

# **HVAR SOLAR TELESCOPE**

**Observer logbook**

**2013**

## Notes:

- All observation times are in local time (Hvar)
  - from **31.3.2013** summer time: UTC **+2h**
  - from **27.10.2013** winter time: UTC **+1h**

Final mark consists of Weather conditions (picture quality) and the size / extent (e.g. flare level) of events observed. Marks are between 1 and 5: e.g. **1 bad picture quality and no solar activity** (flares) and **5 best picture quality and high solar activity**.

- **19.2.2013**: CCD cameras mounted on the telescope.
- **02.08.2013 - CCD cameras switched**: photospheric CCD camera to chromosphere and vice versa.
- from **02.08.2013** to **19.08.2013**: failure on CCD camera – there is no photospheric observations in that period.
- **9.11.2013**: CCD cameras dismounted from the telescope.

Date 19.02.2013			
Obs. start	10:28	Obs. end	14:00
Observed regions			Remarks
Filament, 11678/11671			C2.1 (11671) 10:51 UT C2.2 (11671) 10:51 UT
Weather	Clouds in the morning		
Note			
Final mark	2-3		

Date 27.02.2013			
Obs. start	09:15	Obs. end	13:20
Observed regions			Remarks
11681			No activity
Weather	Clouds in the morning		
Note			
Final mark	2		

Date 28.02.2013			
Obs. start	09:50	Obs. end	11:30
Observed regions			Remarks
11683			No activity
Weather	Clouds in the afternoon		
Note			
Final mark	2		

Date 01.03.2013			
Obs. start	08:50	Obs. end	13:30
Observed regions			Remarks
11683			Small eruption
Weather	High humidity, blurry picture, clouds in the afternoon		
Note			
Final mark	2		

Date 04.03.2013			
Obs. start	09:00	Obs. end	14:00
Observed regions			Remarks
11687			White spots

Weather	Humidity
Note	
Final mark	2-3

Date 05.03.2013			
Obs. start	08:00	Obs. end	09:00
Observed regions		Remarks	
11689,11686		M1.2 (11686) 07:54 UT (beginning not imaged)	
Weather	Cloudy, south wind		
Note	From 09:00 no electricity		
Final mark	2-3		

Date 27.03.2013			
Obs. start	09:00	Obs. end	14:00
Observed regions		Remarks	
Filaments		No activity	
Weather	Strong wind, blurry picture, turbulences		
Note			
Final mark	2		

Date 04.04.2013			
Obs. start	08:00	Obs. end	10:00
Observed regions		Remarks	
11713		No activity	
Weather	Blurry picture, clouds from time to time		
Note			
Final mark	2		

Date 11.04.2013			
Obs. start	10:55	Obs. end	13:00
Observed regions		Remarks	
11719		Filaments, white spots	
Weather	Blurry picture in the afternoon		
Note			
Final mark	3		

Date 15.04.2013			
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Obs. start	9:00	Obs. end	14:00
Observed regions		Remarks	
11723/11724		White spots	
Weather	Turbulences		
Note			
Final mark	2-3		

Date 17.04.2013			
Obs. start	09:15	Obs. end	13:45
Observed regions		Remarks	
11723/11721/11722		White spots, moving filament	
Weather	Bad image		
Note			
Final mark	2		

Date 18.04.2013			
Obs. start	09:55	Obs. end	14:00
Observed regions		Remarks	
11723 , 11719		C1.6 (11719) 08:19 UT	
Weather	Foggy		
Note			
Final mark	2		

Date 23.04.2013			
Obs. start	08:45	Obs. end	14:00
Observed regions		Remarks	
11726		White spots, moving filaments	
Weather	Clouds from time to time		
Note			
Final mark	2-3		

Date 24.04.2013			
Obs. start	07:20	Obs. end	14:00
Observed regions		Remarks	
11726		C1.6 (11726) 10:07 UT C1.4 (11726) 11:22 UT	
Weather	High clouds		
Note			
Final mark	3		

Date 25.04.2013			
Obs. start	08:15	Obs. end	13:50
Observed regions		Remarks	
11731, 11726		C2.3 (11731) 08:32 UT (beginning is missing) C3.4 (11726) 10:52 UT (beginning is missing)	
Weather			
Note			
Final mark	2-3		

Date 26.04.2013			
Obs. start	09:10	Obs. end	13:40
Observed regions		Remarks	
11726		C3.4 (11726) 08:57 UT, small prominences on the edge	
Weather	Clouds from time to time, turbulences		
Note			
Final mark	2-3		

Date 30.04.2013			
Obs. start	12:40	Obs. end	15:35
Observed regions		Remarks	
11731		Small eruptions	
Weather	Strong wind, turbulences, high clouds from time to time		
Note			
Final mark	1-2		

Date 01.05.2013			
Obs. start	10:15	Obs. end	17:46
Observed regions		Remarks	
11731		Small flares, C1.1 (11731) 11:49 UT C1.8 (11731) 12:03 UT C6.6 (11731) 14:14 UT C1.7 (11731) 15:37 UT	
Weather	Foggy, high clouds from time to time		
Note	Observer: JC		

Final mark	3-4
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Date 03.05.2013			
Obs. start	07:30	Obs. end	16:25
Observed regions		Remarks	
11731		Small flares, white spots C1.7 (11731) 12:08 UT	
Weather	Foggy		
Note	Observer: JC		
Final mark	2-3		

Date 04.05.2013			
Obs. start	11:00	Obs. end	17:35
Observed regions		Remarks	
11838/11739, 11734		C5.6 (11739) 12:36 UT (end)	
Weather	High clouds, blurry picture in the morning		
Note	Observer: JC		
Final mark	2-3		

Date 08.05.2013			
Obs. start	09:10	Obs. end	11:50
Observed regions		Remarks	
11738/11739		No activity	
Weather	Clouds from time to time		
Note			
Final mark	1		

Date 09.05.2013			
Obs. start	10:15	Obs. end	17:40
Observed regions		Remarks	
11734/11736		Mini flares, filament, prominences on the edge	
Weather			
Note			
Final mark	3		

Date 10.05.2013			
Obs. start	10:00	Obs. end	17:45

Observed regions		Remarks
11734/11736, 11738/11739, 11742/11743 11744, 11745		Small flares M1.3 (11745) 12:56 UT
Weather	Clouds from time to time	
Note		
Final mark	3-4	

Date 12.05.2013			
Obs. start	11:50	Obs. end	14:16
Observed regions		Remarks	
11742/11743, 11744/11745		White spots	
Weather	Clouds during the whole day, turbulences, bad picture, strong wind		
Note	Observer: JC		
Final mark	2		

Date 13.05.2013			
Obs. start	09:35	Obs. end	15:35
Observed regions		Remarks	
11745 / 11748		C4.5 (11748) 08:38 UT C2.8 (11748) 09:29 UT C1.7 (11748) 10:37 UT M1.3 (11748) 12:03 UT C4.0 (11748) 12:52 UT	
Weather	Strong NE wind (bura), clouds in the afternoon		
Note			
Final mark	4		

Date 14.05.2013			
Obs. start	07:45	Obs. end	14:50
Observed regions		Remarks	
11748		C1.8 (11748) 12:22 UT	
Weather			
Note			
Final mark	3		

Date 15.05.2013			
Obs. start	11:40	Obs. end	17:40
Observed regions		Remarks	
11748		White spots, mini flares	



Weather	Strong south wind, strong turbulences		
Note			
Final mark	2-3		

Date 18.05.2013			
Obs. start	12:25	Obs. end	16:02
Observed regions		Remarks	
11748		Small flares, evolution of filament	
Weather			
Note	Observer: JC		
Final mark	3		

Date 20.05.2013			
Obs. start	10:30	Obs. end	14:00
Observed regions		Remarks	
11748, 11745		C1.9 (11748) 11:24 UT	
Weather	Cloudy, blurry picture		
Note			
Final mark	2-3		

Date 21.05.2013			
Obs. start	09:15	Obs. end	13:20
Observed regions		Remarks	
11748, 11753		White spots, small flares	
Weather	Clouds during the whole day		
Note			
Final mark	1-2		

Date 24.05.2013			
Obs. start	08:50	Obs. end	10:50
Observed regions		Remarks	
11756		Small flare	
Weather	South wind, cloudy		
Note			
Final mark	2		

Date 29.05.2013			
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Obs. start	09:00	Obs. end	12:00
Observed regions		Remarks	
11755, 11756		C1.2 (11756) 07:37 UT	
Weather	From 12:00 clouds		
Note			
Final mark	2-3		

Date 04.06.2013			
Obs. start	11:50	Obs. end	15:20
Observed regions		Remarks	
11762		Moving filament, white spot	
Weather			
Note			
Final mark	2		

Date 05.06.2013			
Obs. start	07:50	Obs. end	13:48
Observed regions		Remarks	
11762		M1.3 (11762) 08:57 UT (only end recorded)	
Weather	Clouds from time to time		
Note			
Final mark	2		

Date 06.06.2013			
Obs. start	08:25	Obs. end	16:10
Observed regions		Remarks	
11762, 11765		No activity	
Weather	Occasionally clouds		
Note			
Final mark	2		

Date 07.06.2013			
Obs. start	09:30	Obs. end	15:04
Observed regions		Remarks	
11765		White spots, small eruption	
Weather	Turbulences		
Note			
Final mark	2		

Date 08.06.2013			
Obs. start	11:50	Obs. end	16:10
Observed regions			Remarks
11765			No activity
Weather			
Note			
Final mark	1		

Date 13.06.2013			
Obs. start	10:30	Obs. end	14:00
Observed regions			Remarks
11769, 11770			Weak activity on the edge of disc
Weather			
Note	Bad image		
Final mark	1-2		

Date 14.06.2013			
Obs. start	09:30	Obs. end	14:00
Observed regions			Remarks
11769, 11770			Small flares, bright spots
Weather			
Note	Very good image quality		
Final mark	3		

Date 18.06.2013			
Obs. start	08:50	Obs. end	14.00
Observed regions			Remarks
11775			Small flare, white spots
Weather			
Note	Foggy		
Final mark	2-3		

Date 19.06.2013			
Obs. start	8:00	Obs. end	17:10
Observed regions			Remarks
11775 ,11776, 11777			C 3.5 (11776) 07:29 UT

		C 8.4 (11777) 09:54 UT
Weather		
Note	Instead of 11773 group 11776 was imaged (fits header data)	
Final mark	3-4	

Date 20.06.2013			
Obs. start	07:40	Obs. end	14:00
Observed regions		Remarks	
11777		Prominences, loops on the edge of the disc, C1.9 (11777) 09:20 UT	
Weather			
Note	Foggy		
Final mark	3		

Date 21.06.2013			
Obs. start	09:15	Obs. end	17:26
Observed regions		Remarks	
11777 , 11772		C1.6 (11772) 09:18 UT (end)	
Weather	Foggy		
Note			
Final mark	2-3		

Date 24.06.2013			
Obs. start	07:35	Obs. end	12:00
Observed regions		Remarks	
11778		Small eruption, C3.5 (11778) 08:24 UT	
Weather	Clouds from time to time, turbulences in the morning		
Note			
Final mark	3		

Date 26.06.2013			
Obs. start	8.00	Obs. end	15:03
Observed regions		Remarks	
11778		No activity	
Weather	Clouds during the morning		
Note			
Final mark	1-2		

Date 28.06.2013			
Obs. start	08:15	Obs. end	13:35
Observed regions		Remarks	
11778		No activity	
Weather			
Note			
Final mark	1-2		

Date 01.07.2013			
Obs. start	09:30	Obs. end	13:30
Observed regions		Remarks	
11781		No activity	
Weather			
Note	Bad image		
Final mark	1-2		

Date 02.07.2013			
Obs. start	07:45	Obs. end	14:00
Observed regions		Remarks	
11785		Prominences, small eruptions	
Weather			
Note			
Final mark	3		

Date 03.07.2013			
Obs. start	08:45	Obs. end	13:30
Observed regions		Remarks	
11785, 11787		M1.5 (11787) 07:08 UT	
Weather			
Note	Eruptions on the edge		
Final mark	4		

Date 04.07.2013			
Obs. start	10:00	Obs. end	14:00
Observed regions		Remarks	
11785, 11787		Small flares, white spots	
Weather	Cloudy		

Note	Bad image (clouds)
Final mark	2-3

Date 05.07.2013			
Obs. start	07:50	Obs. end	14:00
Observed regions		Remarks	
11785/11787		C2.2 (11787) 06:05 UT C1.9 (11787) 07:03 UT C1.5 (11787) 08:48 UT C1.2 (11785) 09:07 UT C2.8 (11787) 11:26 UT	
Weather	Strong wind (turbulences), foggy		
Note			
Final mark	3-4		

Date 08.07.2013			
Obs. start	08:45	Obs. end	14:00
Observed regions		Remarks	
11785		Small flares	
Weather	Cloudy, foggy		
Note	Bad image		
Final mark	2-3		

Date 09.07.2013			
Obs. start	08:40	Obs. end	14:00
Observed regions		Remarks	
11785		C2.1 (11785) 07:35 UT Small flares	
Weather	Cloudy		
Note			
Final mark	2-3		

Date 10.07.2013			
Obs. start	10:15	Obs. end	14:00
Observed regions		Remarks	
11785		White spots	
Weather	Cloudy		
Note			
Final mark	2		

Date 12.07.2013			
Obs. start	08:30	Obs. end	14:00
Observed regions		Remarks	
11791, 11785/11787		Small eruptions	
Weather			
Note			
Final mark	2-3		

Date 15.07.2013			
Obs. start	9:00	Obs. end	14:00
Observed regions		Remarks	
11795, 11793, 11791		C1.7 (11793) 07:33 UT C1.6 (11791) 10:38 UT C3.6 (11791) 10:55 UT	
Weather			
Note			
Final mark	3		

Date 16.07.2013			
Obs. start	9:00	Obs. end	15:00
Observed regions		Remarks	
11793		No activity	
Weather	Blurry picture		
Note			
Final mark	2		

Date 17.07.2013			
Obs. start	08:30	Obs. end	14:00
Observed regions		Remarks	
11793		White spots	
Weather	Foggy		
Note	Blurry picture, bad image		
Final mark	2		

Date 22.07.2013			
Obs. start	08:45	Obs. end	13:50
Observed regions		Remarks	

11800	Moving filaments, no significant activity
Weather	
Note	
Final mark	1-2

Date 23.07.2013			
Obs. start	07:45	Obs. end	13:30
Observed regions		Remarks	
11800/11799		Moving filaments, white spots, no significant activity	
Weather	Turbulences		
Note			
Final mark	2		

Date 24.07.2013			
Obs. start	08:20	Obs. end	14:00
Observed regions		Remarks	
11800		Moving filaments, white spots, no significant activity	
Weather	Turbulences		
Note			
Final mark	2		

Date 25.07.2013			
Obs. start	11:22	Obs. end	13:50
Observed regions		Remarks	
11800		Few white spots, no significant activity	
Weather			
Note			
Final mark	2		

Date 26.07.2013			
Obs. start	09:00	Obs. end	13:30
Observed regions		Remarks	
11800		Moving filaments, small flares	
Weather			
Note			



Final mark	2-3
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Date 28.07.2013			
Obs. start	13:00	Obs. end	17:44
Observed regions		Remarks	
11800/11805		B7.0 (11805) 11:05 UT C3.2 (11800) 12:21 UT	
Weather			
Note			
Final mark	3		

Date 29.07.2013			
Obs. start	08:00	Obs. end	14:00
Observed regions		Remarks	
11800/11805		Moving filaments, white spots	
Weather			
Note			
Final mark	2-3		

Date 30.07.2013			
Obs. start	08:15	Obs. end	14:00
Observed regions		Remarks	
11808		Loops, prominences on the east edge of disc	
Weather	Strong north wind, turbulences		
Note			
Final mark	3		

Date 02.08.2013			
Obs. start	10:00	Obs. end	11:40
Observed regions		Remarks	
11809		No activity	
Weather			
Note	Problem with camera - no observations of the photosphere		
Final mark	1		

Date 06.08.2013			
Obs. start	08:00	Obs. end	14:00

Observed regions		Remarks	
11814, 11810		Prominences, eruption on the edge of disc, white spots	
Weather			
Note	Problem with camera - no observations of the photosphere		
Final mark	2-3		

Date 07.08.2013			
Obs. start	09:50	Obs. end	13:20
Observed regions		Remarks	
11810		No activity	
Weather			
Note	Problem with camera - no observations of the photosphere		
Final mark	1-2		

Date 08.08.2013			
Obs. start	09:10	Obs. end	14:00
Observed regions		Remarks	
11810/11813		White spots	
Weather			
Note	Problem with camera - no observations of the photosphere		
Final mark	2-3		

Date 09.08.2013			
Obs. start	07:30	Obs. end	09:20
Observed regions		Remarks	
11810		White spots	
Weather			
Note	Problem with camera - no observations of the photosphere		
Final mark	2		

Date 13.08.2013			
Obs. start	07:45	Obs. end	14:00
Observed regions		Remarks	
11817		White spots	
Weather	Blurry picture		
Note	Problem with camera - no observations of the photosphere		
Final mark	2-3		

Date 05.09.2013			
Obs. start	08:50	Obs. end	14:00
Observed regions			Remarks
11837			No activity
Weather	Turbulences		
Note	Problem with camera - no observations of the photosphere		
Final mark	1		

Date 18.09.2013			
Obs. start	08:30	Obs. end	13:30
Observed regions			Remarks
11846			Small eruption, moving filaments
Weather	Turbulences		
Note	Problem with camera - no observations of the photosphere		
Final mark	1-2		

Date 20.09.2013			
Obs. start	09:35	Obs. end	16:20
Observed regions			Remarks
11850			C2.1 (11850) 10:02 UT C3.8 (11850) 11:53 UT C2.3 (11850) 12:51 UT
Weather	Bora wind in the morning		
Note			
Final mark	3-4		

Date 03.10.2013			
Obs. start	10:30	Obs. end	12:45
Observed regions			Remarks
11856 /11857			White spots
Weather	Strong turbulences in the morning		
Note	Problem with camera - no observations of the photosphere		
Final mark	2-3		

Date 23.10.2013			
Obs. start	09:30	Obs. end	17:15
Observed regions			Remarks
11875, 11877/11879			C6.5 (11875) 11:17 UT,

	evolution of filament
Weather	High humidity, turbulences
Note	
Final mark	3-4

Date 24.10.2013			
Obs. start	09:15	Obs. end	14:30
Observed regions		Remarks	
11877, 11875		C2.4 (11875 ) 09:50 UT M2.5 (11875) 10:09 UT M3.5 (11875) 10:33 UT	
Weather	Strong wind(SE), strong turbulences, clouds occasionally		
Note			
Final mark	4		

Date 25.10.2013			
Obs. start	10:00	Obs. end	16:00
Observed regions		Remarks	
11877, 11875, 11882		M1.0 (11882) 10:11 UT,	
Weather	Early in the morning and after 15:00 clouds		
Note			
Final mark	3-4		

Date 26.10.2013			
Obs. start	09:00	Obs. end	16:50
Observed regions		Remarks	
11882, 11877, 11875		C 5.2(11877) 08:46 UT M1.5(11882) 09:37 UT M1.8(11882) 11:17 UT	
Weather	Foggy in the morning, high humidity, clouds occasionally		
Note	Observer: JC		
Final mark	4		

Date 27.10.2013			
Obs. start	9:35	Obs. end	15:46
Observed regions		Remarks	
11882/11883/11884/11885		M3.5 (11884) 12:48 UT	
Weather	Turbulences, fog and clouds in the morning, high humidity		
Note	Observer: JC, winter time UTC+1, seagull in front of the telescope		

Final mark	3-4
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Date 28.10.2013			
Obs. start	10:40	Obs. end	15:40
Observed regions		Remarks	
11882/11884/11885		M 1.4 (11882) 11.53 UT flare (11882) 14:08 UT (probably obscured by bigger flare M2.8 (11875) 14:05 UT)	
Weather	Fog and clouds in the morning, high humidity, strong turbulences in the afternoon		
Note			
Final mark	3-4		

Date 29.10.2013			
Obs. start	10:00	Obs. end	15:35
Observed regions		Remarks	
11882		Small flares, moving filament	
Weather	Foggy, high humidity, turbulences		
Note			
Final mark	3		

Date 30.10.2013			
Obs. start	09:30	Obs. end	15:30
Observed regions		Remarks	
11884/11885		Small white spots, moving filament	
Weather	SE wind, turbulences, foggy, clouds		
Note	Fits header (11884/11885)		
Final mark	2-3		

Date 31.10.2013			
Obs. start	09:20	Obs. end	15:35
Observed regions		Remarks	
11884, 11879		White spots, moving filament, M1.9 (11879) 13:51 UTC (end)	
Weather	Foggy , clouds from time to time		
Note			
Final mark	2-3		

Date 06.11.2013			
Obs. start	09:30	Obs. end	12:04
Observed regions		Remarks	
11890		C8.6 (11890) 08:55 UTC C2.4 (11890) 09:43 UTC C3.8 (11890) 10:00 UTC	
Weather	Turbulences, strong N wind (tramontana), clouds occasionally		
Note	Observer: JC		
Final mark	3-4		

Date 07.11.2013			
Obs. start	9:45	Obs. end	15:40
Observed regions		Remarks	
11890		C2.1 (11890) 10:53 UTC M2.4 (11890) 14:25 UTC	
Weather	Turbulences, no wind		
Note	Observer: JC		
Final mark	3-4		

Date 08.11.2013			
Obs. start	10:40	Obs. end	14:35
Observed regions		Remarks	
11890		Small white spots, moving filament	
Weather	Strong SE wind (jugo), strong turbulences, clouds		
Note	Observer: JC		
Final mark	2-3		