

# Newsletter Belgian Solar Observers

Results and news for solar observers

Volume 15

Number 173

July 2010

Franky Dubois Poelkappellestraat 39 langemark 8920

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## Content Newsletter

Graphics and relative number for this month

Daily Wolfnumbers by the members

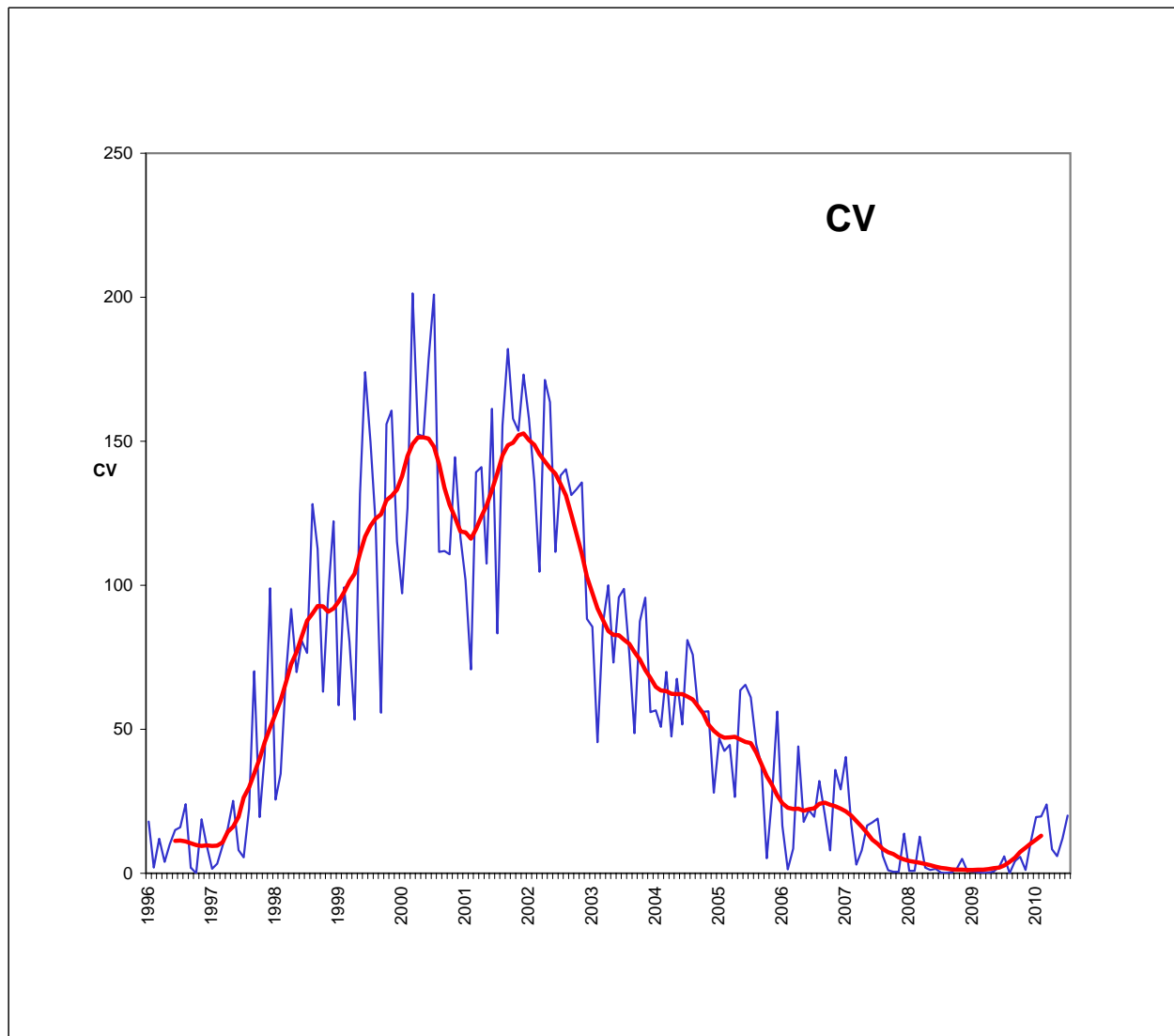
Monthly sunspot report

Polar faculae and CV numbers

Prominence numbers by the members

Monthly prominence report

Photo album and drawings



### Mean of July observations

Groups :	N	1,26	Wolfnumb N	10,9	Beck :	154,1
	S	0,90	S	12,5	CV	20
	N+S	2,16	N+S	23,4		
538 observations	30 observers					



# Sunspotnumbers VVS Belgium

Month: **July 2010**

Day	GROUPS			WOLFNUMBER			RE'	CV	OBS
	N	S	N+S	N	S	N+S			
1	0	1	1	0	12,3	<b>12,3</b>	64	10	13
2	0	1	1	0	11,2	<b>11,2</b>	50	10	18
3	0	1	1	0	11,4	<b>11,4</b>	63	9	14
4	1	1	2	5,2	10,1	<b>15,3</b>	56	13	23
5	1	1	2	13,3	11,3	<b>24,6</b>	89	23	12
6	1	1	2	10,7	11,3	<b>22,0</b>	58	18	17
7	1	1	2	2,6	10,9	<b>13,5</b>	44	10	20
8	0	1	1	0	11,1	<b>11,1</b>	42	10	19
9	2	0	2	12,3	0	<b>12,3</b>	10	2	18
10	2	0	2	21,5	0	<b>21,5</b>	85	11	21
11	2	1	3	26,0	2,7	<b>28,7</b>	237	23	21
12	2	1	3	23,4	8,4	<b>31,8</b>	144	21	15
13	1	1	2	19,0	4,9	<b>23,9</b>	103	20	19
14	1	0	1	18,7	0	<b>18,7</b>	83	17	19
15	1	0	1	17,7	0	<b>17,7</b>	69	12	19
16	2	0	2	17,8	0	<b>17,8</b>	46	14	13
17	1	0	1	13,3	0	<b>13,3</b>	59	8	17
18	2	0	2	12,7	0	<b>12,7</b>	36	5	23
19	2	1	3	9,5	8,8	<b>18,3</b>	30	11	21
20	1	1	2	12,3	15,8	<b>28,1</b>	118	23	17
21	1	1	2	3,0	26	<b>29,0</b>	370	38	15
22	1	1	2	2,1	27,9	<b>30,0</b>	435	29	17
23	1	1	2	2,6	33,1	<b>35,7</b>	663	29	21
24	2	2	4	16,2	33,3	<b>49,5</b>	491	29	20
25	2	1	3	15,2	25,3	<b>40,5</b>	320	31	5
26	2	1	3	8,2	19,8	<b>28,0</b>	221	25	17
27	1	2	3	4,9	16,7	<b>21,6</b>	86	13	12
28	1	2	3	10,4	26,8	<b>37,2</b>	218	40	18
29	1	2	3	13,4	23,6	<b>37,0</b>	232	53	15
30	2	1	3	13,9	15,3	<b>29,2</b>	124	36	24
31	2	1	3	13,4	8,7	<b>22,1</b>	132	26	15
	<b>1,26</b>	<b>0,90</b>	<b>2,16</b>	<b>10,9</b>	<b>12,5</b>	<b>23,4</b>	<b>154,1</b>	<b>20,0</b>	<b>538</b>

Monthly mean: **23,4**    Covering: **31/31**    Spotless days: **0**  
 Observations: **538**    Number of observers: **30**

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

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

Observers:

De Ceuninck ; Janssens ; Publ obs Mira ; Bourgeois ; R.Dezeure ; F.Feys  
 De Backer; Dubois ; Taillieu ; Carels ; Dewaele  
 Meeus ; Steen ; KSB ; Claeys ; Thooris ; J.Bonse  
 Claes ; Verboven ; Van Loo ; Son ; Coeckelberghs ; Dekelver



# Prominence number Rp

## Belgian solar observers

Month: July 2010

Day	Q	Wedel		H	e	Rp	el. Obs	Stdev	OBS
1	4	1,9		6,2	11,6	<b>73,6</b>	1	10,2	6
2	3,8	1,3		5,8	11	<b>69</b>	1	10,7	5
3	3	1,9		3	6,3	<b>36,3</b>	1	8,3	5
4	3,7	3,5		5	6,4	<b>56,4</b>	2	12,7	7
5	3	1,8		6,2	10,4	<b>72,4</b>		6,1	5
6	3,5	1,5		6	9,3	<b>69,3</b>	3	11,5	6
7	3,6	1,8		4,6	5,9	<b>51,9</b>	3	15,4	11
8	3,4	1,9		4,6	5,4	<b>51,4</b>	1	14,5	8
9	3,5	1,4		6,1	11,6	<b>72,6</b>	1	11,1	8
10	3,3	1,9		4,7	7,6	<b>54,6</b>	2	12,4	9
11	3,8	1,6		7,1	14,8	<b>85,8</b>	2	12,3	11
12	3,4	1,8		6,3	11,6	<b>74,6</b>		15	7
13	3,9	1,3		5,8	11,8	<b>69,8</b>	3	12	8
14	3,7	1,2		7	14,3	<b>84,3</b>	2	10,6	8
15	3,3	1,6		5	8,4	<b>58,4</b>	2	16,3	7
16	3,2	1,8		5	8	<b>58</b>	2	13,3	7
17	3,8	1,7		6,6	11,4	<b>77,4</b>	1	8,6	8
18	3,8	1,8		3,9	7,4	<b>46,4</b>	2	7,1	11
19	3,7	1,6		6	10,5	<b>70,5</b>	3	11,9	9
20	3,7	1,8		3,3	4,3	<b>37,3</b>	2	7,2	5
21	3,5	2,2		6,5	12,3	<b>77,3</b>		13,3	4
22	3,4	1,3		6,2	11,2	<b>73,2</b>	2	17,3	7
23	3,8	1,3		8,8	19	<b>107</b>	3	17,4	7
24	3,9	1,9		7,1	12,3	<b>83,3</b>		8,5	9
25	3,5	1,8		6	10,5	<b>70,5</b>		12,5	2
26	3,5	2,3		4,8	8,3	<b>56,3</b>	1	10,8	5
27	4,5	1		7	16,5	<b>86,5</b>	1	13,4	3
28	3,3	1,9		5,9	10,1	<b>69,1</b>	1	22,4	8
29	3,3	1,5		5,8	10,6	<b>68,6</b>	1	13,7	6
30	3,7	1,4		6,3	12,7	<b>75,7</b>	3	5,4	9
31	3	1,8		6,3	15,7	<b>78,7</b>	2	14,4	5
	<b>3,56</b>	<b>1,73</b>		<b>5,8</b>	<b>10,6</b>	<b>68,3</b>	<b>48</b>	<b>12,1</b>	<b>216</b>

Monthly mean: **68,3**    Covering:  
 Observations: **216**    Number of observers: **10**

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

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 Belgium  
 e-mail : astrosun@skynet.be

**Observers:**

**Steen ; Dubois ; De Ceuninck ; Coeckelberghs ; Janssens ; Feys  
 Hamsch ; Claes ; 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**

Different Relative Sunspotnumbers

Month : July 2010

CV														Pettisindex SN							Intersol IS				
Date	F.Dubois	O.Steen	L.Meeus	J.Carels	J.Janssens	P.J. Dekelver	G.Gubbels	H.De Backer	D.Van Hessehe	R.verboven	Mean	G.Gubbels	F.Dubois	P.J. Dekelver	O.Steen	J.Carels	R.Verboven	Mean	F.Dubois	J.Carels	G.Gubbels	P.J. Dekelver	Mean		
1		10	10		10	10	10	10			10,0		11	1	10			7,3			3	1	2,0		
2		10	10			10	10	10	10		10,0		10	1	10			7,0			1	1	1,0		
3		10				10	10	7		7	8,8		10	1	10		10	7,8			1	1	1,0		
4	41	11	11	11		10	10	7	10	7	13,1		10	12	1	12	11	10	9,3	4	2	1	1	2,0	
5	45	15	15				21	12			23,3		21	23				22,0	5		5		5,0		
6	45	11	15				20	8	11		18,3		20	21		11		17,3	4		2		3,0		
7	10	10	10	10	10	10	11	10	10		10,1		12	10	1	10	10	8,6	1	1	4	1	1,8		
8	10	10	10	10		10	10	10			10,0		10	10	1	10	10	8,2	1	1	1	1	1,0		
9	1	1	2	2			3	1			1,7		3	1	1	2		1,8	1	3	4		2,7		
10	3	21	15	3	7	15	13	7	14	13	11,1		24	8	16	25	8	22	17,2	9	9	9	16	10,8	
11	23	33	17	17	23		23	24	23	23	22,9		38	39		38	28	39	36,4	16	16	19		17,0	
12	20	21	17				31	16	20		20,8		35	21		23		26,3	6		13		9,5		
13	20	12	26	13		28	28	14	11	24	19,6		63	25	13	23	30	29,7	8	13	23	13	14,3		
14	22	12	25	12		29	13	8			17,3		43	25	14	14	23	23,8	9	6	21	14	12,5		
15	11	11	8	11		15		8	11	22	12,1			13	7	14	12	33	15,8	5	4		7	5,3	
16	11	13	26				12	8			14,0		23	11		15		16,3	3		15		9,0		
17	7	7	10	4			11	8			7,8		15	11		11	12	12,3	3	3	8		4,7		
18	5	2	5	2	4	2	7	10	4	7	4,8		11	11	3	3	4	10	7,0	3	4	3	3	3,3	
19	4	5		20		22	13	5	8		11,0		15	7	5	8	27	12,4	10	12	6	5	8,3		
20	23	41	24	24			12	12			22,7		25	32		17	28	25,5	8	13	10		10,3		
21	31	56				63	30	22		23	37,5		43	42	28	35		44	38,4	11		19	28	19,3	
22	31	32	22	35			31	23			29,0		68	67		69	69	68,3	17	30	38		28,3		
23	31	35	29	28			24	23		32	28,9		59	54		40	56	72	56,2	20	24	35		26,3	
24	31	48	29	27	23		26	24	29	23	28,9		69	53		31	53	62	53,6	30	30	27		29,0	
25		31					24	38			31,0		45			30		37,5			19		19,0		
26	23	24	25	30		26	22	28			25,4		33	26	10	25	29	24,6	10	12	18	10	12,5		
27		8					20	11			13,0		38			12		25,0			15		15,0		
28	20	61	60	16		38	63	22			40,0		65	32	15	34	31	35,4	15	15	26	15	17,8		
29	63	60		46			64	30			52,6		41	41		38	32	38,0	15	15	18		16,0		
30	50	44	47	44		17	54	18	43	4	35,7		66	29	14	18	24	10	26,8	14	15	29	14	18,0	
31	41	39					20	11	42	4	26,2		35	12		12	10	17,3	5		11		8,0		
##	23,9	23,0	19,5	18,3	12,8	19,7	21,5	14,4	17,6	15,8	19,9		32,0	24,5	8,2	20,3	25,0	28,8	23,6	9,0	11,4	13,5	8,2	10,76	

Becknumber

Date	F.Dubois	O.Steen	L.Meeus	P.J. Dekelver	J.Carels	G.Gubbels	E.De Ceuninck	D.Van Hessehe	R.Verboven	F.Feys	A.T.Son	J.Bourgeois	H.Coeckelberghs	De Backer	Pbl Obs Mira	J.Claes	Mean	Date						
1		37	37	44		88				189			37				68	1						
2		37	37	44		37		37		111	37	74	50	37			44	50	2					
3		37		44		37		74	111	37	111		74				44	63	3					
4	52	45	45	44	41	37		37	74	111	37	111	44	74	44	44		56	4					
5	69		69			61	48			135	37			98	184			88	5					
6	60	41	61			74	24	41		98	49			78				58	6					
7	37	37	37	44	37	45	12	37		115	45			37		48		44	7					
8	37	37	37	44	37	37	8			74	37	74		37	44			42	8					
9	4	4	12		12	12	12			16	37	4		4		18		12	9					
10	32	120	106	60	32	144	72	275	126	24	8	32		56		72		83	10					
11	224	160	258		256	278	188	400	216	282	40	112		260		126		215	11					
12	76	66	128			157	112	375		134	318			174				171	12					
13	112	44	130	80	92	290	44	64	228	72	72	64		130	40	112		105	13					
14	144	40	162	88	40	136	56			88	44	64		56	40	90		81	14					
15	32	40	56	48	24		32	64	234	48	72	12		48	44	126		63	15					
16	16	44	50			108				32	152	56		32		40		59	16					
17	74	111	111		111	56	16			32	32	12		40				60	17					
18	16	12	24	8	16	74	16	74	88	20	24	12		111		16		37	18					
19	28	32		72	60	53	32	32		36	20	12		24	0	0		31	19					
20	146	76	170		156	52	170			92	12	228		44				115	20					
21	180	450		512		429	250		375	136	48	436		288				310	21					
22	288	375	360		508	837	250			468	648			575	414	270		454	22					
23	342	600	530		414	829	550		900	756		432		625	468	270		560	23					
24	448	379	364		595	487	500	256	454	458	1908	450		529				569	24					
25		262				296				506	976			217				451	25					
26	148	204	216	225	254	200	171			412				162				221	26					
27		24				206	24			188				40		54		89	27					
28	145	198	178	344	180	436	144			346	64			104				214	28					
29	128	212			104	202	392			200	101	302		319		288		225	29					
30	96	56	84	157	72	217	222	44	74	120	172	135		100	96	180		122	30					
31	136	28				101			44	74	264	208	115	100	224			129	31					
	118,1	126,9	136	116,1	152,1	201	139	127	243	183	236	136	65	149	137	99		156,3						

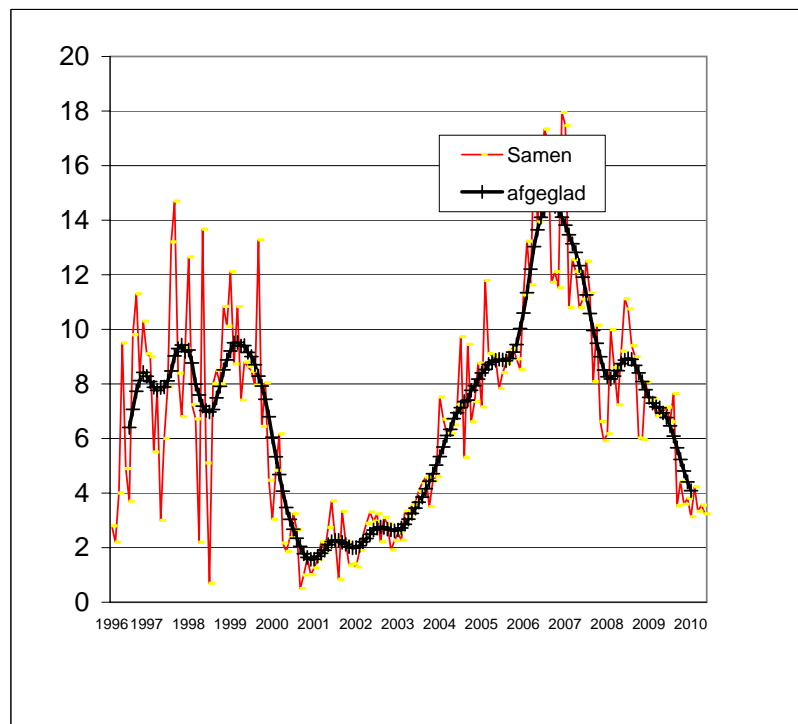
# Belgian Solar Observers

## Polar Faculae

Month: July 2010

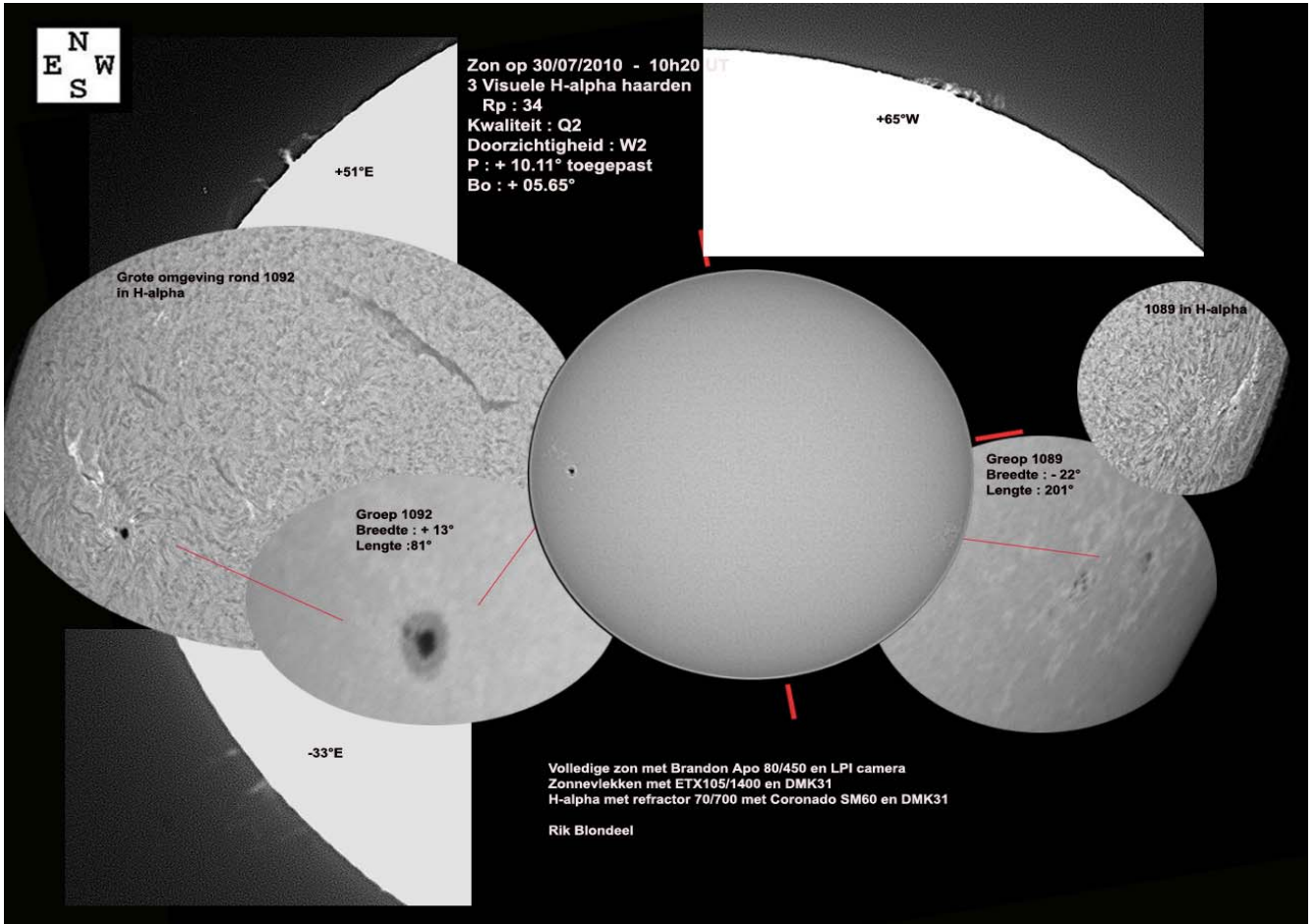
Date	Dubois 125mm F20			Steen 102mm F15			T.Spaninks 127mm F15			G.Gubbels 114mm F7,8			Dekelver 150mm F8			Janssen 200mm F10			J.Carels			M. Szulc 60mm F15				
	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South
1				2	0	4,0				3	4	3,5	0	0	4	0	0	3,0				2	3			
2				1	0	3,5				2	4	3,5	0	0	3,5							5	3			
3							0	0	4	4	3	3,5	0	0	4											
4	1	0	3	3	2	4,0				3	2	3,5	0	0	3,5							5	4			
5							0	0	4	3	2	3										7	3			
6	0	1	3	2	2	3,5				3	3	4														
7	2	0	3	3	1	4,0	0	0	4	4	4	4	0	0	3,5	2	3	4				6	7			
8	2	5	4	2	3	3,5	0	0	4	4	3	4,5	0	0	4				1	3	4	6	6			
9	0	0	3				0	0	4	4	3	3,5										3	5			
10	1	2	3	3	1	3,0	0	0	4	4	2	3,5	0	0	4	1	1	4	1	2	4	3	2			
11				1	0	3,0	0	0	4	4	2	3,5				1	0	4	1	2	3	4	4			
12							0	0	3	4	2	3,5										7	6			
13	0	0	3	2	1	3,5	0	0	4	5	2	3,5	0	0	3				1	0	4					
14	0	0	3	2	1	4,0				2	3	4	0	0	3				1	1	4	1	5			
15							0	1	4				0	0	3				1	2	3					
16										2	5	4										4	5			
17	4	1	4				0	0	4	3	4	3,5										3	3			
18	2	1	4	2	1	3,5	0	0	4	3	4	4	0	0	0,5	1	1	4				5	3			
19	2	2	3				0	0	5	3	3	3,5	0	0	4				0	1	4	5	6			
20				1	1	3,5	0	0	4	4	3	3,5										4	5			
21										3	2	3,5	1	0	4							6	4			
22										5	3	3														
23							0	0	5	3	4	4							0	1	3					
24	2	0	4	2	0	3,5	0	0	4	4	2	3,5				2	0	5	0	3	4					
25										3	2	2,5														
26													0	0	2,5				0	2	3					
27										4	2	3,5														
28				2	1	4,0	0	0	4	5	3	3	0	0	3,5				3	1	3					
29							0	0	4	4	3	3							1	0	3	3	3			
30	2	1	3	1	0	3,5	0	0	4	4	3	3,5	0	0	3				3	1	4	7	4			
31										4,0	3,0	2,5										4	6			
	1,38	1,00		1,93	0,93		0,0	0,1		3,6	2,9		0,06	0,00		1,17	0,83		1,00	1,46		4,50	4,35			

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						
11087	08-07-10	21-07-10	N20	330	0130	14	DRO	ERO	DAO	DSO	ESO	HSX	AXX
11088	13-07-10	13-07-10	S21	340	0010	01	AXX						
11089	19-07-10	30-07-10	S23	201	0310	12	CSO	DAO	DSI	DSO	CAO	BXO	
11090	24-07-10	26-07-10	N23	151	0010	05	AXX BXO AXX						
11091	26-07-10	08-08-10	N12	253	0000	01	AXX						
11092	28-07-10	09-08-10	N13	77	0290	11	CSO	HKX	CHO	CSO	HHX	HSX	





SIDC Weekly bulletin on Solar and Geomagnetic activity  
WEEK 498 from 2010 Jul 12

#### SOLAR ACTIVITY

Two active regions were present during the period: NOAA AR 11086 in the Southern hemisphere and NOAA AR 11087 in the Northern hemisphere. The latter was the biggest of the two, it developed a beta-gamma magnetic configuration on July 13, and produced C-class flares on various days during the period.

#### GEOMAGNETIC ACTIVITY

The solar wind speed, as measured by the ACE spacecraft at L1, was at <350 km/s levels, except for an episode on July 15 and 16 with a wind speed going up to 450 km/s. This disturbance was a consequence of a coronal hole on the solar disk and was preceded with a shock in the solar wind on late July 14 with the Bz component of the interplanetary magnetic field turning southward. As a consequence NOAA's estimated planetary Kp index peaked briefly to Kp=5 late July 14. The Kp index was at quiet levels (Kp < 3) otherwise during the period.

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SIDC Weekly bulletin on Solar and Geomagnetic activity  
WEEK 499 from 2010 Jul 19

#### SOLAR ACTIVITY

Solar activity was very low during the week, with very little flaring activity. NOAA AR 1089 produced a C flare (C1.4, peak time 1345UT) on July 20th, which represents the strongest X-ray event of the week.

#### GEOMAGNETIC ACTIVITY

Geomagnetic activity was very low during the week.

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SIDC Weekly bulletin on Solar and Geomagnetic activity  
WEEK 500 from 2010 Jul 26

#### SOLAR ACTIVITY

Solar activity was low during the whole week. NOAA AR 11089 produced a C2.2 flare peaking at 04:24 UT on July 26 and a C2.8 flare peaking at 20:42 UT on July 28. NOAA AR 11092 produced a C3.2 flare peaking at 08:26 UT on August 1, this flare was related to a complex Earth-directed halo CME comprising also a large polar crown filament eruption.

#### GEOMAGNETIC ACTIVITY

Geomagnetic conditions were quiet to unsettled with a few active periods on July 27-28 due to the fast solar wind from a coronal hole.

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SIDC Weekly bulletin on Solar and Geomagnetic activity  
WEEK 502 from 2010 Aug 09

#### SOLAR ACTIVITY

Solar activity was quiet at the beginning of the week, until NOAA AR 1093 and 1099 combined their forces and produced several C flares : a C4.4 flare on Aug 14 peaking at 10h05 from NOAA 1093, a C1.6 flare on Aug 14 peaking at 18h08 and a C5.4 flare on Aug 15 at 18h30, both from NOAA 1099.

The flare on Aug 14 was accompanied by an associated CME, seen as a halo CME in STEREO COR2 images around 10h39. This biggest part of this CME will miss the Earth. The upper region is expected to skim by the Earth on Aug 17. Together with this CME a radio burst and a EUV wave were observed. Also associated with this event, was an S1 solar radiation storm (proton enhancement >10 pfu at 10 MeV).

Another CME lifted up on the morning of Aug 15, seen in STEREO A COR2 data around 9h24. Ha images show it was probably linked to a filament eruption in the NW quadrant. The corresponding shock is expected to arrive at Earth on Aug 18.

#### GEOMAGNETIC ACTIVITY

Geomagnetic activity was quiet during the whole week. Kp reached its maximum level of this week (Kp=4) early morning on Aug 10. This indicated the arrival of the halo CME observed on Aug 7 that was associated with an M1 flare.

A narrow coronal hole was observed in the southern hemisphere in the second half of the week, but there were no significant geomagnetic disturbances linked to it.

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# BSO Comparative summary of 2009

<u>1. Belgian Solar Observers</u>	2009	2008	2007	2006	2005	2004	2003
Number of observations	5325	5102	4744	4401	3836	3393	3283
Number of observers	34	35	34	30	25	23	20
Number of observing days	340	359	346	348	352	340	342
k- factor	0,681	0,721	0,691	0,688	0,722	0,694	0,731
Correlation (%)	95,6	94,3	97,1	97,5	98,4	95,7	92,8

## 2. The Wolfnumber or sunspotnumber

Mean Wolfnumber	4,7	3,8	11,1	21,9	41	57,7	87,4
Highest Wolfnumber	48,6	63	52,9	79	159	154	247,3
Lowest Wolfnumber	0	0	0	0	0	0	4,8
Mean Wolfnumber north	3,2	1,3	1,8	3,5	15,4	21,5	37,9
Mean Wolfnumber south	1,5	2,5	9,3	18,4	25,6	36,2	49,5
Number of spotless days	230	255	141	56	15	3	0

## 3. The groupnumber

Mean Groupnumber	0,39	0,36	0,87	1,64	2,86	3,71	5,81
Mean Groupnumber north	0,26	0,12	0,16	0,28	1,18	1,32	2,68
Mean Groupnumber south	0,13	0,24	0,71	1,36	1,68	2,39	3,13
Total number of groups	30	30	45	89	127	184	293
Number of groups North	18	10	13	20	44	66	126
Number of groups South	12	20	32	69	83	118	167

## 4. The Becknumber

Mean Becknumber	22,2	15,2	84,6	159	373,6	560,9	817
Highest Becknumber	421	502	993	1030	1891	2809	4545
Lowest Becknumber	0	0	0	0	0	0	3
Number of observations	3021	2431	2026	1974	1713	1570	1835
Number of observing days	340	352	346	340	344	331	338

## 5. Classification Value

Mean CV	2,65	2,25	11,97	21,3	43,4	58,3	79
Highest value	53	85	90	102	171	170	267
Lowest value	0	0	0	0	0	0	1
Number of observations	2165	1754	1323	939	844	749	785
Number of observing days	339	351	336	335	336	316	330

## 6. Prominence number Rp

Mean Rp	40,06	42,7	53,9	67,6
Highest value	96	101,5	106,5	115,7
Lowest value	7,7	8,8	11	29
Number of observations	1687	1899	1905	1788
Number of observing days	324	334	328	324

## Observers Wolfnumber R

Waarnemers 2009	jan	febr	mrt	april	mei	june	july	aug	sept	okt	nov	dec	totaal
1 Bavais J.	5				3	2	1	2	5	1		2	21
2 Bonse J					18	16	2	4	5	3	6	3	57
3 Bourgeois J.	14	8	20	17	16	12	19	10	14	18	7	9	164
4 Bruyland J.			15	8				12	5				40
5 Carels J.	15	13	24	26	25	25	28	27	25	21	18	18	265
6 Claes J.	11	7	15	14	13	17	21	18	18	17	9	8	168
7 Claeyls L.		9	23	23	10	25	26	28	23	20	11	10	208
8 Coeckelberghs H.	2	3	5	15	15	17	7	11	4	6	3	4	92
9 De Backer H.	16	16	27	21	29	21	31	29	17	23	16	14	260
10 De Ceuninck E.	16	14	22	22	30	22	12	31	28	20	20	17	254
11 De Kerchove A.						3							3
12 Deman G.	9	3	13	11	15	14	11	16	18	5	7	6	128
13 De Reu P.			3	18	7	13	15	16	5	1			78
14 Dewaele K.		2	1		13	5	2				3		26
15 Dezeure R.	15	12	24	23	27	26	31	29	27	16	15	14	259
16 Dubois F.	19	19	27	26	27	28	31	31	30	23	23	21	305
17 Dufoer Sj.	7	5	16	17	17	18	9	18	10	6			123
18 Feys F.	4		18	21	25	30	31	31	27	28	24	23	262
19 Gabriel A.	13	8	24	23	24	30	19	28	25	22	24	16	256
20 Gubbels G.	15	7	18	22	25	26	18	23	10	16	11	11	202
21 Janssens J.	2	2	4	5	10	9	7	19	5	4	2	2	71
22 K S B	16	11	25	23	25	26	30	29	25	24	16	13	263
23 Libert C.									2	6			8
24 Kleber S.		4	23	20	19	21	8	16					111
25 Meeus L.	13	9	24	18	21	25	12	28	16	21	8	4	199
26 P.J. Dekelver	16	2	14	18	24	24	19	19	21	20	5	6	188
27 Publ obs Mira	1	1	7	1	4	8	3	3	5	2		4	39
28 Son A.T.	12	4	14	23	17	22	7	18	13	16	10	9	165
29 Steen O.	19	21	28	23	31	30	31	31	30	24	25	21	314
30 Taillieu B.	6	10	23	27	24	25	19	29	24	19	9	4	219
31 Thooris B.	14	12	24	22	23	24	26	29	25	21	18	16	254
32 V. Loo F.	5	1		9	13	9	13	14	10	11			85
33 Van Hessche D.	7	5	7	6	6	8	5	6	5	5	3	5	68
34 Verboven R.		7	18	20	23	26	14	24	16	10	8	4	170
# Waarnemingen	272	215	506	522	579	607	508	629	493	429	301	264	5325
# Waarnemingsdagen	24	23	31	30	31	30	31	31	30	29	26	24	340
# Waarnemers	25	27	29	29	31	32	31	31	31	30	25	26	

## Prominence number Rp

Waarnemers 2009	jan	febr	mrt	april	mei	june	july	aug	sept	okt	nov	dec	totaal
1 Janssens J.	2	2	4	5	9	5	7	19	5	3	2	2	65
2 Dubois F.	13	6	21	18	15	25	23	24	26	15	10	10	206
3 De Ceuninck E.	14	9	21	22	23	21	11	24	22	14	16	12	209
4 Meeus L.	3	13	4	1	3	5		1	4	2			36
5 Hambsch J	5		6	12	4	10	8	4					49
6 Deman G.	9	4	13	11	12	13	10	15	17	5	7	5	121
7 Steen O.	14	16	24	21	30	28	31	31	30	23	19	19	286
8 Coeckelberghs H.	3	3	5	14	12	13	5	4	3	3	2	2	69
9 Claes J.	10	7	15	14	12	17	20	18	18	14	10	6	161
10 Gabriel A.	13	8	24	21	24	30	19	27	24	22	23	16	251
11 Blondeel R.	3		3	2		3	1						12
12 Gubbels G.	9	3	13	15	19	18	8	16	5	6	7	7	126
13 Spaninks T.	6	2	10	13	13	9	19	8	6	6	3	1	96
# Waarnemingen	104	73	163	169	176	197	162	191	160	113	99	80	1687
# Waarnemingsdagen	22	21	26	27	30	30	31	31	30	28	26	22	324
# Waarnemers	13	11	13	13	12	13	12	12	11	11	10	10	

