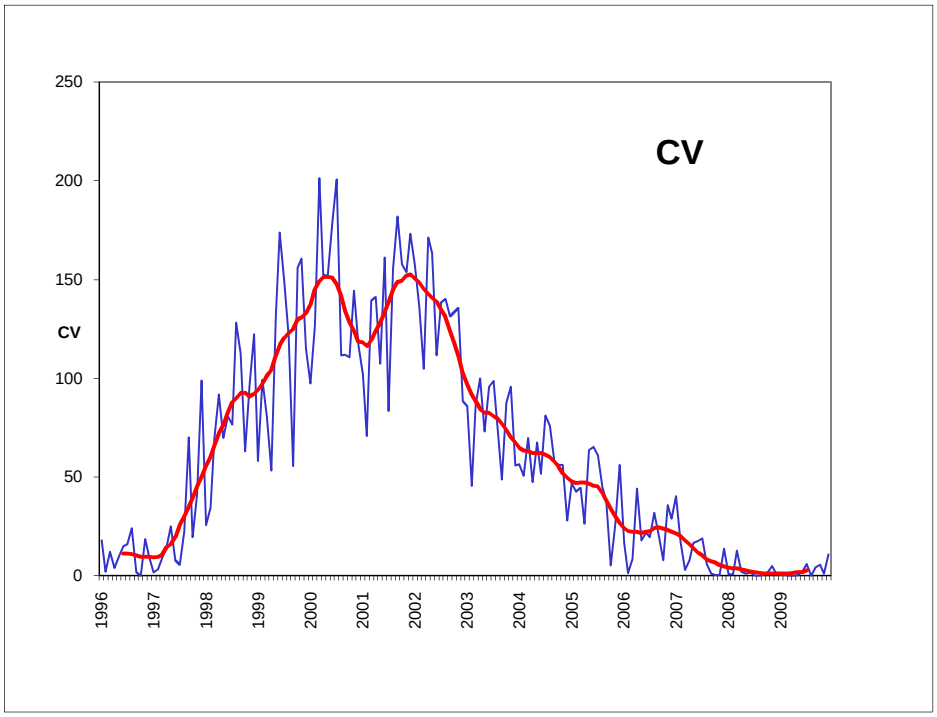
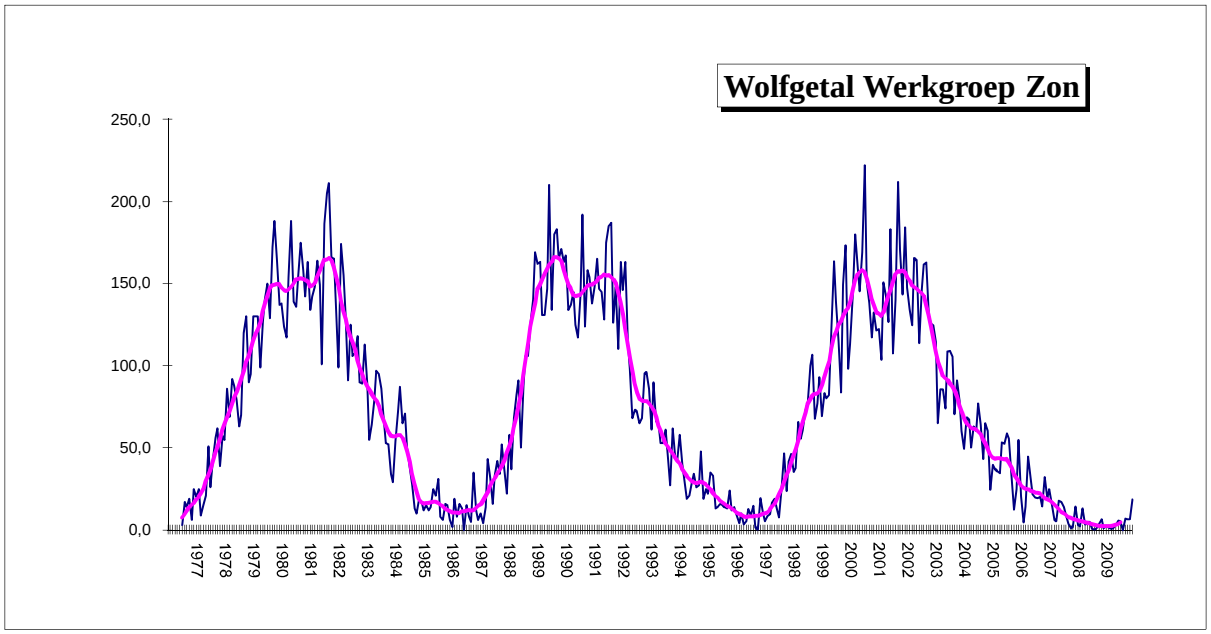
NIEUWSBRIEF V.V.S. WERKGROEP ZON

Waarnemingsresultaten en nieuws voor zonnewaarnemers	Jaargang : 14	Nummer: 166	December 2009

Franky Dubois Poelkapellestraat 39 langemark 8920

Web site: http://www.bso.vvs.be/ e-mail astrosun@skynet.be





Gemiddelden werkgroep zon december 2009

Groepen :	N	**0,79**	Wolfgetal :	N	**14,4**	RE'	**85,2**
	S	**0,29**		S	**4,3**	CV	**10,7**
	N+S	**1,04**		N+S	**18,7**		

264 waarnemingen 28 waarnemers

Wolfnumbers Belgian Solar Observers

Month: **December 2009**

Dag	SIDC	L. Meeus			H.Coeckelberghs			Publ Obs Mira			O. Steen			F. Dubois			L. Claeys			G. Deman			A.T.Son			H. De Backer			B. Thooris			A Gabriel			Dag
	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	
1	0										0	0	0	0	0	0										0	0	0	0	0	0	0	0	0	1
2	0																																		2
3	0																																		3
4	0										0	0	0	0	0	0													0	0	0				4
5	0										0	0	0	0	0	0										0	0	0				0	0	0	5
6	0										0	0	0				0	0	0																6
7	0										0	0	0	0	0	0										0	0	0				0	0	0	7
8	0										0	0	0	0	0	0										0	0	0	0	0	0	0	0	0	8
9	0																																		9
10	8										1	6	16	1	4	14				1	2	12				1	1	11	1	2	12	1	2	12	10
11	7										1	4	14	1	3	13										1	4	14	0	0	0	1	4	14	11
12	8										2	4	24	2	4	24							1	5	15	1	3	13	1	2	12	1	3	13	12
13	9										2	7	27	1	4	14				1	5	15	1	8	18	1	2	12	1	3	13	1	5	15	13
14	20	2	12	32	1	5	15	2	17	37	2	14	34	2	14	34	2	12	32	2	14	34	2	17	37	2	10	30	2	7	27	2	9	29	14
15	24	2	24	44	2	10	30	2	24	44	2	25	45	2	19	39	3	24	54	2	22	42	2	29	49	1	18	28	1	12	22	2	21	41	15
16	23							1	22	32	1	20	30	1	19	29	2	18	38																16
17	20																																		17
18	15							1	14	24	1	10	20	1	10	20	1	16	26	2	14	34	1	15	25	1	10	20	1	7	17	2	15	35	18
19	15	1	7	17	2	2	22				3	12	42	3	13	43	2	11	31				2	8	28	1	5	15	1	5	15	2	8	28	19
20	30										4	19	59	4	19	59													1	2	12	3	19	59	20
21	29																																		21
22	23										2	12	32	2	13	33													1	8	18				22
23	16	2	4	24	0	0	0							2	6	26	2	3	23				2	6	26							2	9	19	23
24	12																0	0	0				0	0	0										24
25	0										0	0	0	0	0	0													0	0	0				25
26	9										1	4	14	1	4	14	0	0	0				1	4	14	0	0	0	0	0	0	1	4	14	26
27	10										1	4	14	1	6	16				1	6	16							1	3	13				27
28	12										1	10	20	1	6	16	1	8	18							1	5	15				1	9	19	28
29	13																																		29
30	11																																		30
31	14																																		31
#	**10,6**			**29,3**			**16,8**			**34,3**			**18,6**			**18,8**			**22,2**			**25,5**			**23,6**			**11,3**			**10,1**			**18,6**	

Observations of the SIDC are not included in the Belgian monthly Wolfnumber.
Publ Obs Mira : observers : Francis Meeus , Guido Mattheus and Marc Rayen

Dag	SIDC	P.J.Dekelver			J. Bourgeois			KSB			Carels			G.Gubbels			J. Claes			E. De Ceuninck			R. Dezeure			B. Taillieu			S. Dufoer			F. van Loo			Dag
	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	
1	0							0	0	0	0	0	0							0	0	0	0	0	0										1
2	0																																		2
3	0																																		3
4	0																0	0	0	0	0	0	0	0	0										4
5	0										0	0	0							0	0	0	0	0	0										5
6	0										0	0	0																						6
7	0							0	0	0																									7
8	0										0	0	0							1	1	11													8
9	0																																		9
10	8				1	5	15	1	1	11	1	3	13							1	8	18	1	5	15										10
11	7																																		11
12	8										2	4	24	1	4	14				2	4	24	1	2	12										12
13	9	1	3	13	1	4	14	1	5	15	1	4	14	1	4	14	1	3	13	1	5	15	1	3	13										13
14	20	2	13	33	2	13	33	2	11	31	2	11	31	2	14	34	2	9	29	2	12	32	1	6	16										14
15	24	2	28	48	1	23	33	2	21	41	2	24	44	2	17	37	2	17	37	2	23	43													15
16	23				1	17	27	1	25	35	1	13	23	1	17	27				1	26	36													16
17	20																																		17
18	15				1	12	22	1	14	24	1	12	22	1	11	21	1	11	21	2	16	36	1	5	15										18
19	15	1	5	15	1	7	17	3	11	41	2	8	28	2	9	29	2	8	28	3	11	41	1	5	15										19
20	30										4	20	60							4	23	63	2	9	29	4	16	56							20
21	29																																		21
22	23										2	10	30										2	5	25										22
23	16	2	8	28				1	2	12	2	3	23	2	7	27	2	8	28																23
24	12							0	0	0				1	1	11																			24
25	0																			0	0	0													25
26	9				0	0	0	0	0	0	1	4	14	1	4	14	1	4	14	1	4	14	0	0	0	1	4	14							26
27	10	1	4	14							1	5	15							1	5	15	1	2	12	1	2	12							27
28	12				1	15	25	1	10	20	1	9	19	1	11	21				1	10	20	1	4	14	1	9	19							28
29	13																																		29
30	11																																		30
31	14																																		31
#	**10,6**			**25,2**			**20,7**			**17,7**			**20,0**			**22,6**			**21,3**			**21,6**			**11,9**			**25,3**			**####**			**#####**	

Dag	SIDC	K.Dewaele			Verboven			J.Bavais			A.De Kerchove			F.Feys			D.V.Hessche			J.Bonse			L.Gysel			P.De Reu			J.Bruyland			C.Libert		Dag
	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R	g	f	R			
1	0													0	0	0																		1
2	0																																		2
3	0													0	0	0																		3
4	0													0	0	0																		4
5	0																0	0	0															5
6	0																																		6
7	0													0	0	0																		7
8	0													0	0	0																		8
9	0													0	0	0																		9
10	8																																		10
11	7													1	13	23																		11
12	8				1	3	13							1	10	20																		12
13	9				1	3	13							1	10	20	1	3	13															13
14	20																			1	4	14												14
15	24							2	18	38							1	21	31	1	14	24												15
16	23													1	37	47																		16
17	20													1	19	29																		17
18	15																																		18
19	15				2	8	28	2	9	29				2	9	29	1	8	18															19
20	30													2	16	36																		20
21	29													2	16	36																		21
22	23													2	16	36																		22
23	16													2	12	32																		23
24	12													2	8	28																		24
25	0													0	0	0																		25
26	9				1	4	14							0	0	0	0	0	0	0	0	0												26
27	10																																		27
28	12													1	17	27																		28
29	13													1	13	23																		29
30	11													1	14	24																		30
31	14													1	13	23																		31
#	**10,6**			**####**			**17,0**			**33,5**			**#####**			**18,8**			**12,4**			**12,7**			**####**			**#####**			**####**			**#####**	

Sunspotnumbers VVS Belgium

Month: 'December 2009

	GROUPS			WOLFNUMBER					
Day	N	S	N+S	N	S	N+S	RE'	CV	OBS
1	0	0	0	0	0	**0**	0	0	10
2									
3									
4	0	0	0	0	0	**0**	0	0	7
5	0	0	0	0	0	**0**	0	0	8
6	0	0	0	0	0	**0**	0	0	3
7	0	0	0	0	0	**0**	0	0	6
8	0	0	0	0	0	**0**	0	0	8
9									
10	1	0	1	14	0	**13,5**	18	2	11
11	1	0	1	13	0	**13,0**	27	3,3	6
12	2	0	2	17	0	**17,3**	18	2,5	12
13	1	0	1	15	0	**15,1**	26	2,5	18
14	2	0	2	30	0	**29,7**	73	8,1	20
15	2	0	2	39	0	**38,8**	314	22,1	21
16	1	0	1	32	0	**32,4**	421	32	10
17									
18	1	0	1	24	0	**24,0**	253	38	16
19	2	0	2	27	0	**26,6**	190	34,8	22
20	3	1	4	34	14,8	**48,6**	222	53	9
21									
22	1	1	2	14	15,5	**29,0**	88	9	6
23	1	1	2	10	12	**22,3**	28	5	12
24	1	0	0	78	0	**78,0**	12	1	5
25	0	0	0	0	0	**0**	0	0	5
26	0	1	1	0	7,4	**7,4**	13	1,9	20
27	0	1	1	0	14,4	**14,4**	63	9	8
28	0	1	1	0	18,9	**18,9**	175	22,6	13
29	0	1	1	0	21	**21,0**	104		2
30									
31									
	0,79	**0,29**	**1,04**	**14,4**	**4,3**	**18,7**	**85,2**	**10,7**	**258**

Monthly mean: **18,7** Covering: **24/31** Spotless days: **7**
Observations: **258** Number of observers: **26**

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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

VVS Belgian Solar Observers Prominence number Rp

Month : December 2009

Day	J. Janssens time	Q	W	H	e	Rp	F. Dubois time	Q	W	H	e	Rp	E. De Ceunick time	Q	W	H	e	Rp	L. Meeus time	Q	W	H	e	Rp	J. Hambsch time	Q	W	H	e	Rp	asm 60	G. Deman time	Q	W	H	e	Rp	Lille 20/20
1							1,16	3	1,5	2	2	22																									
2																																					
3																																					
4							12,07	4	1	4	5	45																									
5																																					
6																																					
7																																					
8							13,10	4	1	2	2	22	10.15	3,0	3	2	2	22																			
9																																					
10							10,00	3	1,5	4	9	49	10.40	3,0	2	4	4	44																			
11																																					
12													10.30	3,0	2,5	3	3	33																		
13							10,03	3	2	4	6	46	10.15	2,5	2,5	6	6	66														9:40	3	2	4	6	46	
14													11.00	2,5	2,5	4	4	44														10:25	5	1	2	3	23	
15							11,23	3	1	4	7	47	11.00	1,5	3	4	5	45														9:55	2	2	5	8	58	
16							13,26	4	1	3	5	35	13.15	2,5	3	1	2	12																			
17																																					
18													11.30	3,0	3	3	4	34														10:05	2	2	4	6	46	
19	9:25	2	2	2	2	22							12.45	1,5	3	3	3	33																			
20							12,48	3	2	3	4	34	11.30	3,5	2,5	2	4	24																			
21																																					
22																																					
23																																					
24																																					
25																																					
26	9:40	2,5	2	4	4	44	12,36	2,5	2	3	3	33	10.20	1,0	3,5	5	5	55																			
27																																11:05	2	2	3	4	34	
28							10,14	4	1,5	3	7	37	13.00	3,0	3	4	4	45																			
29																																					
30																																					
31																																					
	2	2,3	2	3,0	3	33,0	10	3,4	1,5	3,2	5,0	37,0		2,5	2,8	3,4	3,8	38,1		###	###	####	###	#####			###	###	####	######	5	2,8	1,8	3,6	5,4	41,4	

Day	O. Steen time	Q	W	H	e	Rp	H. Coekelberghs time	Q	W	H	e	Rp	J. Claes time	Q	W	H	e	Rp	A Gabriel time	Q	W	H	e	asp 60 Rp	R.Blondeel time	Q	W	H	e	asp 60 Rp	G. Gubbels time	Q	W	H	e	PST Rp
1	9,05	3,5	2	6	6	66													8:55	3	2	6	7	67												
2																																				
3																																				
4	14,15	3,5	2	6	8	68							0900	3	2	4	5	45																		
5	11,30	3	2	3	4	34													13:10	3	2	3	5	35												
6	14,20	3	2	3	4	34																														
7	9,30	3	2,5	3	4	34													9:20	2	2	5	9	59												
8	8,45	3	2	4	5	45													11:10	3	2	3	5	35												
9																																				
10	9,35	3,5	2	5	7	57													11:10	2	2	4	6	46												
11																			11:15	2	2	5	9	59												
12	8,45	3	2	4	5	45													9:00	2	2	4	8	48												
13	9,45	3,5	2	5	7	57							0100	3	2	3	4	34	9:55	2	2	6	11	71								11.05	3.5	1.5	5	15	65
14	8,45	3,5	2	3	4	34							1030	4	1	3	3	33	9:30	3	2	5	11	61								9.56	3.5	1.5	4	8	48
15	9,45	3	2	5	5	55	12:30	3	2	4	4	44	0930	4	1	3	6	36	10:05	3	2	4	9	49												
16	13,55	3	2	4	6	46																														
17																																				
18	12,25	3	2	6	7	67													9:40	2	2	3	7	37												
19	8,55	3	2	5	5	55	11:27	2	3	2	3	23	1030	3	2	4	6	46	9:35	2	2	4	6	46								9.51	3	1.5	2	3	23
20	12,35	3	2	4	5	45													13:55	3	2	4	6	46												
21																																				
22																																				
23													1130	3	2	2	2	22	11:45	2	2	4	7	47								11.55	3.5	1.5	5	13	63
24																																11.08	3	2	6	15	75
25	13,25	3	2	4	5	45																														
26	10,20	3	2	6	7	67													9:35	2	2	7	10	80								9.28	3	1.5	6	14	74
27	14,15	3	2	3	3	33																														
28	13,00	3,5	2	4	8	48													12:50	2	2	5	9	59								13.30	3	2	6	20	80
29																																				
30																																				
31																																				
	19	3,2	2	4,4	5,5	49,2	2	2,5	2,5	3	3,5	33,5	6	3,3	1,7	3,2	4,3	36,0	16	2,4	2,0	4,5	8	52,8		###	###	###	####	######	7	3,0	2,0	4,86	12,6	61,1	

Day	T.Spaninks time	Q	W	H	e	PST 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	11,14	3	2	7	9	79
27						
28						
29						
30						
31						
	1	3	2	7	9	79,0

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: December 2009

Day	Q	Wedel		H	e	Rp	el. Obs	Stdev	OBS
1	3,3	2		6	6,5	**66,5**	1	0,7	3
2									
3									
4	3,5	1,5		4	5	**45**	1	0	3
5	3	2		3	4,5	**34,5**		0,7	2
6	3	2		3	4	**34**			1
7	2,5	2,3		4	6,5	**46,5**		17,7	2
8	3,3	2		2,8	3,5	**31,5**		11,2	4
9									
10	2,9	1,9		4,3	6,5	**49,5**		5,7	4
11	2	2		5	9	**59**			1
12	2,7	2,2		3,7	5,3	**42,3**		7,9	3
13	2,8	2,1		5	8,5	**58,5**	1	10,7	7
14	3,8	1,6		3,2	4,4	**36,4**	1	9,9	6
15	2,8	1,9		4,1	6,3	**47,3**		7,3	7
16	3,5	1,5		3,5	5,5	**40,5**	1	7,8	3
17									
18	2,3	2,3		3,3	5,7	**38,7**	1	6,2	4
19	2,3	2,4		2,8	3,8	**31,8**	1	11,4	7
20	3,1	2,1		3,3	4,8	**37,8**		10,4	4
21									
22									
23	2	2		4,5	10	**55**	1	11,3	3
24	3	2		6	15	**75**			1
25	3	2		4	5	**45**			1
26	2,4	2,4		6,2	9	**71**	2	10,3	7
27	2,5	2		3	3,5	**33,5**		0,7	2
28	3,,1	2,1		4	7	**47**	1	9,1	5
29									
30									
31									
	2,84	**2,01**		**4,0**	**6,3**	**46,7**	**11**	**7,7**	**80**

Monthly mean: **46,7** Covering: **22/31**
Observations: **80** Number of observers: **11**

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Observers:
Steen ; Dubois ; Meeus ; De Ceuninck ; Coeckelberghs ; Janssens
Hambsch ; 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*10+e
More info at : http://members.chello.be/j.janssens/

Different Relative Sunspotnumbers — Month : December 2009

CV

Date	F.Dubois	O.Steen	L.Meeus	J.Carels	J.Janssens	P.J. Dekelver	G.Gubbels	H.De Backer	D.Van Hesscke	R.verboven	S.Dufoer	Mean
1	0	0		0				0				0,0
2												
3												
4	0	0										0,0
5	0	0		0				0	0			0,0
6		0		0								0,0
7	0	0						0				0,0
8	0	0		0				0				0,0
9												
10	2	3		2				1				2,0
11	5	3						2				3,3
12	3	3		3			2	2		2		2,5
13	2	4		3		2	3	2	2	2		2,5
14	9	6	7	8		5	4	18				8,1
15	14	32	10	24		23	29	22	23			22,1
16	32	32		32			32					32,0
17												
18	44	47		23			44	32				38,0
19	46	31	20	46	21	20	45	29	45	45		34,8
20	51	55		53								53,0
21												
22	9	9		9								9,0
23	10		3	3		5	4					5,0
24							1					1,0
25	0	0										0,0
26	5	3		2	1		2	0	0	2		1,9
27	13	16		5		2						9,0
28	19	22		28			25	19				22,6
29												
30												
31												
##	12,6	12,7	10,0	13,4	11,0	9,5	17,4	9,1	14,0	12,8	#####	10,7

Pettisindex SN

Date	R.Verboven	G.Gubbels	F.Dubois	P.J. Dekelver	O.Steen	J.Carels	F.Feys	Mean
1			0		0	0		0,0
2								
3								
4			0		0			0,0
5			0		0	0		0,0
6					0	0		0,0
7			0		0			0,0
8			0		0	0		0,0
9								
10			4		6	3		4,3
11			12		4			8,0
12		4	4		4	4		4,0
13		4	4	3	7	4		4,4
14		14	23	13	14	20		16,8
15		69	42	28	51	60		50,0
16		82	50		57	68		64,3
17								
18		33	33		23	48		34,3
19		34	39	20	38	35		33,2
20			43		43	54		46,7
21								
22			21		29	28		26,0
23		7	24	8		3		10,5
24		1						1,0
25			0		0			0,0
26		4	13		4	4		6,3
27			22	4	21	14		15,3
28		37	23		25	24		27,3
29								
30								
31								
#####	#####	26,3	17,0	12,7	15,5	20,5	####	15,31

Intersol IS

Date	F.Dubois	J.Carels	G.Gubbels	P.J. Dekelver	Mean
1	0	0			0,0
2					
3					
4	0				0,0
5	0	0			0,0
6		0			0,0
7	0				0,0
8	0	0			0,0
9					
10	5	4			4,5
11	4				4,0
12	5	5	5		5,0
13	5	5	5	4	4,8
14	16	13	16	15	15,0
15	20	25	19	30	23,5
16	20	24	18		20,7
17					
18	11	13	12		12,0
19	16	10	11	6	10,8
20	23	24			23,5
21					
22	15	12			13,5
23	8	4	9	10	7,8
24			1		1,0
25	0				0,0
26	5	5	5		5,0
27	7	6		5	6,0
28	7	10	12		9,7
29					
30					
31					
##	8,0	8,9	10,3	11,7	7,24

Becknumber

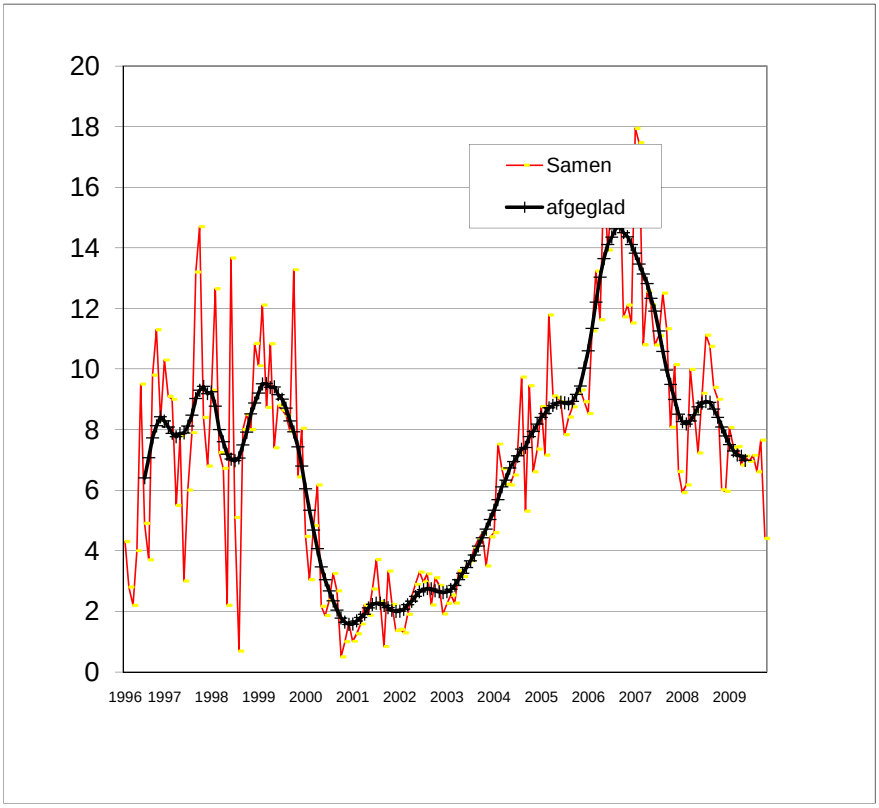
Date	F.Dubois	O.Steen	L.Meeus	P.J. Dekelver	J.Carels	G.Gubbels	S.Dufoer	D.Van Hesscke	R.Verboven	F.Feys	A.T.Son	J.Bourgeois	H.Coeckelberghs	De Backer	Pbl Obs Mira	J.Claes	E.De Ceuninck	Mean	Date
1	0	0			0					0				0			0	0	1
2																			2
3										0								0	3
4	0	0								0						0	0	0	4
5	0	0			0			0						0			0	0	5
6		0			0													0	6
7	0	0								0				0				0	7
8	0	0			0					0				0		4		1	8
9										0								0	9
10	20	24			12							20		4		32		19	10
11	24	16								52				16				27	11
12	16	16			16	16			12	40	20			12		16		18	12
13	16	28		12	16	16		12	12	40	23	16		8		12	20	18	13
14	80	56	80	52	80	56					68	52	90	138	68	60	48	71	14
15	328	436	188	490	579	292		525			116	184	180	324	96	132	400	305	15
16	475	500			325	425				666		425			88		468	422	16
17										342								342	17
18	250	250			275	275					270	300		250	252	198	260	258	18
19	199	174	175	125	308	183		288	179	462	102		88	125		130	124	190	19
20	226	226			384					100							176	222	20
21										218								218	21
22	104	76			64					108								88	22
23	48		28	32	12	28				48	24		0			32		28	23
24						4				32	0							12	24
25	0	0								0							0	0	25
26	32	16			16	16		0	16	0	16	0		0		16	16	12	26
27	108	72		16	40												80	63	27
28	108	180			162	198				306		270		90			180	187	28
29										104								104	29
30										112								112	30
31										252								252	31
	96,9	98,6	117,8	121,2	127,2	137	####	165	55	125	71	158	90	69	126	73	107	99,0	

Belgian Solar Observers

Polar Faculae

Month: December 2009

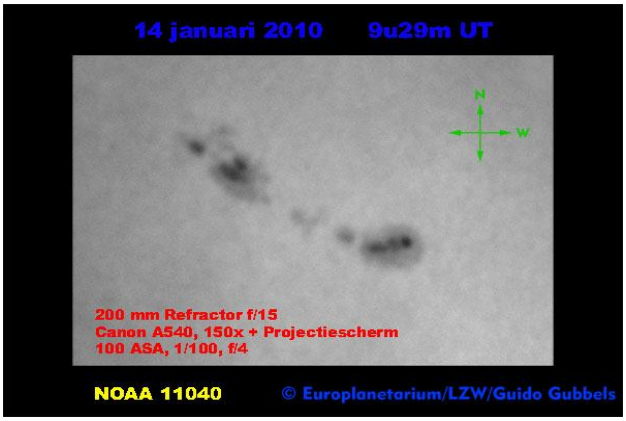
Date	Dubois 125mm F20			Steen 102mm F15			Deman 150mmF15			Gabriel 250 mm F20			Dekelver 150mm F8			Janssen 200mmF10			T.Spaninks 127mm F15			G.Gubbels		
	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q	North	South	Q
1				5	4	3,5													0	1	4			
2																								
3																								
4	3	3	3	4	3	3,5																		
5																								
6				4	2	3,0																		
7																								
8																								
9																								
10				4	3	3,5																		
11																								
12	2	2	3	4	5	3,5													0	0	4	3	4	3
13	4	0	3	3	1	3,5	8	4	3				0	0	1							4	5	3.5
14	4	3	3	3	3	3,5	12	8	5				2	2	4				0	0	4	3	5	4
15	1	2	3	1	1	3,0							3	1	2,5							3	5	3.5
16																								
17																								
18	1	0	3	3	2	3,0																		
19													0	0	1							2	4	3.5
20	1	4	3																					
21																								
22																								
23													1	2	1,5							2	3	3.5
24																			0	0	4	3	4	3
25																								
26																1	1	2,5	0	0	4	3	5	3
27															1									
28																			0	0	3	4	5	3
29																								
30																								
31																								
	2,29	2,00		3,44	2,67		10,0	6,0		#####	#####		1,20	1,00		1,00	1,00		0,00	0,17		3,00	4,44	



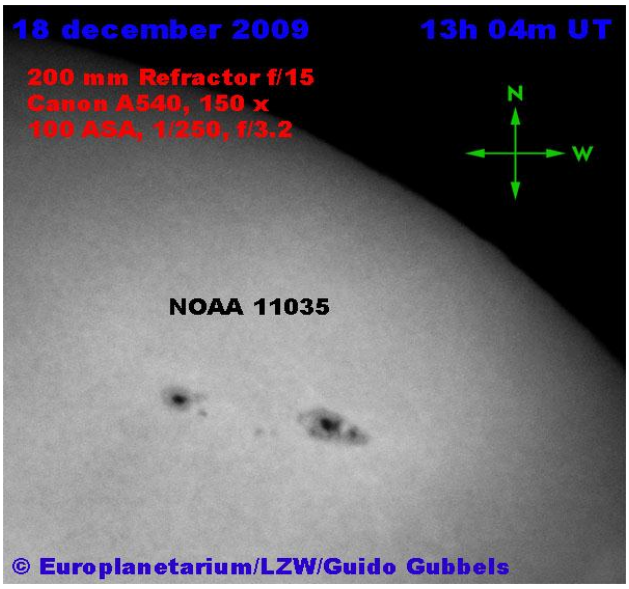
Sunspot activity from organisations all over de world

Month : **November 2009**

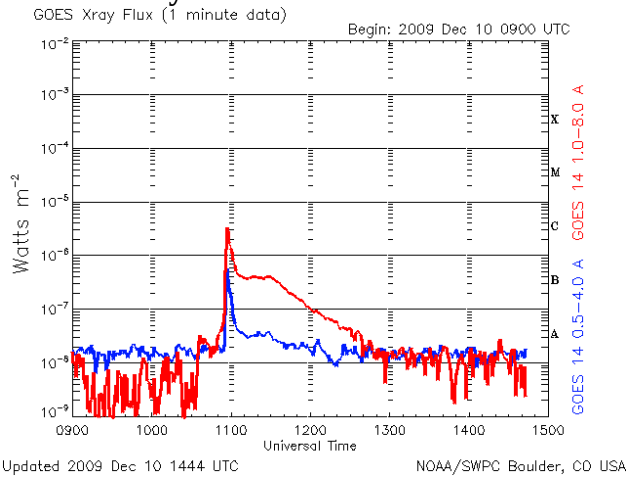
Organisation	Wolf Total	Wolf North	Wolf South	Groups	Faculae number	CV	Beck	Pettis index	Intersol	Area	prom MDF	prom Rp	Filam & plages	Radio flux	Naked eye	Polar Faculae
NOAA SWO	**7,7**													**76,8**		
SIDC	**4,2**	**3,9**	**0,3**													
Kanzelhöhe	**5,1**															
G.F.O.E.S France	**3,3**														**0**	
BSO Belgium	**6,7**	**6,4**	**0,3**	**0,59**		**1,20**	**10,2**	**2,78**	**2,44**			**44,1**				
S.O.G.S.A.S. Switserland	**3,7**			**0,3**												
BAA	**4,55**			**0,3**							**1,9**					
GsRSI Italy	**5,6**											**36,8**				
CV Helios Network						**1,05**										
AAVSO																
Sonne Germany Preliminary	**4,1**														**0**	
O.A.A. Japan	**4,7**	**4,7**	**0**													
Solar Observer Society TOS Poland																
Astronomical League of the Philippines	**3,92**			**0,31**												



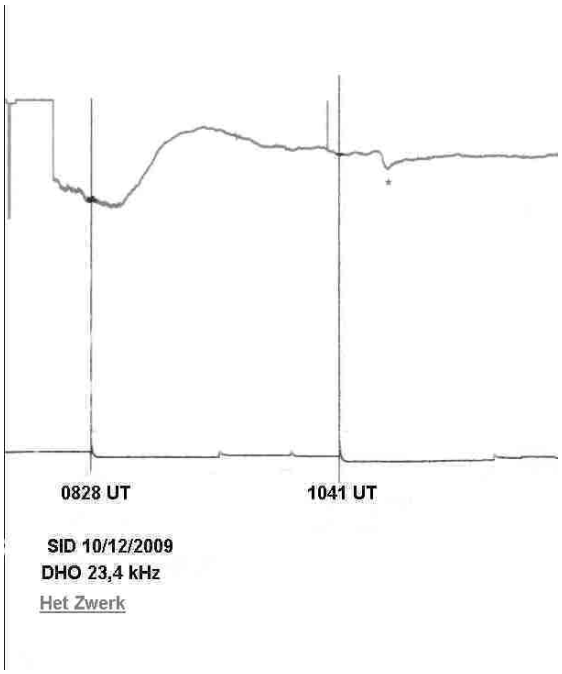




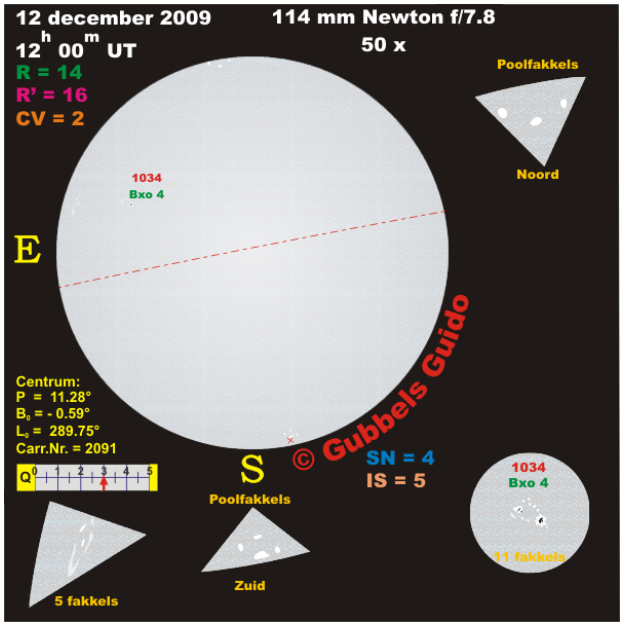
Solar activity in december 2009



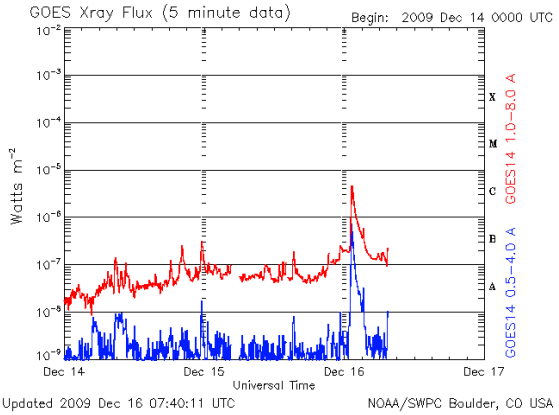
10 december 2009 , C 3.4 flare in 1034.



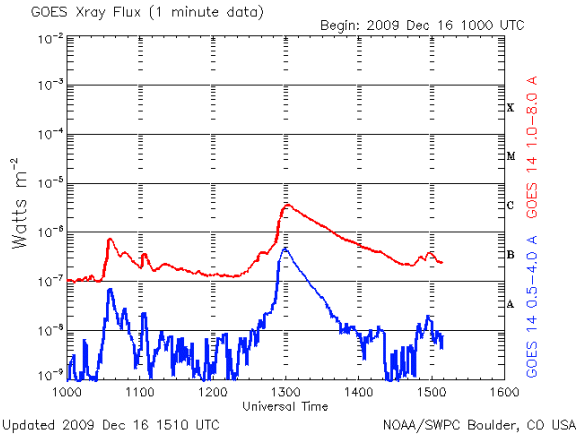
Sid reported by A.T.Son



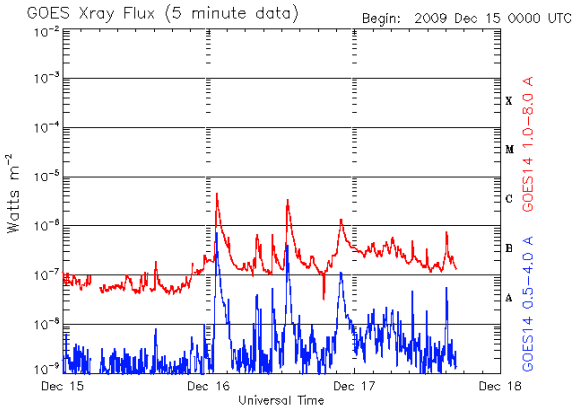
12 december 2009 G.Gubbels



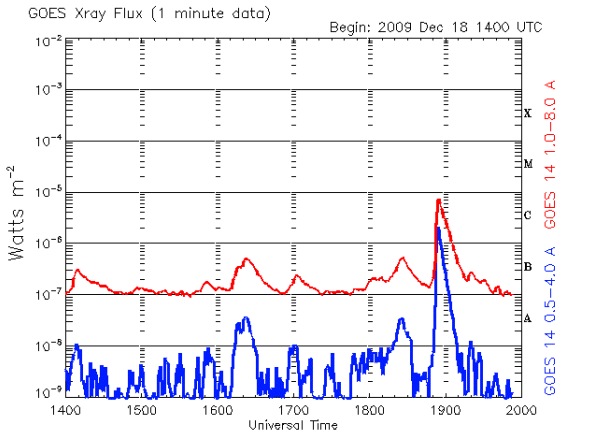
Activity from 14 to 16 december



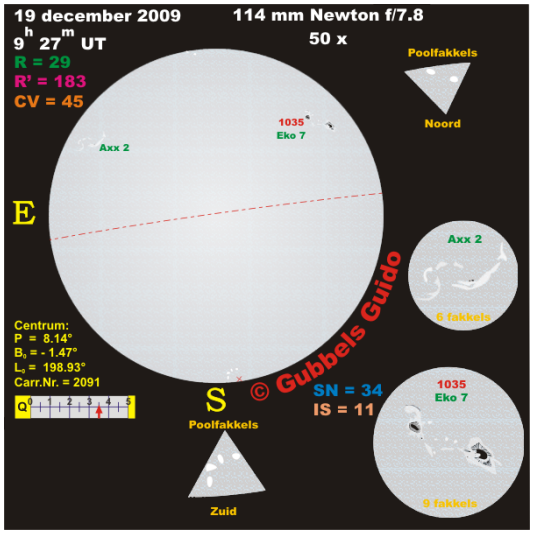
16 december , C3.7 flare



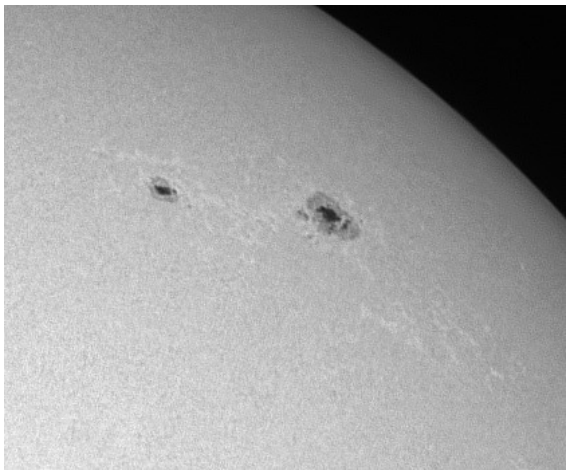
Tree C flares between 16 and 17 decemeber



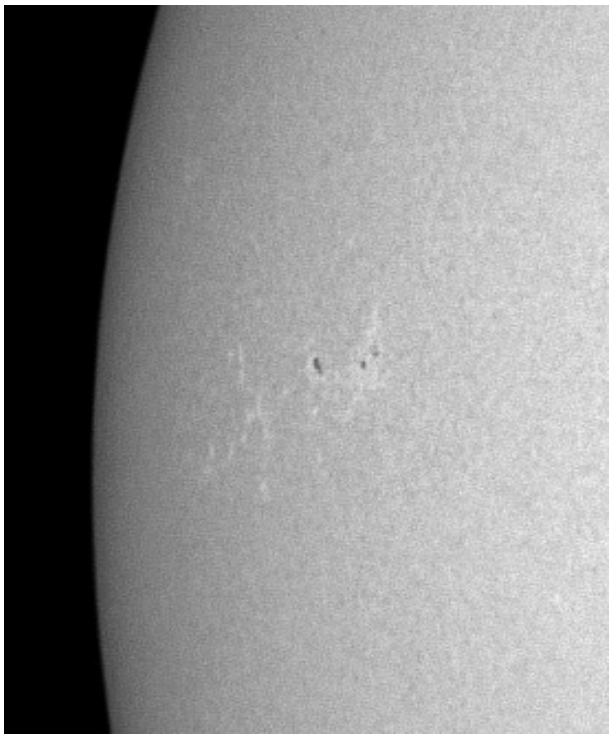
C7.6 flare in Noa 1034 on 18 december



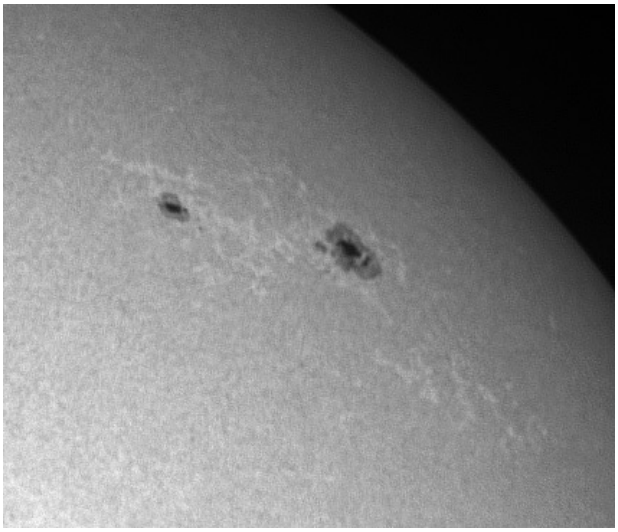
White light observation 19 december G.Gubbels



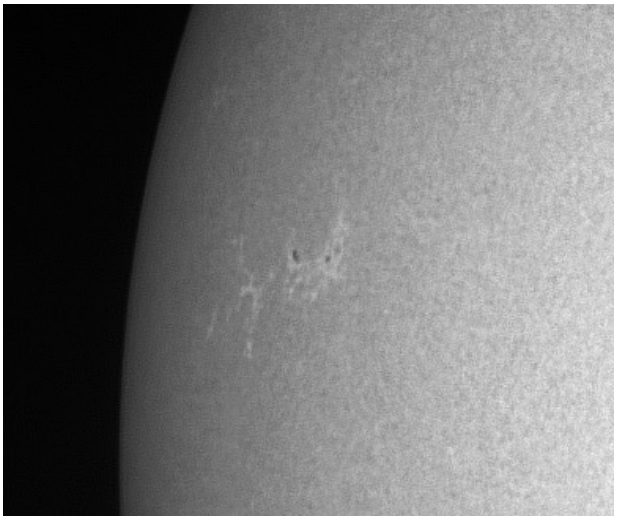
Noaa 1035 19 december by J.Bavais
2



Noaa 1037 19 december J.Bavais



Noaa 1035 19 december K line J.bavais



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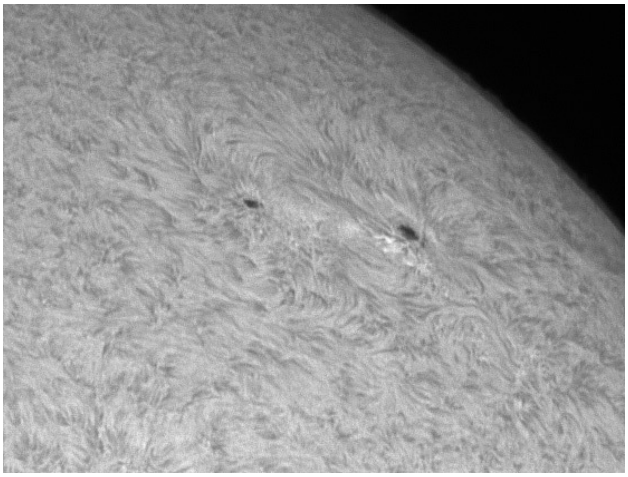

Noaa 1035 19 december Ha J.Bavais