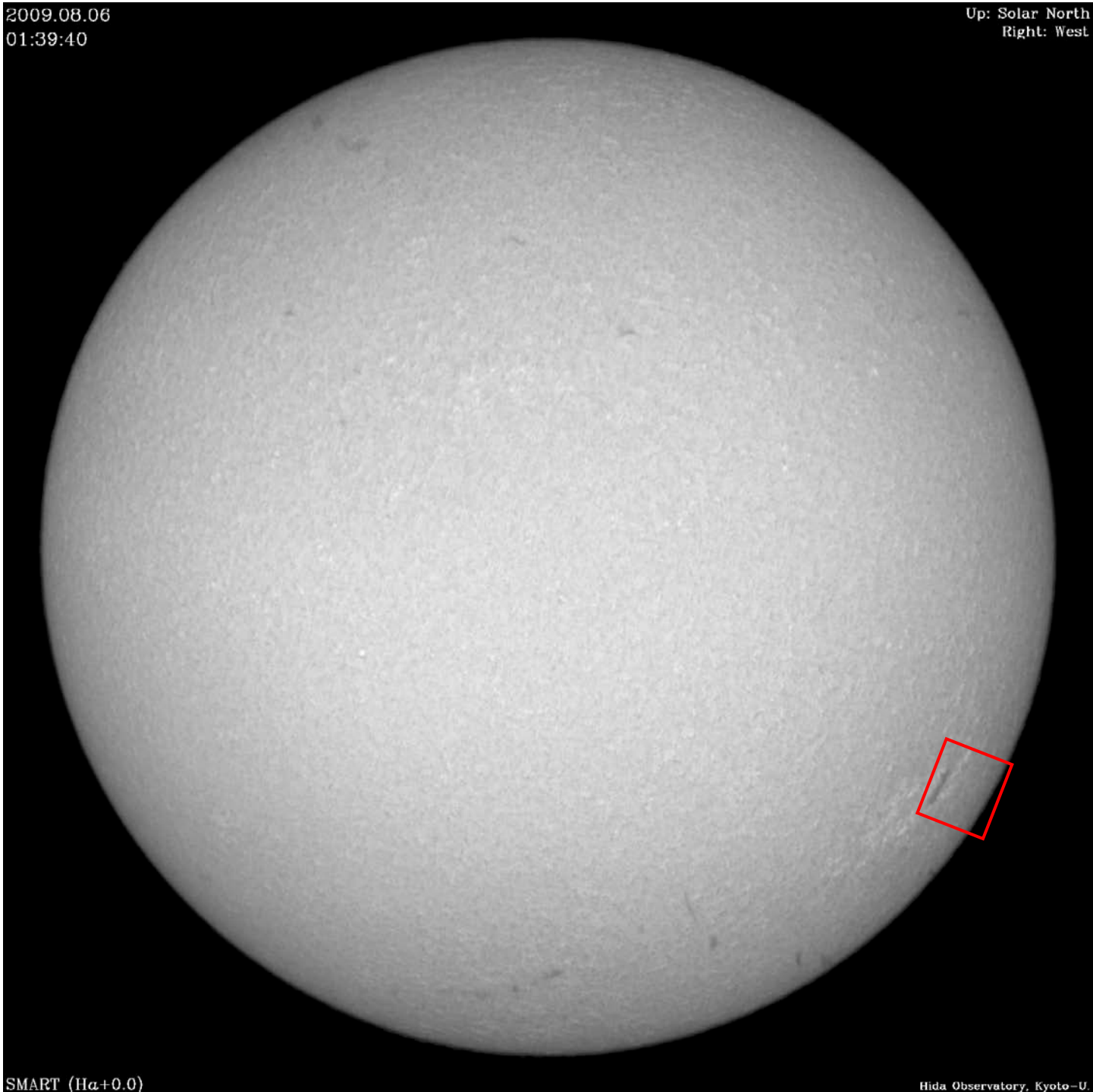
Raster scans of Ca II K with high time-cadence.

Raster scans of Na D with the same cadence.

02:39-02:43 UT

H-alpha imaging (slit monitor) at 5 wavelengths

No Observation



観測指定領域

8月 7日

Cloudy, occasionally rainy

Targets:

Chromospheric jets around the plage

No Observation at Hida Obs.

観測指定領域

8月 8日

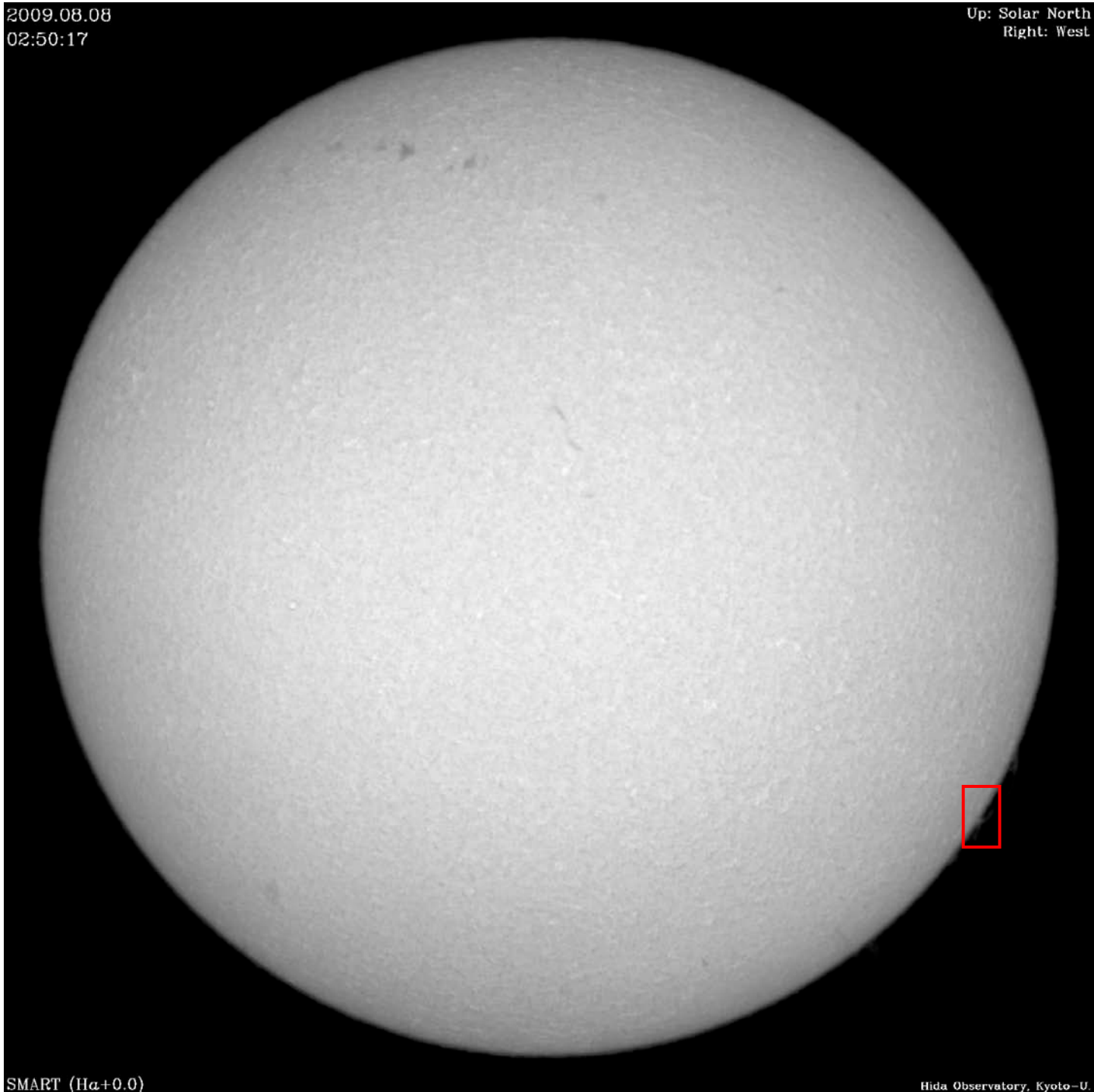
Cloudy and after
01:30 UT,
occasionally fine

Targets:

Chromospheric jets (limb spicules) on the plage

DST:

No Observation



観測指定領域

8月 9日

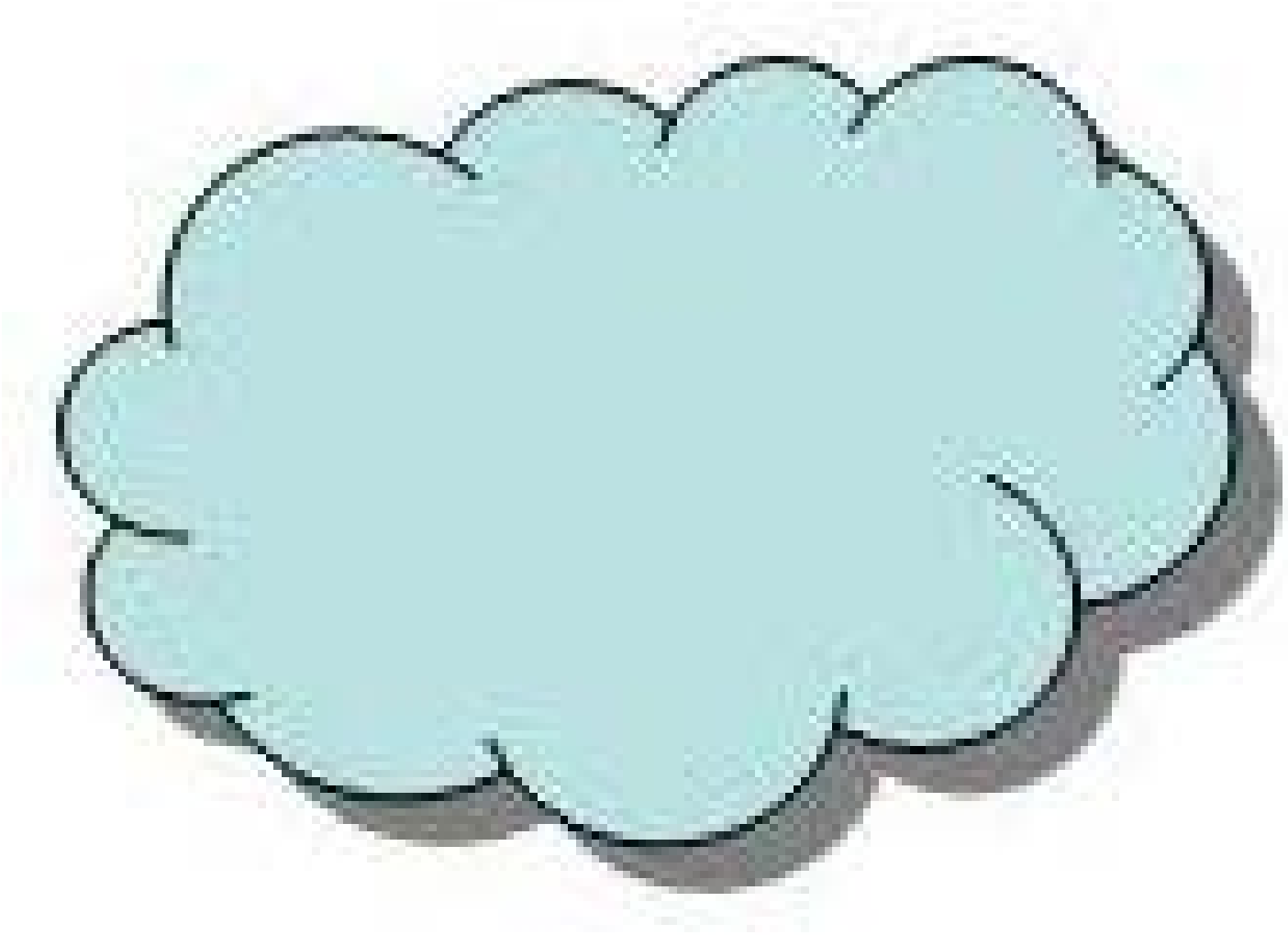
Cloudy

Targets:

Chromospheric jets in quiet region (Disk center)

Hida:

No Observation



観測指定領域

8月 10日

Cloudy and rainy

Targets:

Chromospheric jets in quiet region (N0 E45)

Hida:

No Observation

観測指定領域

8月 11日

After cloudy, fine

Targets: Chromospheric jets in quiet region (N0 E80)

However, DST could not observe it during HINODE-observation.

After the weather was recovered, the DST observed

"a prominence on the limb".

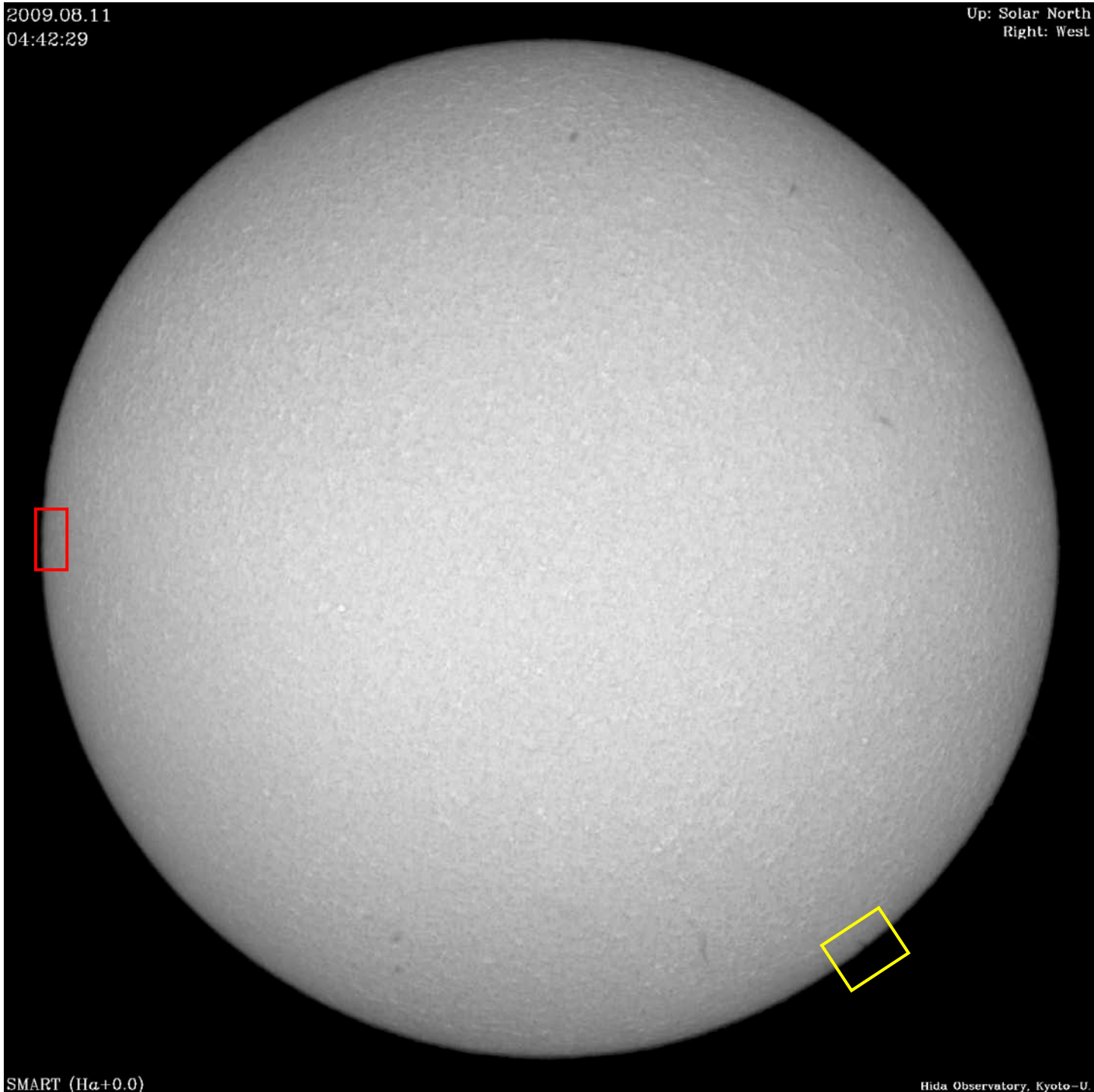
Raster scans of Ca II K with high time-cadence.

Raster scans of H-alpha with the same cadence.

05:04-06:06 UT

H-alpha imaging (slit monitor) at 5 wavelengths

05:05-06:06 UT



観測指定領域

8月 12日

Fine and cloudy

Targets: Fluxtube dynamics around disk center

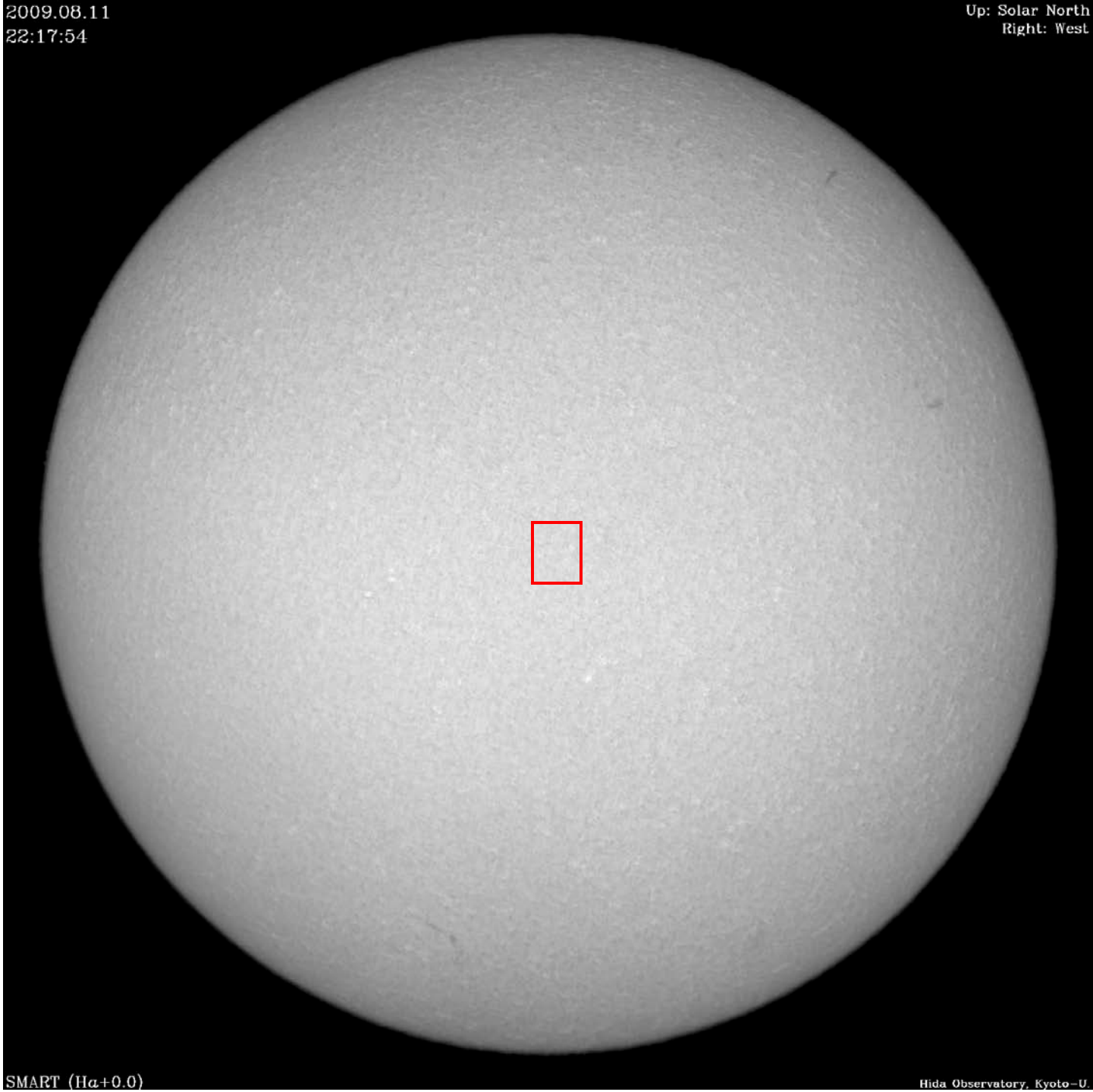
Raster scans of Ca II K with high time-cadence.

Raster scans of Na D with the same cadence.

00:02-02:28 UT (Good data)

H-alpha imaging (slit monitor) at 5 wavelengths

No Observation due to a trouble



観測指定領域

8月 13日

Cloudy

Targets: Fluxtube
dynamics around
disk center

Hida:
No Observation

観測指定領域

8月 14日

Cloudy and fine

Targets: Chromospheric jets in quiet region (Disk center)

Raster scans of Ca II K with high time-cadence.

Raster scans of H-alpha with the same cadence.

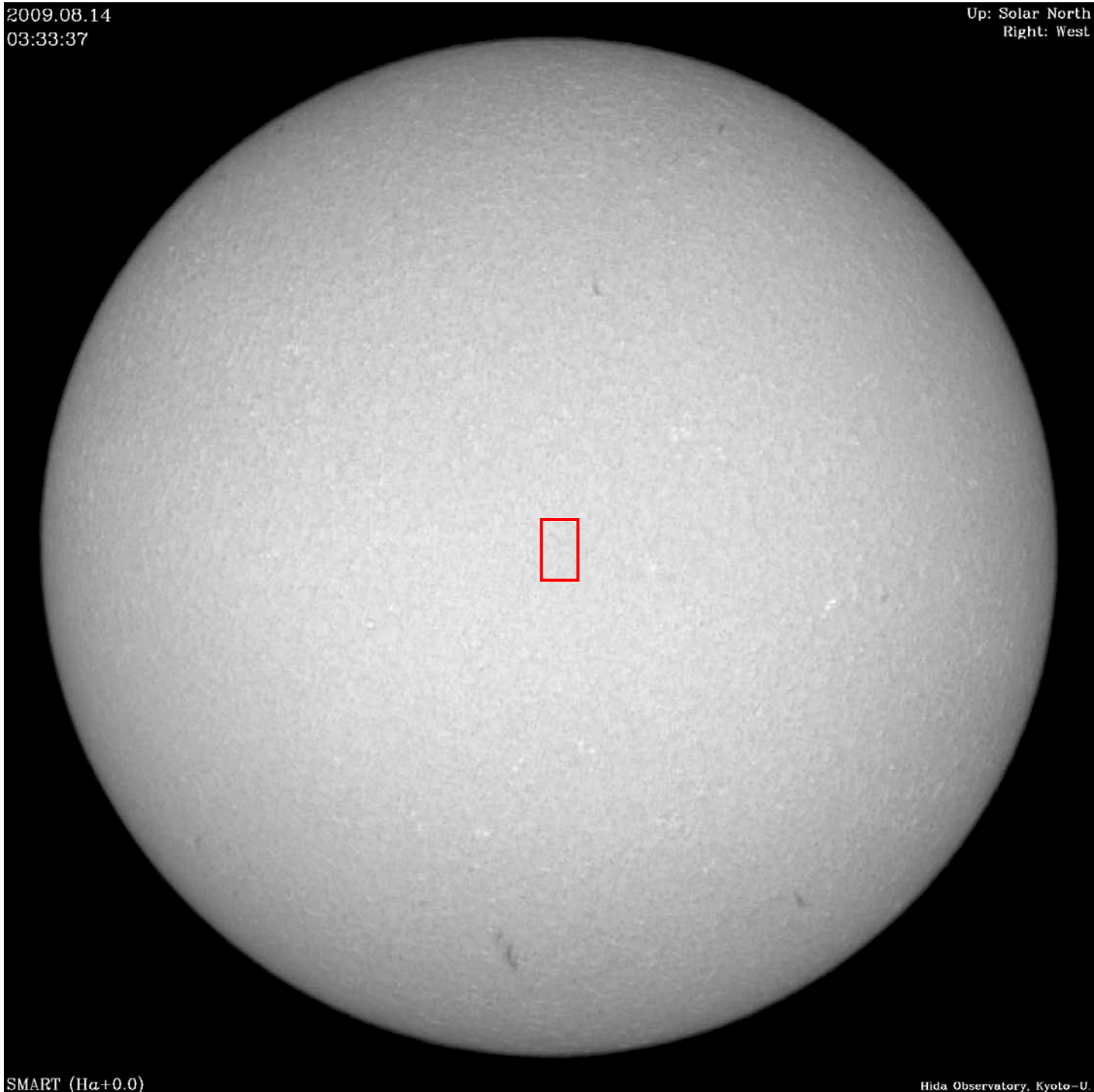
00:41-01:15 UT (Clouds often passed.)

02:03-02:22 UT
(Though clouds often passed, the seeing was not bad.)

02:50-03:53 UT
(Though clouds sometimes passed, the seeing was not so bad.)

H-alpha imaging (slit monitor) at 5 wavelengths

00:16-04:00 UT



観測指定領域

8月 15日

Fine, occasionally cloudy

Targets: Chromospheric jets in quiet region (N0 E45)

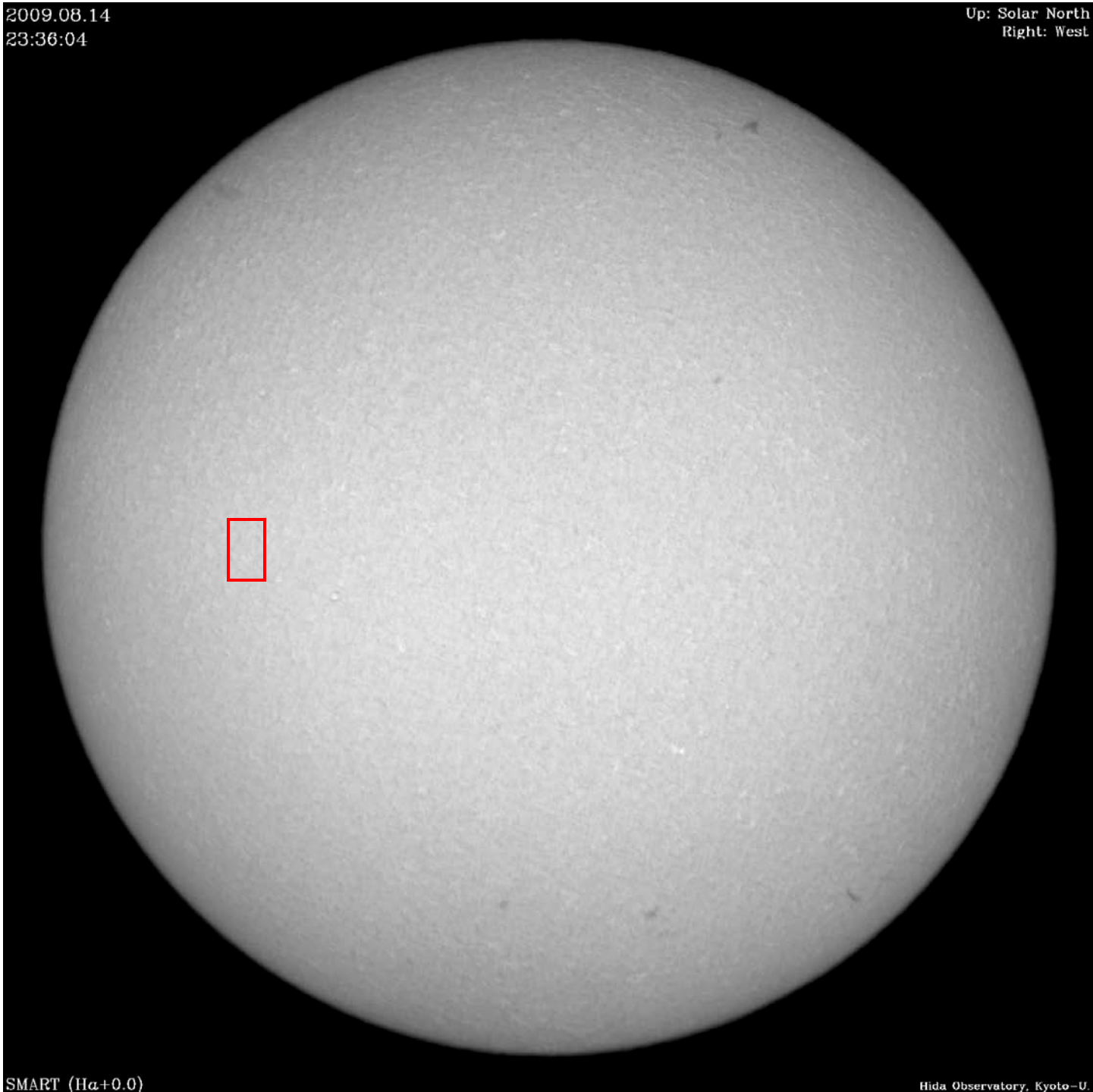
Raster scans of Ca II K with high time-cadence.

Raster scans of H-alpha with the same cadence.

00:02-01:34 UT (Good data)

H-alpha imaging (slit monitor) at 5 wavelengths

23:47-01:34 UT



観測指定領域

8月 16日

Fine and cloudy

Targets: Chromospheric jets in quiet region (N0 E80)

Raster scans of Ca II K with high time-cadence.

Raster scans of H-alpha with the same cadence.

00:02-00:44 UT (Clouds sometimes passed.)

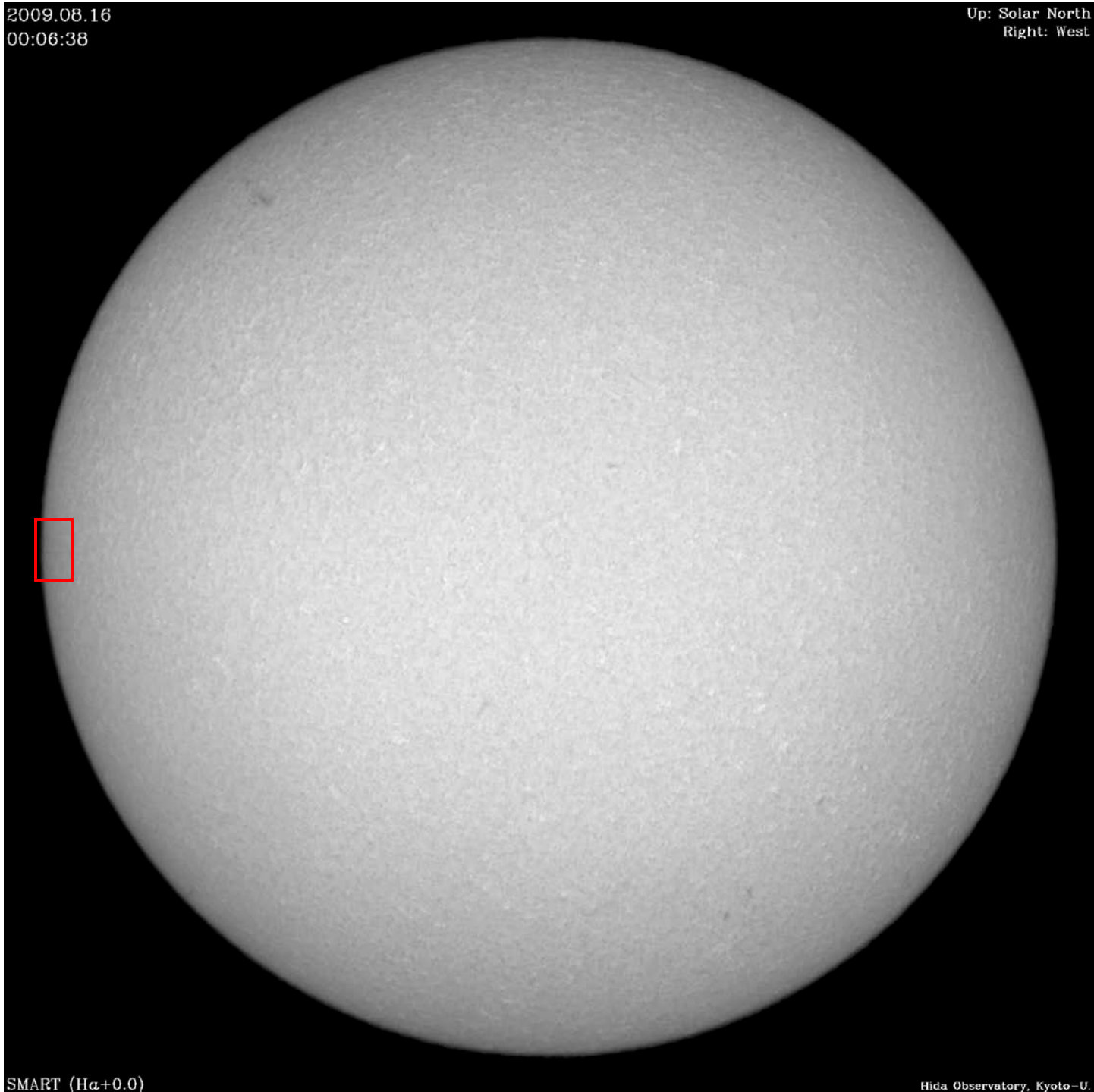
00:46-01:13 UT (Clouds often passed.)

01:18-01:47 UT (Clouds sometimes passed.)

02:13-02:38 UT (Clouds sometimes passed.)

H-alpha imaging (slit monitor) at 5 wavelengths

23:42-03:16 UT



HOP0128 期間中の観測対象まとめ

	Active Region EFR	Active Region Sunspot	Chromospheric Jets	Dark Filament, Prominence
Aug. 03				
Aug. 04				
Aug. 05				
Aug. 06				
Aug. 07				
Aug. 08				
Aug. 09				
Aug. 10				
Aug. 11				
Aug. 12				
Aug. 13				
Aug. 14				
Aug. 15				
Aug. 16				

: Hida/DST Spectroheliograph (CaII+ Hα) + Hα Imaging

: Hida/DST Spectroheliograph (CaII+ Na)

: Hinode Observation

HOP0128 データの今後の解析用途

◆彩層ジェット

- 特に静穏領域において頻繁に至る所で発生している彩層上層ジェットの発生メカニズムと、その彩層・コロナ加熱への寄与は？
- プラージジェットとの違い、コロナホール内外での違いは？また、それらの違いはリムにおけるType I、IIスピキュールの違いと関係があるのか？
- Convective Collapse 発生時に発生が予想される衝撃波に対応したジェット状現象は検出されているか？
- ＸＢＰは光球・彩層のどのような場所で起きているのか？彩層においてジェットや衝撃波などの対応現象が見られるのか？
- Ｘ線で見られるアネモネ型ジェットにおけるリコネクションの証拠を分光データ(Hida/DST, Hinode/SOT, EIS) から得られる光球～遷移層の物理量分布から観測的に証明できるか？

◆プロミネンス振動

どのような種類の振動・波動が存在しているのか。それらはコロナを加熱するエネルギー源なり得るか？また、振動のパラメータからプロミネンスの物理量や磁場構造を推定することができるか。