

# Newsletter Belgian Solar Observers

Results and news for solar observers

Volume 14

Number 160

June 2009

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## Content Newsletter

Graphics and relative number for this month

Daily Wolfnumbers by the members

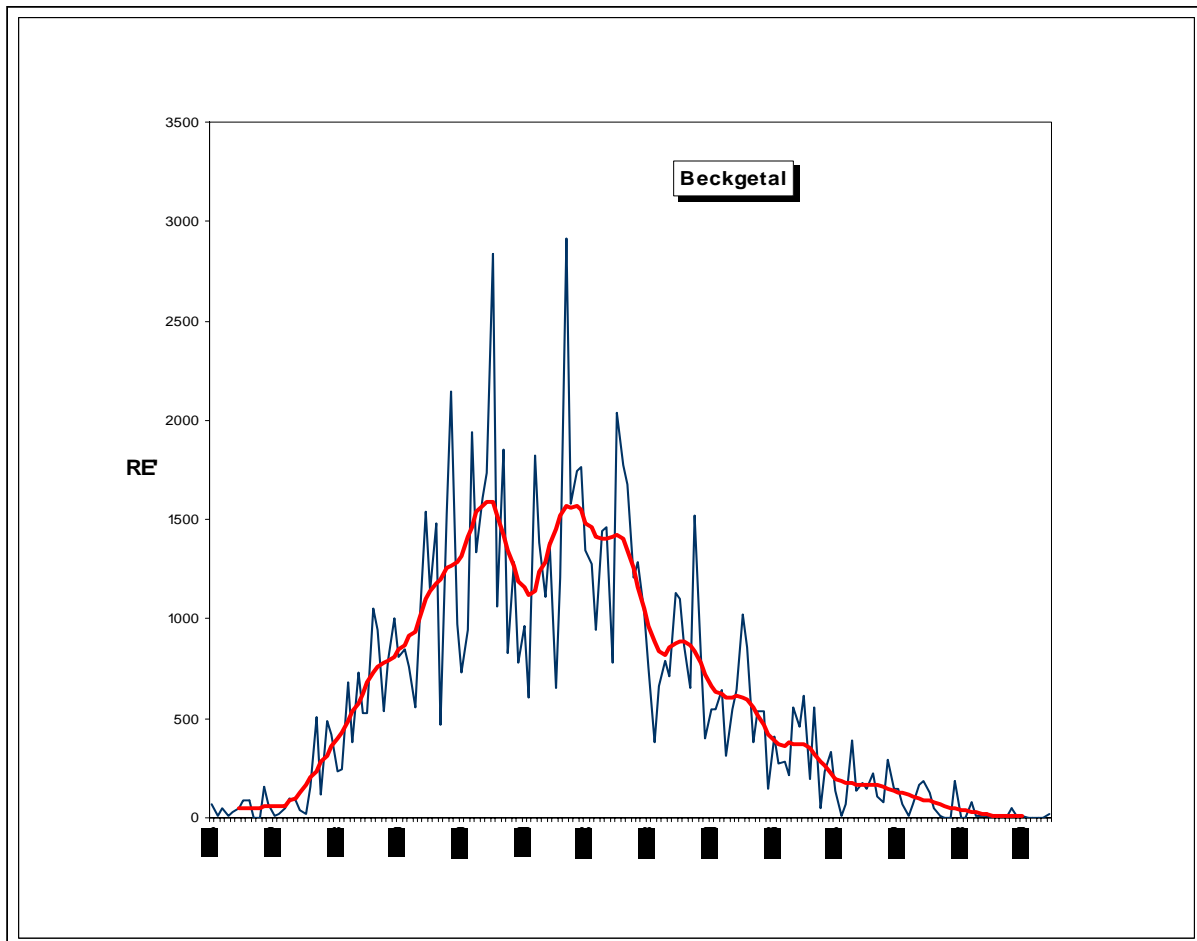
Monthly sunspot report

Polar faculae and CV numbers

Prominence numbers by the members

Monthly prominence report

Photo album and drawings



### Mean of June observations

Groups :	N	0,23	Wolfnumb	N	3,4	Beck :	21,6
	S	0,23		S	2,2	CV	2,2
	N+S	0,47		N+S	5,6		
607 observations	32 observers						



# Sunspotnumbers VVS Belgium

Month: June 2009

Day	GROUPS			WOLFNUMBER			RE'	CV	OBS
	N	S	N+S	N	S	N+S			
1	1	0	1	22	0	22	121	10	30
2	1	0	1	23	0	22,6	199	19	29
3	1	0	1	20	0	19,8	102	9	25
4	1	0	1	18	0	18,4	81	7	16
5	1	0	1	9	0	8,6	16	1	18
6	0	0	0	0	0	0	0	0	12
7	0	0	0	0	0	0	0	0	21
8	1	0	1	7	0	6,7	5	1	20
9	1	0	1	5	0	5,3	4	1	18
10	0	0	0	0	0	0	0	0	9
11	0	0	0	0	0	0	0	0	21
12	0	0	0	0	0	0	0	0	24
13	0	0	0	0	0	0	0	0	23
14	0	0	0	0	0	0	0	0	10
15	0	0	0	0	0	0	0	0	14
16	0	0	0	0	0	0	0	0	21
17	0	1	1	0	7,6	8	4	1	22
18	0	0	0	0	0	0	0	0	20
19	0	0	0	0	0	0	0	0	22
20	0	0	0	0	0	0	0	0	14
21	0	1	1	0	5,1	5,1	4	1	22
22	0	2	2	0	17,9	17,9	24	3	24
23	0	1	1	0	13,2	13,2	31	3	26
24	0	1	1	0	15,1	15,1	51	8	26
25	0	1	1	0	6,4	6,4	5	1	22
26	0	0	0	0	0	0	0	0	17
27	0	0	0	0	0	0	0	0	18
28	0	0	0	0	0	0	0	0	18
29	0	0	0	0	0	0	0	0	23
30	0	0	0	0	0	0	0	0	22
	0,23	0,23	0,47	3,4	2,2	5,6	21,6	2,2	607

Monthly mean: 5,6    Covering: 30/30    Spotless days: 17  
 Observations: 607    Number of observers: 32

V.V.S. BELGIUM SOLAR SECTION    FRANKY DUBOIS

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Observers:

De Ceuninck ; Janssens ; Publ obs Mira ; Bourgeois ; R.Dezeure ; F.Feys  
 De Backer ; Dubois ; Gysel ; Kleber ; Deman ; Taillieu ; Carels ; Dewaele  
 Meeus ; Steen ; KSB ; Gabriel ; Claeys ; Thooris ; J.Bonse ; P.De Reu  
 Claes ; Verboven ; Van Loo ; Son ; Coeckelberghs ; Gadyne ; Dekelver  
 S.Dufoer ; G.Gubbels ; J Bavais ; A. De Kerchove ; J.Bruyland ; Van Hessche



# Prominence number Rp

## Belgian solar observers

Month: June 2009

Day	Q	Wedel		H	e	Rp	el. Obs	Stdev	OBS
1	3,3	2		3,6	5,4	41,4	3	8,8	12
2	2,9	1,9		4,1	5,9	46,9	2	11,6	10
3	3	2,2		2,5	3,1	28,1		8,6	10
4	3,3	1,5		2,3	3,3	26,3	1	6,4	4
5	2,5	2		3,5	5	40	1	8,5	3
6	3	2		3	5	35			1
7	3,1	2,6		3,4	4,6	38,6		10,9	7
8	3,6	1,5		3,8	5,8	43,8	1	4,9	5
9	3,7	1,7		3	4,8	34,8		8,3	5
10	2,8	2		2,5	3,5	28,5		7,8	2
11	3,1	1,8		2,8	4,5	32,5	2	10,6	6
12	3,8	1,4		5,7	8,3	65,3	2	10,8	8
13	3,1	1,8		4	5,9	45,9		9,7	8
14	3	2,5		2,7	5	32	1	9,1	4
15	2,6	2,3		3,4	4,2	38,2		10,3	5
16	3,2	2,1		4,2	4,8	46,8	1	8,1	7
17	2,9	2,4		4	5,5	45,5	2	9,5	6
18	2,7	2,2		5	9,6	59,6	1	10	6
19	3,2	2,1		3,5	5,3	40,3		9,7	6
20	3,5	2,1		2,4	3,4	27,4		6,5	5
21	3,3	2,3		1,7	1,8	18,8	2	9,1	8
22	3,1	2,5		2,1	2,6	23,6	2	10,2	9
23	3,6	1,6		2,2	2,8	24,8		9,1	10
24	3,3	1,8		3,5	4,3	39,3	1	9,9	7
25	3,4	1,9		3	4,7	34,7	1	10,9	7
26	3,5	1,8		3	5	35	1	8,3	6
27	3,5	2,7		3	3,8	33,8	2	11,5	6
28	3,5	1,7		2,5	5,2	30,2	1	9,6	7
29	3,4	1,9		4,2	5,8	47,8	3	12,6	8
30	3,6	1,8		2,9	4,6	33,6	2	10,4	9
	<b>3,22</b>	<b>2,00</b>		<b>3,3</b>	<b>4,8</b>	<b>37,3</b>	<b>32</b>	<b>9,4</b>	<b>197</b>

Monthly mean: **37,3**    Covering: **30/30**  
 Observations: **197**    Number of observers: **13**

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

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#### Observers:

Steen ; Dubois ; Meeus ; De Ceuninck ; Coeckelberghs ; Janssens  
 Hamsch ; Claes ; Gabriel ; Blondeel ; Deman ; G.Gubbels ; T.Spaninks

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 :  $H \cdot 10^e$

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

Different Relative Sunspotnumbers

Month : June 2009

CV											Pettisindex SN					Intersol IS								
Date	F.Dubois	O.Steen	L.Meets	J.Carels	J.Janssens	P.J. Dekelver	G.Gubbels	H.De Backer	D.Van Hessche	R.verboven	S.Dufoer	Mean	G.Gubbels	F.Dubois	P.J. Dekelver	O.Steen	J.Carels	Mean	F.Dubois	J.Carels	G.Gubbels	P.J. Dekelver	Mean	
1	6	9	5	5	16	9	6	22	5	9	22	10,4	21	21	38	29	18	25,4	13	10	13	12	12,0	
2	22	16	5	16		22	16	22	25	22	22	18,8	48	31	28	27	29	32,6	15	12	13	17	14,3	
3	6	2	5	2		6	6	22		13	22	9,3	27	22	18	9	5	16,2	14	6	19	10	12,3	
4	6	3	2	3		6	12			6	16	6,8	18	18		6	9	12,8	10	10	10		10,0	
5	0	0	1	0		2	2	2	2			1,1	7	0	3	0	0	2,0	0	0	8	3	2,8	
6	0	0		0	0	0		0		0		0,0	0	0	0	0	0	0,0	0	0		0	0,0	
7	0	0	0	0	0	0	0	0	0	0		0,0	0	0	0	0	0	0,0	0	0	0	0	0,0	
8	1	1	1			1	1	1		1		1,0	2	2	2	2		2,0	3		3	3	3,0	
9	1	2	2			0	2	2		0	1	1,3	2	2	0	2		1,5	3		3	0	2,0	
10	0	0					0					0,0	0	0	0			0,0	0				0,0	
11	0	0	0	0		0	0	0		0	0	0,0	0	0	0	0	0	0,0	0	0	0	0	0,0	
12	0	0	0	0		0	0	0	0	0	0	0,0	0	0	0	0	0	0,0	0	0	0	0	0,0	
13	0	0	0	0	0	0	0			0		0,0	0	0	0	0	0	0,0	0	0	0	0	0,0	
14	0	0	0	0								0,0				0	0	0,0					0,0	
15	0	0	0	0		0						0,0	0	0	0	0	0	0,0	0	0	0	0	0,0	
16	0	0	0	0		0	0		0	0		0,0	0	0	0	0	0	0,0	0	0	0	0	0,0	
17	1	1	1			1	1			1		1,0	1	1	1	1		1,0	1		1	2	1,3	
18	0	0	0	0		0	0			0	0	0,0	0	0	0	0	0	0,0	0	0	0	0	0,0	
19	0	0	0	0		0	0			0	0	0,0	0	0	0	0	0	0,0	0	0	0	0	0,0	
20	0	0	0		0	0	0			0		0,0	0	0	0	0		0,0			0	0	0,0	
21	0	1	2	2	0	1	2		0	1	0	0,9	3	0	1	1	2	1,4	0	3	4	1	2,0	
22	4	4	4	2		3	4	5		2	2	3,3	5	8	5	7	3	5,6	10	4	7	6	6,8	
23	1	3	5	2	2	2	2	11		2	2	3,2	4	11	2	4	3	4,8	3	4	5	3	3,8	
24	6	3	11	3	16	2	3	28		2	5	7,9	7	15	4	5	3	6,8	7	4	8	5	6,0	
25	2	1		0		1	2	0	1	2	1	1,1	2	2	1	1	0	1,2	3	0	3	1	1,8	
26	1	0	0	0		0	0	0		0		0,1	0	1	0	0	0	0,2	1	0	0	0	0,3	
27	0	0	0	0		0	0	0		0	0	0,0	0	0	0	0	0	0,0	0	0	0	0	0,0	
28	0	0		0	0		0	0		0	0	0,0	0	0		0	0	0,0	0	0	0		0,0	
29	0	0	0	0		0	0	0	0	0	0	0,0	0	0		0	0	0,0	0	0	0	0	0,0	
30	0	0	0	0		0	0	0		0		0,0	0	0	0	0	0	0,0	0	0	0	0	0,0	
##	2,0	1,5	1,8	1,4	3,8	2,1	2,0	6,0	3,9			5,2	2,2	5,7	4,8	4,3	3,1	2,9	3,8	3,0	2,1	3,7	2,6	2,6

Becknumber

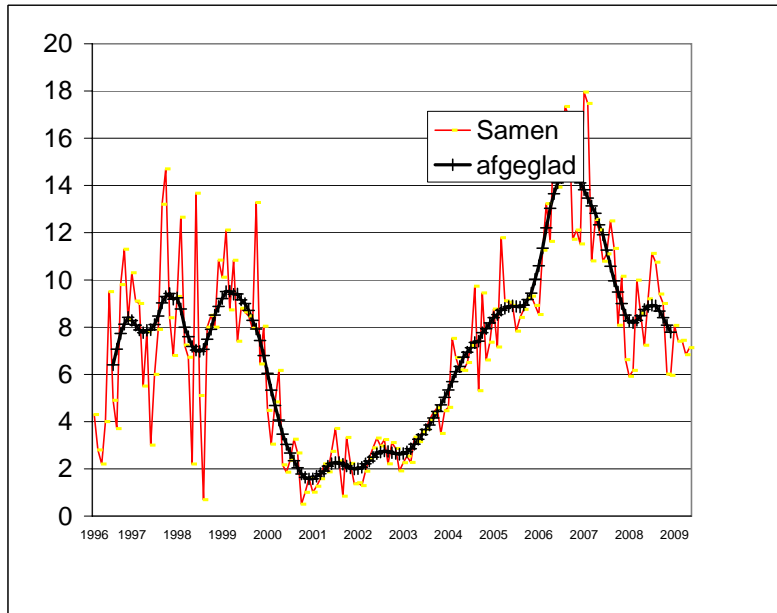
Date	F.Dubois	O.Steen	L.Meus	P.J. Dekelver	J.Carels	G.Gubbels	S.Dufoer	D.Van Hessche	R.Verboven	A.T.Son	J.Bourgeois	H.Coeckelberghs	De Backer	Pbj Obs Mira	J.Claes	F.Feys	Mean	Date					
1	96	88	104	88	72	96	252	88	96	120	64	180	216	52		144	117	1					
2	252	198	104	288	198	216	234	162	216	120	52	126	180	40	64	594	190	2					
3	104	36	48	72	20	144	234		64	48	48	40	216	44	56	306	99	3					
4	72	24	24		36	72	162		48	28			56		32	336	81	4					
5	0	0	16	12	0	28			16	20			16	0		68	16	5					
6	0	0		0	0				0				0			0	0	6					
7	0	0	0	0	0	0	0	0		0	0	0	0			24	2	7					
8	8	8	8	8		8		8		0	0	0	8		0	0	5	8					
9	8	8	8	0		8	4	0		0		0	8		0	0	4	9					
10	0	0											0			0	0	10					
11	0	0	0	0	0	0	0	0		0			0		0	0	0	11					
12	0	0	0	0	0	0	0	0		0			0		0	0	0	12					
13	0	0	0	0	0	0	0	0		0			0		0	0	0	13					
14	0	0														12	3	14					
15	0	0	0	0	0											0	0	15					
16	0	0	0	0	0	0		0		0					0	0	0	16					
17	4	4	4	4		4		4		4			4			12	4	17					
18	0	0	0	0	0	0	0	0		0	0	0	0			0	0	18					
19	0	0	0	0	0	0	0	0		0	0	0	0			0	0	19					
20	0	0	0	0	0	0	0	0		0						0	0	20					
21	0	4	12	4	8	12	0	8		0		0				0	4	21					
22	32	28	28	20	12	20	12		8	20		45	24	12	20	56	24	22					
23	16	16	16	8	12	16	8		8	8		74	16		8	198	31	23					
24	48	20	48	16	12	28	48		20	24		111	72		40	180	51	24					
25	8	4		4	0	8	4	4	8	0		0			0	20	5	25					
26	4	0	0	0	0	0			0	0			0		0	0	0	26					
27	0	0	0		0	0	0		0				0		0	0	0	27					
28	0	0			0	0	0		0				0		0	0	0	28					
29	0	0	0		0	0	0	0		0		0	0	0	0	0	0	29					
30	0	0	0	0	0	0			0			0	0		0	0	0	30					
##	23,3	15,1	16,8	21,8	14,8	25	53	32	19	###	18	14	33,9	39	19,0	12,9	65,0	###	21,2				

# Belgian Solar Observers

## Polar Faculae

Month: June 2009

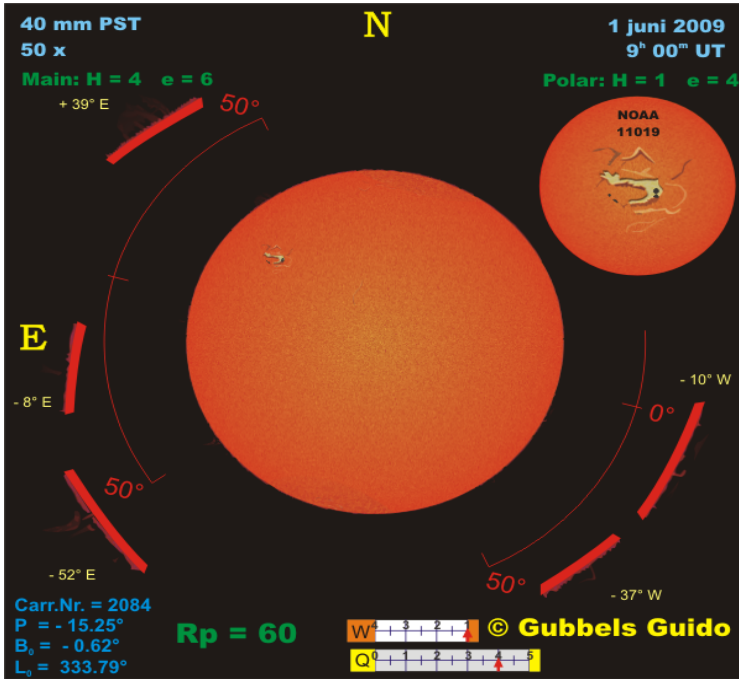
Date	Dubois 125mm F20			Steen 102mm F15			Deman 150mm F15			Gabriel 250 mm F20			Carels 150mm F8			Janssen 200mm F10			T.Spaninks 127mm F15			G.Gubbels 114mm F7,6			F.Feys			
	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	
	1	1	8	3	2	4	3,5	7	12	5	9	17	4				1	3	3,5	0	1	5	0	4	4			
2										8	14	4														3	12	5
3	2	2	3							9	13	4											2	3	3,5	11	20	4
4										9	17	4											4	4	3,5	6	12	4
5										8	14	3											4	3	3,5	11	23	4
6										7	15	3														10	29	4
7	1	1	3	3	3	3,5				8	14	3				2	2	3,5	0	0	5	3	2	2,5	28	41	5	
8	2	7	4	4	4	3,5	13	14	4	11	15	5							1	0	4	6	5	3,5	22	53	5	
9	3	4	4							7	18	4											4	3	3	15	52	5
10										5	15	3														12	27	4
11	4	7	4	1	3	3,5				6	14	3											7	6	3,5	21	47	4
12	4	4	3	6	6	4,0	6	9	3	8	14	4							0	0	4	5	4	4,5	21	44	5	
13				2	4	3,5	4	6	3	7	12	4							0	1	4	6	4	3,5	20	68	5	
14										11	17	5														15	24	3
15										9	14	3														11	29	3
16	4	7	4	5	4	3,5				12	16	4											5	3	4	28	42	5
17				7	5	4,0				10	15	4							0	0	4	6	5	4,5	18	24	5	
18	4	6	4	2	1	3,0				8	14	3										5	4	3,5	17	68	5	
19	3	7	4	4	5	3,5				7	12	3							0	0	4	6	7	3	32	48	4	
20										10	16	4				4	6	3,5				4	3	3,5	25	45	4	
21										8	13	3											4	4	4	31	65	5
22				6	5	3,5	12	8	3	7	11	4							0	0	4	4	3	4	32	52	5	
23	3	5	3	5	5	3,5	14	7	4	11	9	4							1	0	4	4	3	3,5	25	53	5	
24	3	5	3	1	1	3,0				11	13	5				2	3	3	0	0	4	5	3	3,5	25	36	3	
25	2	6	3	3	4	3,5	12	10	4	11	12	4							0	0	4	4	2	1,5	57	54	5	
26	4	6	3	3	1	4,0				10	13	4							0	0	5	2	3	3,5	38	43	5	
27										9	11	4							0	0	4	5	2	2	27	25	4	
28	6	8	4	3	3	4,0	11	7	5	11	14	3				1	1	3	0	0	4	4	2	3	23	23	5	
29	2	6	4	4	3	4,0	8	7	5	10	11	5	0	1	4				0	0	3	5	1	3	33	52	5	
30	5	4	4	6	3	4,0	6	8	5	12	12	4							0	0	4	4	2	4	36	56	5	
	3,12	5,47		3,72	3,56		9,3	8,8		9,0	13,8		0,00	1,00		2,00	3,00		0,13	0,13		4,32	3,40		22,52	40,24		



# Sunspot activity from organisations all over de world

Month : **May 2009**

Organisation	Wolf Total	Wolf North	Wolf South	Groups number	Faculae number	CV	Beck index	Pettis index	Intersol	Area	prom MDF	prom Rp	Filam & plages	Radio flux	Naked eye	Polar Faculae
NOAA SWO	3,9													70,6		
SIDC	2,9	2,2	0,7													
Kanzelhöhe	2,0															
G.F.O.E.S France	1,5	1	0,5												0	
BSO Belgium	3,0	2,1	0,9	0,45		0,60	3,3	1,3	1,4			39,2				6,83
S.O.G.S.A.S. Switzerland	1,7			0,10												
BAA	2,07			0,14							2,46		0,44			
GsRSI Italy																
CV Helios Network						0,46										
AAVSO	2,5															
Sonne Germany Preliminary	1,7			0,10			5,0								0	
O.A.A. Japan	2,6	2,1	0,5													
Solar Observer Society TOS Poland	5,23				0,9	0,71				7,73						





SIDC Weekly bulletin on Solar and Geomagnetic activity  
WEEK 442 from 2009 Jun 15

#### SOLAR ACTIVITY

Solar activity was very low during the whole past week

#### GEOMAGNETIC ACTIVITY

Geomagnetic activity was very quiet.

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SIDC Weekly bulletin on Solar and Geomagnetic activity  
WEEK 443 from 2009 Jun 22

#### SOLAR ACTIVITY

Two active regions were visible in the southern hemisphere: NOAA AR 1022 and 1023. AR 1023 was linked with the sunspot group Catania 12. No noticeable flaring activity was caused by these magnetic structures. Two coronal holes transited the solar disk. A northern coronal hole crossed the central meridian on Jun 21. The second coronal hole was situated near the equator and crossed the central meridian on Jun 25.

#### GEOMAGNETIC ACTIVITY

The co-rotating region associated with the first hole mentioned in the previous section arrived on Jun 24. The solar wind speed increased to 500 km/s on Jun 25. The Kp index became one period 4 and one period 5 on Jun 25. The influence of the second coronal hole was limited. The Bz was mainly positive. The Kp did not increase considerably.

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SIDC Weekly bulletin on Solar and Geomagnetic activity  
WEEK 444 from 2009 Jun 29

#### SOLAR ACTIVITY

The highlight of solar activity this week was active region NOAA AR 1024. This cycle 24 region (!) pushed the (estimated) International Sunspot Index above 15 from July 4 onwards meanwhile producing a firework of B-class flares. The apogee was reached on July 5 at 07h13 with a C2.7 flare, nicely imaged by Kanzelhöhe Observatory (see <http://sidc.be>). The flare was followed immediately by an interesting EUV dimming (see EIT/195 data).

#### GEOMAGNETIC ACTIVITY

A modest high solar wind speed of about 550 km/s was recorded on June 29-30 resulting in a brief episode of Kp=4 values. At all other times, NOAA's estimated Kp did not pass above Kp=2.

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SIDC Weekly bulletin on Solar and Geomagnetic activity  
WEEK 445 from 2009 Jul 06

#### SOLAR ACTIVITY

Except for a C1 flare on July 6, solar activity was very low over the entire week. Active region NOAA1024 (Catania#14) was the only sunspot group (type E). It started the week in a stable state, went through a second short growth phase on July 7 and then declined continuously until its disappearance at the West limb on July 11.

The only other significant solar feature was a low-latitude extension of the North polar coronal hole that directed a weak fast solar wind stream towards the Earth from July 9 to July 12. This stream reached its peak speed of 450km/s on July 10 and decayed slowly afterwards.

#### GEOMAGNETIC ACTIVITY

Given the absence of any significant solar disturbance, including fast solar wind streams, the geomagnetic activity

was largely quiet over the whole week. There was only a temporary unsettled period on July 9-10.

SIDC Weekly bulletin on Solar and Geomagnetic activity  
WEEK 446 from 2009 Jul 13

#### SOLAR ACTIVITY

No solar activity was registered this week. There were no sunspots, the 10.7 cm radio flux stayed under 69 sfu the full week.

#### GEOMAGNETIC ACTIVITY

Late on July 13 the fast solar wind from a coronal hole arrived to Earth, it produced a Kp of 4. Unsettled conditions were present until July 15. There were no other disturbances during the rest of the week and the geomagnetic conditions stayed at quiet levels.

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SIDC Weekly bulletin on Solar and Geomagnetic activity  
WEEK 447 from 2009 Jul 20

#### SOLAR ACTIVITY

Solar activity remained very low during the whole week.

#### GEOMAGNETIC ACTIVITY

Geomagnetic activity was dominated by a period of minor storm intensity at planetary levels (Kp=6 and Kp=5) between July 22nd 3 UT and 9 UT, due to a recurring fast solar wind stream linked to a coronal hole.

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