

# NIEUWSBRIEF V.V.S. WERKGROEP ZON

Waarnemingsresultaten en nieuws voor zonne waarnemers

Jaargang : 15

Nummer: 177

November 2010

Franky Dubois Poelkappellestraat 57 Langemark 8920

Web site: <http://www.bso.vvs.be/> e-mail [astrosun@skynet.be](mailto:astrosun@skynet.be)

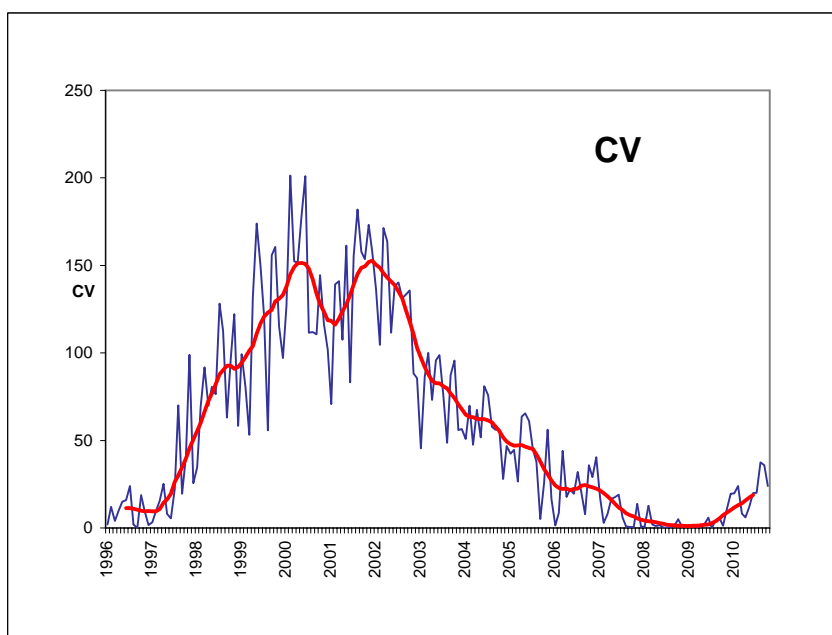
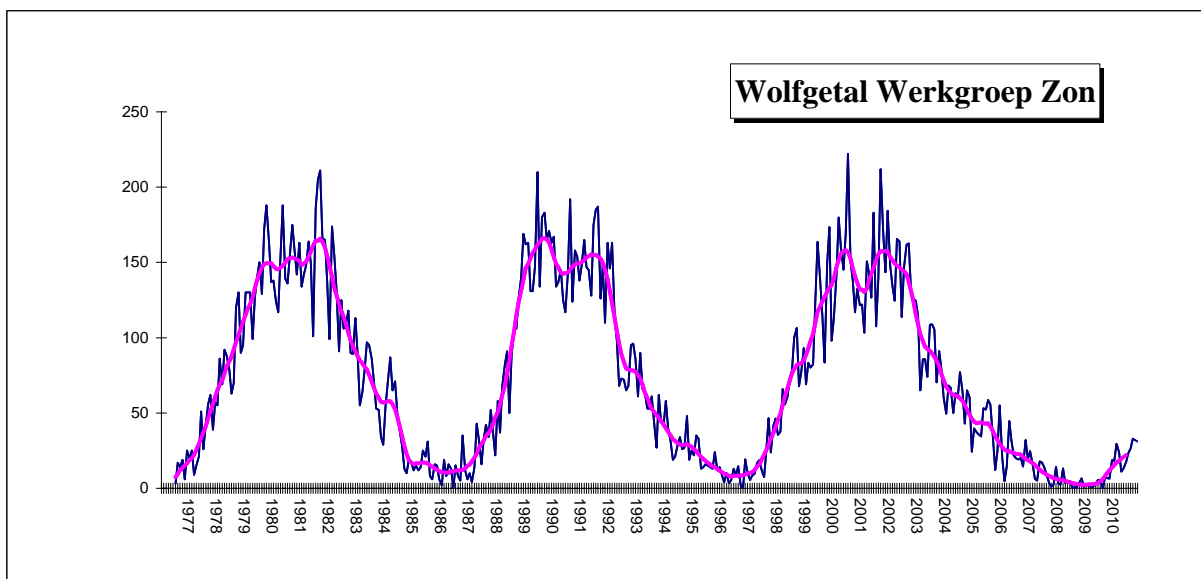
## Somberste november maand in jaren !!

November 2010 gaat de meteorologische geschiedenis in als een zeer uitzonderlijk sombere maand !

De zon scheen 23 uur 49 minuten wat "zeer uitzonderlijk" is voor de maand november. Met de term doelt het KMI op een verschijnsel dat één keer wordt bereikt of overtroffen in 100 jaar. De normale waarde is 63 uur. Het diepterecord is 21 uur in 1922.

En dit hebben we geweten bij de werkgroep en te zien in het aantal waarnemingen die toegestuurd werden.

December zou iets beter moeten zijn.



### Gemiddelden werkgroep zon November 2010

Groepen : N	1,42	Wolfgetal : N	18,2	RE'	168
S	0,92	S	12,9	CV	23,9
N+S	2,33	N+S	31,1		

146 waarnemingen 23 waarnemers



# Sunspotnumbers VVS Belgium

Month: **November 2010**

Day	GROUPS			WOLFNUMBER			RE'	CV	OBS
	N	S	N+S	N	S	N+S			
1	2	0	2	20,0	0	20,0	194	23,2	4
2									
3	2	0	2	18,0	0	18,0	38	4,7	5
4	1	1	2	12,4	4,9	17,3	26	4	3
5									
6	1	1	2	11,6	16,2	27,8	66	9,3	8
7	1	1	2	13,7	20,3	34,0	263	13,3	5
8	1	1	2	14,7	22,7	37,4	195	26	3
9	1	2	3	16,3	20,5	36,8	37	3,8	4
10	2	2	4	19,1	29,0	48,1	121	16,3	8
11									
12	2	1	3	24,1	18,2	42,3	124	12	3
13									
14									
15	2	2	4	28,9	18,5	47,4	402	61,3	10
16	2	1	3	33,3	19,3	52,6	418	76	5
17	2	1	3	28,5	18,5	47,0	388	58,5	3
18	2	1	3	28,3	17,8	46,1	316	64,7	6
19	2	1	3	24,9	14,4	39,3	242	65	6
20	2	1	3	16,5	14,6	31,1	171	25,8	13
21	1	1	2	11,3	14,7	26,0	123	12	5
22	1	1	2	14,0	21,0	35,0	192		1
23	1	0	1	12,0	0	12,0	85	10	2
24	1	0	1	13,1	0	13,1	76	10,2	9
25	1	1	2	11,3	11,2	22,5	60	9,4	6
26	1	1	2	11,6	10,4	22,0	69	8,8	5
27	1	1	2	8,8	7,8	16,6	18	3,6	13
28	1	1	2	21,2	9,6	30,8	65	7	17
29									
30	1	0	1	22,0	0	22,0	342		2
	<b>1,42</b>	<b>0,92</b>	<b>2,33</b>	<b>18,2</b>	<b>12,9</b>	<b>31,1</b>	<b>168,0</b>	<b>23,9</b>	<b>146</b>

Monthly mean: **31,1** Covering: **24/30** Spotless days: **0**  
 Observations: **146** Number of observers: **23**

**V.V.S. BELGIUM SOLAR SECTION FRANKY DUBOIS**

Poekapellestraat 39  
 B8920 Langemark  
 Belgium  
 e-mail : astrosun@skynet.be

Observers:

E.De Ceuninck ; J.Janssens ; Publ obs Mira ; J.Bourgeois ; R.Dezeure ; F.Feys  
 H. De Backer; F.Dubois ; B.Taillieu ; J.Carels ; K. Dewaele  
 L.Meeus ; O.Steen ; KSB ; L.Claeys ; B.Thooris ; J.Bonse  
 J.Claes ; R.Verboven ; F. Van Loo ; A.T.Son ; H.Coeckelberghs

# VVS Belgian Solar Observers Prominence number Rp

Month : november 2010										Lille	Lunt					asm	Lunt																								
J. Janssens					F. Dubois					E. De Ceunick					F. Feys					J. Hamsch					G. Gubbels																
Day	time	Q	W	H	e	Rp	time	Q	W	H	e	Rp	time	Q	W	H	e	Rp	time	Q	W	H	e	Rp	time	Q	W	H	e	Rp											
1																																									
2																																									
3																																									
4							8,49	3	2,5	5	8	58																													
5																																									
6							9,45	4	1	7	12	82	14,00	3,5	3,5	9	9	99																							
7							12,43	4	1	7	11	81																													
8																																									
9																																									
10																																									
11																																									
12																																									
13																																									
14																																									
15																																									
16																																									
17																																									
18																																									
19																																									
20																																									
21																																									
22																																									
23																																									
24							10,42	3,5	1,5	6	8	68	09,00	4,0	3,5	4	5	45	9,10	1,5	4	8	21	101																	
25																																									
26							9,05	3	2	4	11	51	10,15	3,5	3,5	6	7	67																							
27																																									
28																																									
29																																									
30																																									
###						5						3,5						1,6						5,8						10,0						68,0					
###						7						3,57						3,4						6,3						7,6						70,4					
###						17						1,2						4,6						7,88						16,8						95,6					
###						5						3,0						1,5						8,2						24,2						106,2					

O. Steen										H. Coeckelberghs					J. Claes					T. Spaninks					R. De Laet					L. Meeus					
Day	time	Q	W	H	e	Rp	time	Q	W	H	e	Rp	time	Q	W	H	e	Rp	time	Q	W	H	e	Rp	time	Q	W	H	e	Rp					
1																																			
2							7,40	3,5	2	9	9	99																							
3																																			
4																																			
5																																			
6							9,50	3,5	2	7	7	77																							
7							8,15	3,5	2	7	8	78																							
8																																			
9							9,20	3,5	2	6	6	66																							
10							13,10	3,5	2	5	5	55																							
11																																			
12							8,55	3,5	2	7	10	80																							
13																																			
14																																			
15							9,20	3,5	2	8	12	92																							
16																																			
17																																			
18																																			
19																																			
20							11,10	3	2,5	4	7	47	14,00	3	2	6	12	72																	
21							9,45	3	2,5	6	8	68																							
22																																			
23																																			
24							12,25	3	2	6	8	68																							
25							13,30	3	2	6	6	66																							
26																																			
27							10,35	3,5	2	9	9	99																							
28							9,10	3	2,5	6	6	66	11,40	4	4	10	16	116																	
29																																			
30																																			
13						3,3						2,1						6,62						7,8						73,9					
1						4,0						4,0						10						16						116,0					
1						3						2						6						12,0						72,0					
###						###						###						###						###											
1						3,0						2,0						15						21,0						171,0					
2						3,0						1,5						7,5						11,5						86,5					

R. Blondeel										asm	60						
Day	time	Q	W	H	e	Rp											
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
###						###						###					

Time : Beginning of observation  
 Q : Seeing scale SIDC  
 W : transparency scale of Wedel , see <http://members.chello.be/j.janssens/>  
 H : number of prominence groups at the limb  
 e : total of individual prominences at the limb  
 Rp : H\*10+e  
 More info at : <http://members.chello.be/j.janssens/>

# Prominence number Rp

## Belgian solar observers

Month: November 2010

Day	Q	Wedel		H	e	Rp	el. Obs	Stdev	OBS
1	2,5	3,5		10,5	18,5	123,5			2
2	1	5		8,0	18	98			1
3	2	3,5		6,5	13	78			2
4	1	5		7	22	92			1
5	1	5		8	17	97			1
6	3	2,9		7,8	10,5	88,5		10,2	4
7	2,8	2,5		7,7	15,3	92,3			3
8	3	2		6	21	81			1
9	3,5	2		6	6	66			1
10	2,5	2,8		7	12,3	82,3			3
11									
12	3,5	2		7	10	80			1
13									
14									
15	3,5	2,5		8	11,5	91,5		0,7	2
16	4	3,5		5	6	56			1
17									
18	2,3	4		6	10	70			2
19	2	3,5		6	14,5	74,5		3,5	2
20	2,8	2,4		5,3	11	64		14,6	4
21	2	3,5		6	8	68			2
22	1	5		8	13	93			1
23									
24	3	2,8		6	10,5	70,5			4
25	3,3	2,8		6	6,5	66,5		0,7	2
26	2	3,5		5	14,5	64,5			2
27	3,3	1,7		10	18,7	118,7			3
28	2,7	3,3		7	9,3	79,3	2	13,5	5
29									
30	1,5	4		10	15	115			1
31									
	<b>2,47</b>	<b>3,28</b>		<b>7,1</b>	<b>13,0</b>	<b>83,8</b>	<b>2</b>	<b>7,2</b>	<b>51</b>

Monthly mean: **83,8**    Covering: **24/30**  
 Observations: **50**    Number of observers: **8**

**V.V.S. BELGIUM SOLAR SECTION    FRANKY DUBOIS**

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Observers:

Steen ; Dubois ; De Ceuninck ; Coeckelberghs ; Janssens ; Feys  
 Hamsch ; Claes ; G.Gubbels ; T.Spaninks ; R.Blondeel

Q : Seeing scale SIDC

W : transparency scale of Wedel , see <http://members.chello.be/j.janssens/>

H : number of prominence groups at the limb

e : total of individual prominences at the limb

Rp :  $H*10+e$

More info at : <http://members.chello.be/j.janssens/>

**Different Relative Sunspotnumbers**

**Month : November 2010**

CV											Pettisindex SN					Intersol IS					
Date	F. Dubois	O. Steen	L. Meeus	J. Carels	J. Janssens	R. Verboven	G. Gubbels	H. De Backer	D. Van Hesse	Mean	G. Gubbels	F. Dubois	R. Verboven	O. Steen	J. Carels	Mean	F. Dubois	J. Carels	G. Gubbels	Mean	
1	23	23			24					23,3						33,0	9	12		10,5	
2																					
3	5	4						5		4,7		11	12			11,5	3			3,0	
4	6	2								4,0		13	4			8,5	6			6,0	
5																					
6	8	6		8			15			9,3		20	10	25		18,3	13	10		11,5	
7	25	13						2		13,3		29	20			24,5	14			14,0	
8	36		37			5				26,0	16	49				32,5	16		21	18,5	
9	3	6		3		4				4,0	9	11	11	6		9,3	13	3	11	9,0	
10	10	8				14	33			16,3	38	34	18			30,0	29		23	26,0	
11																					
12		10					14			12,0				28		28,0					
13																					
14																					
15	66	71		37			71			61,3		49	56	55		53,3	19	15		17,0	
16	84	58		86						76,0		62	61	78		67,0	21	15		18,0	
17	75	42								58,5		63	51			57,0	23			23,0	
18		72					61	61		64,7	76		50			63,0			18	18,0	
19	65									65,0		44				44,0	10			10,0	
20	30	12	18			15	35	45		25,8	33	31	31	15		27,5	7		10	8,5	
21	12	12								12,0		13	14			13,5	5			5,0	
22																					
23	10						10			10,0		10				10,0	1			1,0	
24	11	10	10	10			10			10,2		11		10	11	10,7	2	2		2,0	
25	11	11	6	8			11			9,4		11	11	21		14,3	2	3		2,5	
26	9	5	11				10			8,8		13	11			12,0	5			5,0	
27	6	3	3	1		6	6	4	0	3,6	12	12	15	3	1	8,6	4	1	4	3,0	
28	7	5	2			5	4	14	12	7,0	11	24	30	14		19,8	16		12	14,0	
29																					
30																					
##	25	19,6	12	22,1	#####	8,7	18	25	5	23,9	28	27	25	23	30	27,1	10,9	7,6	14	10,74	

**Becknumber**

Date	F. Dubois	O. Steen	L. Meeus	De Backer	J. Carels	G. Gubbels	E. De Ceuninck	D. Van Hesse	R. Verboven	F. Freys	A. T. Son	J. Bourgeois	H. Coeckelberghs	Pbl Obs Mira	Mean	Date
1	200	150			232										194	1
2																2
3	16	48				40	48								38	3
4	36	16													26	4
5																5
6	60	40		98	112		48		36						66	6
7	216	76					187		574						263	7
8	315		199			72									195	8
9	44	44			24	36									37	9
10	152	72		222		144	96		40						121	10
11																11
12		120		128											124	12
13																13
14																14
15	292	531		270	398		613					308			402	15
16	361	399		507		406									418	16
17	467	309													388	17
18		193		309		370	181		651	191					316	18
19	113						181		433						242	19
20	113	90	106	197		196		252	241	176					171	20
21	49	53				61			328						123	21
22									192						192	22
23	37			132											85	23
24	78	74	74	88	74		37		111	74					76	24
25	41	41	82	41	111		41								60	25
26	49	41	78	37					139						69	26
27	45	12	16	16	4	45		0	24	20		0			18	27
28	112	52	40	80		44	56	80	60	84	68	40			65	28
29																29
30									342						342	30
	139,8	124	85	135	183	130	160	79	112	264	106	#####	116	#####	168	31

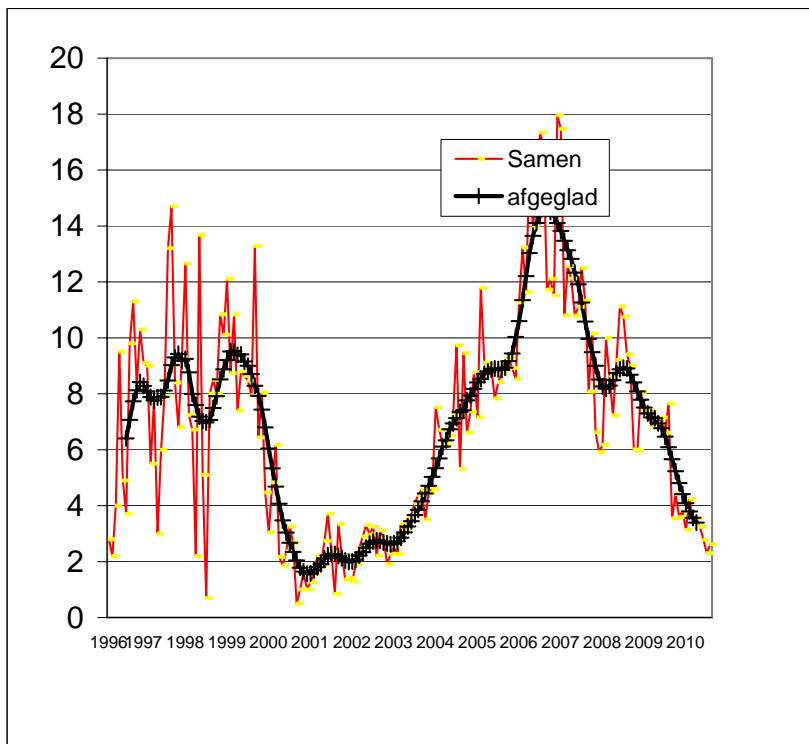
# Belgian Solar Observers

## Polar Faculae

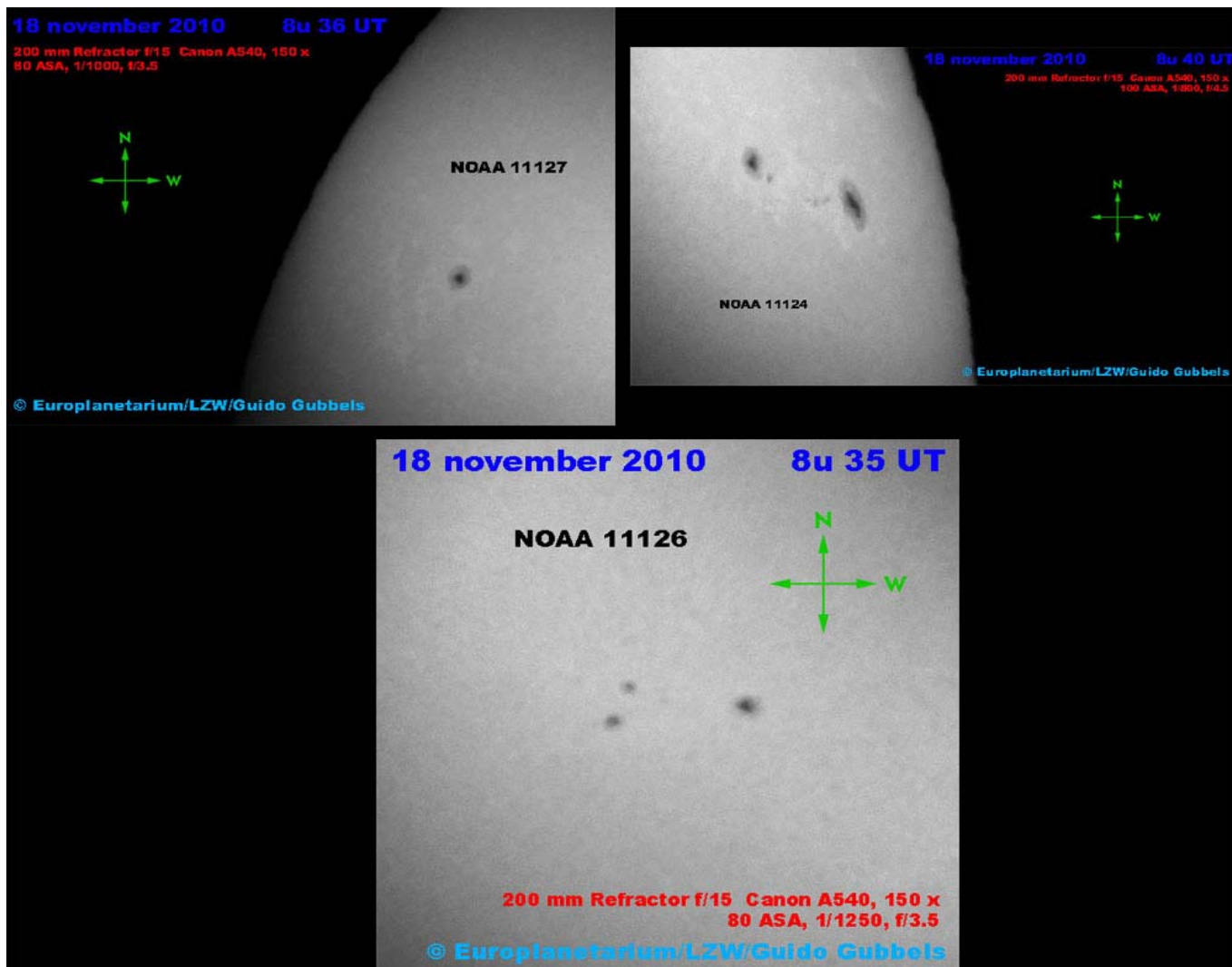
Month: November 2010

Date	Dubois 125mm F20			Steen 102mm F15			T.Spaninks 127mm F15			G.Gubbels 114mm F7,8			J.Carels			Janssen 200mmF10			M. Szulc 60mm F15		
	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q
	1																				
2																					
3																					
4																					
5																					
6	2	0	3				0	0	4												
7																					
8										0	0	2.5									
9																					
10				3	1	3,5				0	0	3.5							5	1	
11																					
12				1	0	3,5															
13																					
14																					
15				0	0	3,5															
16				2	0	3,5															
17																					
18										0	0	3									
19																					
20							0	0	4	0	0	3									
21																					
22																					
23																					
24				0	0	3,0															
25																					
26	2	3	3																	5	2
27				2	1	3,5				0	0	3,5									
28							0	0	4	0	0	4									
29																					
30																					
31																					
Average	2,00	1,50		1,33	0,33		0,0	0,0		0,0	0,0		#####	#####		#####	#####		5,00	1,50	##

Obs of M.Szulc are not included in the monthly average !



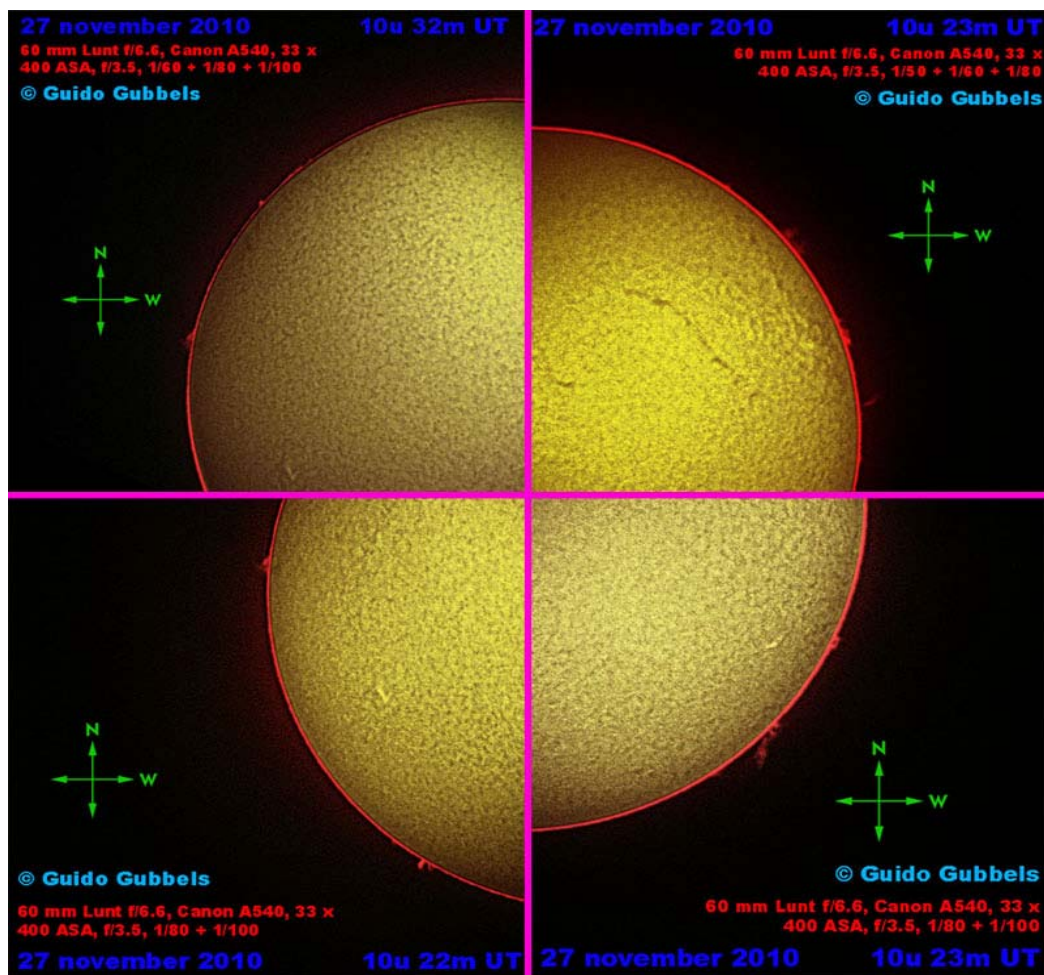
N.O.A.A.	ZICHTBAAR		N.O.A.A.		MAX	MAX	classificatie						
Regio	van	tot	breedte	lengte	AREA	LENGTE	Macintosh						
11126	12-11-10	22-11-10	S31	108	0090	09	DSO	CRO	DAO	DAI	DSO	CAO	BXO
11127	16-11-10	27-11-10	N24	57	0120	02	HSX						
11128	25-11-10	26-11-10	S15	310	0010	01	AXX	BXO					
11129	27-11-10	29-11-10	S25	43	0030	10	BXO AXX						
11130	28-11-10	05-12-10	N14	330	0250	10	CSI	DAI	DRO	DRI	HSX		
11131	02-12-10	14-12-10	N31	208	0430	07	HSX	HHX	CHO	HHX	CHO	DHO	
11132	04-12-10	06-12-10	N10	251	0030	07	CRO	BXO					
11133	04-12-10	16-12-10	N15	178	0200	03	HHX	HSX	CSO	HSX			
11134	13-12-10	14-12-10	N18	164	0020	03	CAO AXX						
11135	13-12-10	17-12-10	N19	78	0020	03	AXX	BXO	AXX				



# Sunspot activity from organisations all over de world

Month : **October 2010**

Organisation	Wolf Total	Wolf North	Wolf South	Groups	Faculae number	CV	Beck	Pettis index	Intersol	Area	prom MDF	prom Rp	Filam & plages	Radio flux	Naked eye
NOAA SWO	35,0													81,6	
SIDC	23,5	15,7	7,8												
Kanzelhöhe	23,5														
G.F.O.E.S France	19,1														0,14
BSO Belgium	31,9	21,7	10,2	2,48		35,9	192,5	33,9	12,11			70,9			
S.O.G.S.A.S. Switzerland	28,5			2,1											
BAA	27,1			1,98							3,49		2,33		
GsRSI Italy	35,4											63,8			
CV Helios Network						29,4									
AAVSO (Raw mean)	29,6														
Sonne Germany Preliminary															
O.A.A. Japan	26,3	17,4	8,9												
Solar Observer Society TOS Poland	30				2,6	28,4				293					



SIDC Weekly bulletin on Solar and Geomagnetic activity  
WEEK 516 from 2010 Nov 15

#### SOLAR CONDITIONS

Solar activity remained at low levels during the past week, despite several active regions present on the solar disk.

The flaring activity was moderate, with only one flare above the C level on Monday Nov. 15th, a C2.3 flare, peaking at 07:49 UT.

#### GEOMAGNETIC CONDITIONS

Geomagnetic activity was extremely low during the whole week.

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# SIDC Weekly bulletin on Solar and Geomagnetic activity  
WEEK 517 from 2010 Nov 22

#### SOLAR CONDITIONS

During the past week, solar activity was quite low. The GOES X-ray flux was mostly at A-level, with a few isolated B-flares.

On Nov 24, STEREO/COR2 and LASCO observed a CME around 4h24. This eruption however, did not affect the Earth. On the same day, the SDO/AIA 304 movie shows 3 filament eruptions. These were also not geo-effective. Several eruptions at the back of the Sun were observed on Nov 26 and Nov 27.

#### GEOMAGNETIC CONDITIONS

Geomagnetic conditions were quiet during the most of the week.

The solar wind speed decreased from 500 km/s on Monday Nov 22 to 350 km/s on Nov 27. Late on Nov 27 a shock in all solar wind parameters was observed due to the arrival of a recurrent coronal wind stream. This caused a short period of unsettled geomagnetic conditions: Kp reached a maximum of Kp=4. The solar wind speed increased again to around 500 km/s.

The SIDC all quiet alert remained valid during the whole week

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# SIDC Weekly bulletin on Solar and Geomagnetic activity  
WEEK 518 from 2010 Nov 29

#### SOLAR ACTIVITY

Flaring activity was limited.

A filament near the central meridian in the northern hemisphere erupted late Nov 28. The CME came into the view of STEREO A COR2 at 23:54UT, Nov 28. The eruption was directed above the ecliptic. According to EUV-solar disk images and magnetograms, the flux rope had a WNE magnetic configuration. Such a configuration does not lead to strong reconnection with the earth magnetic field, in case of arrival.

Another plasma eruption took place on Nov 30, 17:43UT in the east of the solar disk. Evidence for this eruption was a coronal dimming and an EUV-wave. The source region had no NOAA or Catania numbering. The CME was visible in STEREOA/COR2 and HI1 data. It was propagating slightly

above the ecliptic and to the east.

#### GEOMAGNETIC ACTIVITY

The geomagnetic conditions were very quiet this week with Kp between 0 and 2. We could determine in ACE data of Nov 03, around 21:30UT the arrival of a small shock as the density increased abruptly. The temperature and the speed of the plasma following this (small) jump, increased also. This feature in the solar wind data is possibly a glancing blow of one of the two filament eruptions. But as already mentioned, the magnetic field of the Earth was not disturbed.

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SIDC Weekly bulletin on Solar and Geomagnetic activity  
WEEK 519 from 2010 Dec 06

#### SOLAR ACTIVITY

Solar activity was relatively low during the reporting period. The week started with an eruption of a large filament on Monday December 6 around 15:35 UT, observed by PROBA2/SWAP and SDO/AIA. The associated CME was seen in STEREO/A COR2 images starting at 18:54 UT. The CME speed as measured by CACTUS was approximately 550 km/s. On December 8th, the GOES X-ray curve indicated a long duration event, linked to NOAA AR 1133 (Catania 76). SDO/AIA 171 images showed a dimming at that location starting at 09h05. The B-flare was also accompanied by a CME observed through STEREO (by STEREO/A COR2 around 11h39). The CACTUS CME detection based on the LASCO images estimated its speed around 450 km/s.

Another long duration B-flare was observed on December 12th. The associated CME is not expected to influence the Earth. Also the other CME observed on December 12th is not expected to hit Earth. Flaring activity was low during the past week, with no C-flares to report.

#### GEOMAGNETIC ACTIVITY

The filament eruption on Monday December 6 was situated on the south-east side of the Sun, so the associated CME did not affect the Earth.

On the same day, there was a shock in the solar wind speed was observed by ACE due to a sector boundary change. Also the CME on December 8th did not reach the Earth. We are currently experiencing the effects of a fast wind stream originating from long stretched recurrent coronal hole, which was clearly observed during the whole week. The geomagnetic effects of the enhanced wind stream are limited however.

The solar wind speed was low during the week, on average around 350 km/s. The Dourbes K-index did not exceed a maximum of K=3.

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