



Bulletin Werkgroep Zon

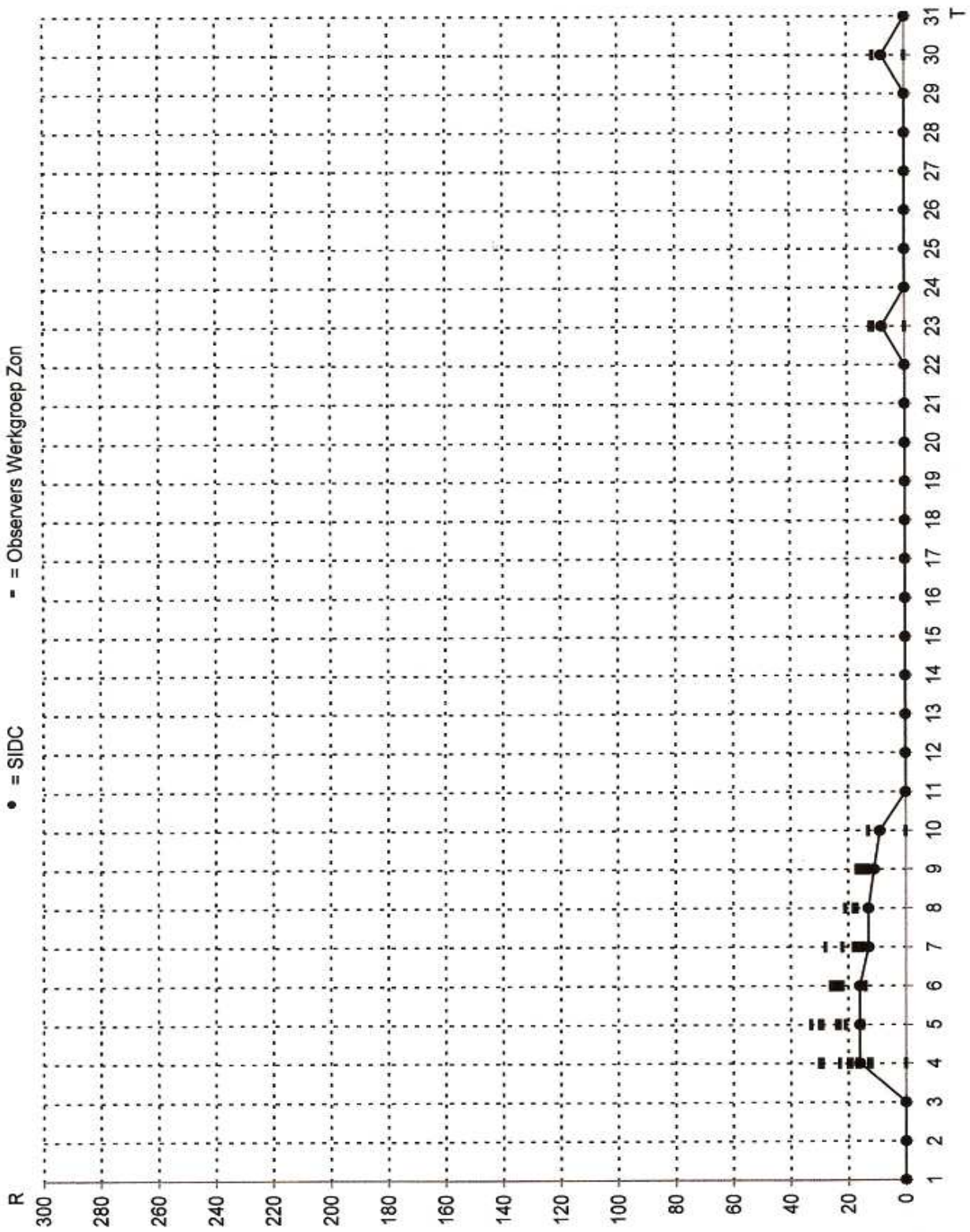
Juli 2009

Waarnemingsleider: Nico Heijblok, Wezenstraat 70, 1781 GM Den Helder
tel: 0223-624130
E-mail: heijpi@planet.nl

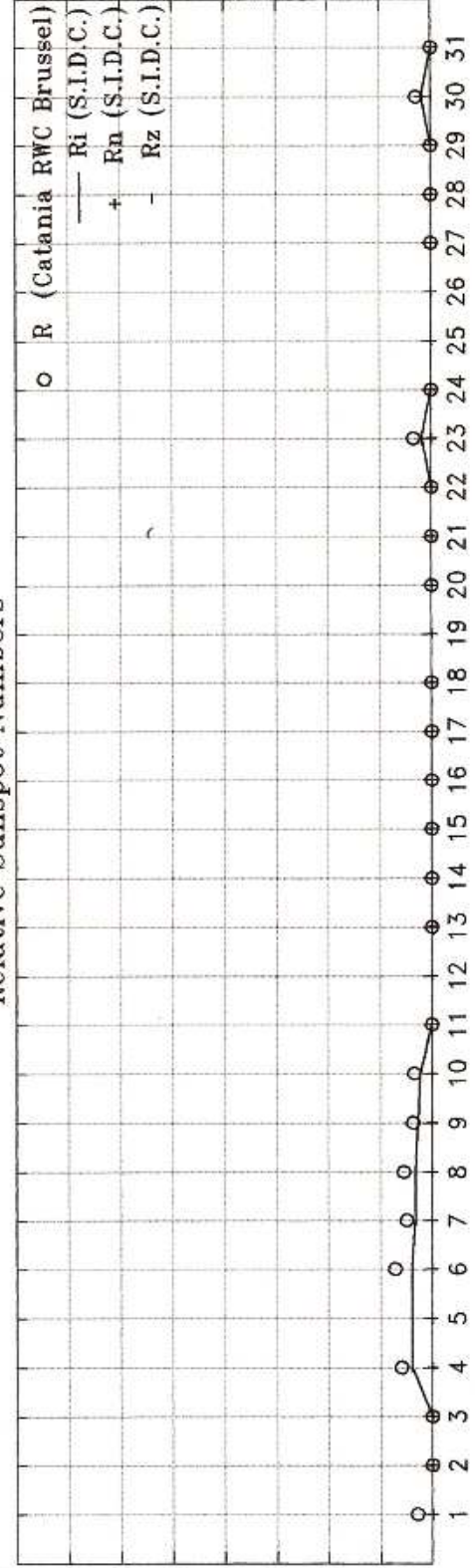
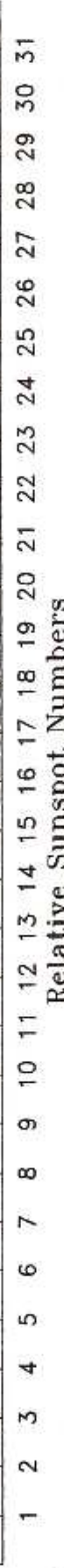
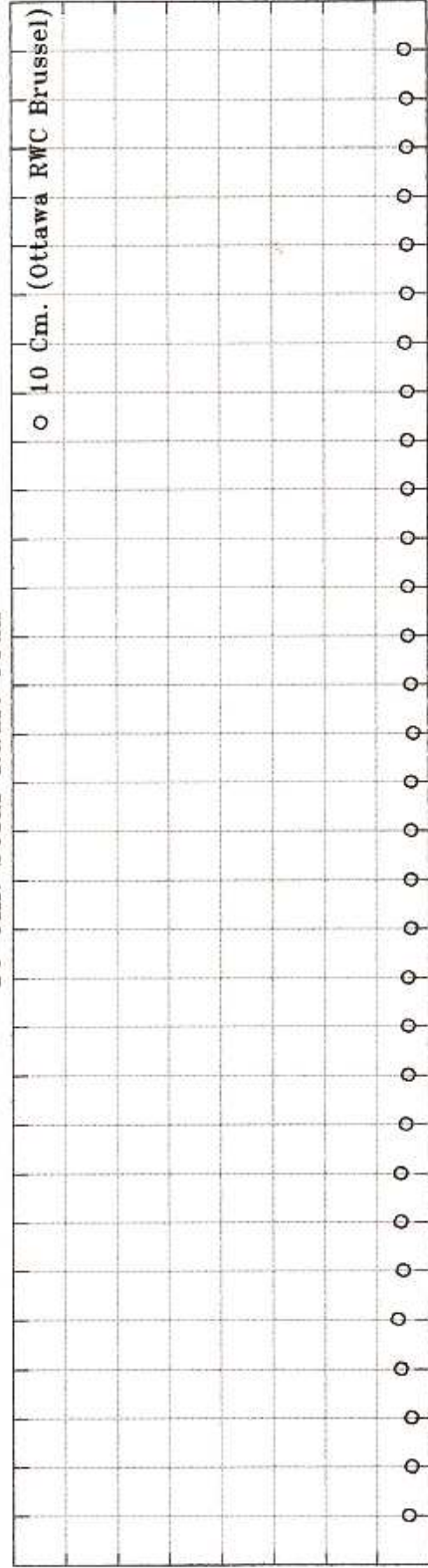
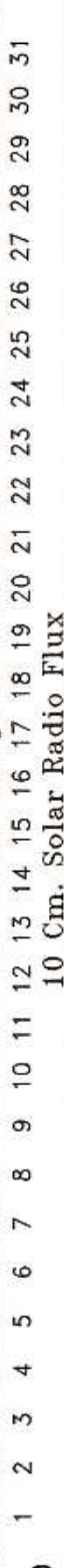
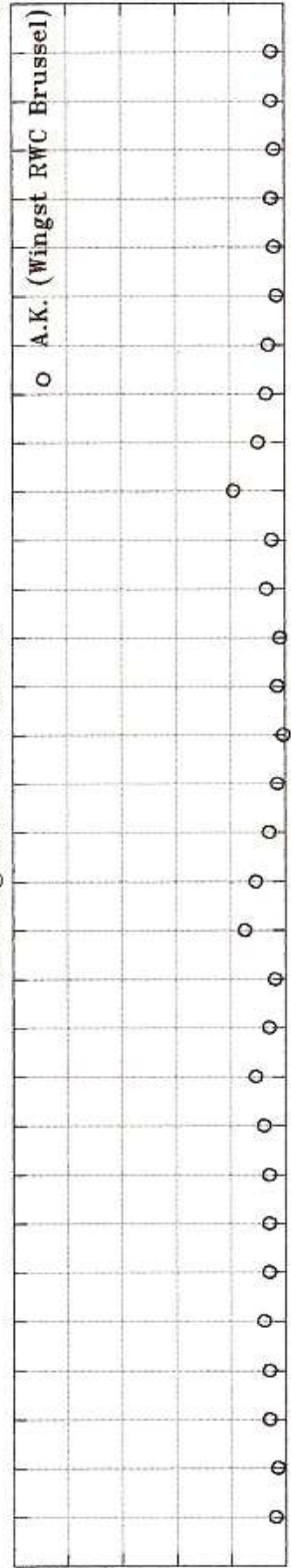
Zonnevlekkengetallen (Sunspot numbers)

Day	SIDC	Bals	Gort	Jn 9	Jn40	Kr80	vSlo	Son	Spa	Zans	Zijle
1	0	0	0	0		0	0	0	0	0	0
2	0	0	0	0		0	0		0	0	0
3	0	0	0	0		0	0		0	0	
4	16	17	23	12	13	0	20		30	19	29
5	16	21	24	15		16	23	33	29	21	30
6	16	24	24	14			23	25	26	22	
7	13	18	17	13		28	16		22	15	
8	13	18	21	13			17			18	
9	11	17	13	13			14	15		16	
10	9			0		0		13			
11	0	0	0	0			0		0		
12	0			0		0	0	0	0		
13	0	0	0	0		0	0	0	0		0
14	0	0	0	0		0	0		0		
15	0	0	0	0		0	0		0		
16	0	0	0	0		0	0		0		0
17	0	0	0	0		0	0		0		
18	0			0		0	0		0		
19	0	0	0	0		0	0		0		0
20	0	0	0	0		0	0				0
21	0	0		0		0	0		0		
22	0	0		0		0	0		0		0
23	8	11		0			12		11		
24	0	0	0	0			0		0		
25	0	0	0	0		0	0		0		0
26	0	0		0			0		0		0
27	0	0	0	0		0	0		0		
28	0	0	0	0		0	0		0		
29	0	0		0		0	0				
30	8	11	0	0			11				
31	0	0		0		0	0				
observ		28	22	31	1	23	30	7	24	9	11
k		0,74	0,71	1,06	1,23	0,73	0,74	0,64	0,60	0,77	0,54
st.dev.		0,09	0,08	0,16	-	0,38	0,05	0,11	0,08	0,07	0,01
st.d./k		0,12	0,12	0,15	-	0,52	0,07	0,17	0,13	0,09	0,02

Observers	[...] = Refractor, d = ... mm	[Rf...] = Reflector, d = ... mm
Bals = H.A.M. Balster [70]	Jn 9 = D. Jannink [9]	Son = A.T. Son [Rf 150 Kutter]
Gort = E.Gorter [80]	Jn40 = D. Jannink [40]	Spa = T. Spaninks [75]
	Kr80 = K. Kroesen [80]	Zans = W. Zanstra [Rf 155]
	vSlo = B. van Slooten [90]	Zijle = W.A. Zijlema [90]



juli 2009



Rimx. 16
Jul. 4,5,6

Rimn. 0
Jul. 1,2,3,
11t/m 22
24t/m 31

Rigem.
3,5

Zonnevlekkengetallen noordelijk- en zuidelijk halfrond

(Hemispheric sunspot numbers)

juli 2009

Prominences

Day	S.I.D.C.		Balster		Jannink4		v.Slooten		Son		Spaninks		Zanstra		Gorter			Spaninks		
	Rn	Rs	Rn	Rs	Rn	Rs	Rn	Rs	Rn	Rs	Rn	Rs	Rn	Rs	Rp(t)	Rp(N)	Rp(S)	Rp(t)	Rp(N)	Rp(S)
1	0	0	0	0			0	0	0	0	0	0	0	0	56	34	22	34	23	11
2	0	0	0	0			0	0			0	0	0	0	68	57	11	34	23	11
3	0	0	0	0			0	0			0	0	0	0	44	33	11	46	24	22
4	0	16	0	17	0	13	0	20			0	30	0	19	45	34	11	25	0	25
5	0	16	0	21			0	23	0	33	0	29	0	21	0	0	0	45	11	34
6	0	16	0	24			0	23	0	25	0	26	0	22	47	23	24	67	45	22
7	0	13	0	18			0	16			0	22	0	15				79	34	45
8	0	13	0	18			0	17					0	18	57	34	23			
9	0	11	0	17			0	14	0	15			0	16						
10	0	9							0	13										
11	0	0	0	0			0	0			0	0			45	23	22			
12	0	0					0	0	0	0	0	0						11	0	11
13	0	0	0	0			0	0	0	0	0	0						13	0	13
14	0	0	0	0			0	0			0	0						11	0	11
15	0	0	0	0			0	0			0	0			46	34	12	46	12	34
16	0	0	0	0			0	0			0	0			45	11	34	35	11	24
17	0	0	0	0			0	0			0	0			69	46	23	23	23	0
18	0	0					0	0			0	0						55	33	22
19	0	0	0	0			0	0			0	0						59	34	25
20	0	0	0	0			0	0												
21	0	0	0	0			0	0			0	0								
22	0	0	0	0			0	0			0	0								
23	0	8	0	11			0	12			0	11								
24	0	0	0	0			0	0			0	0			35	24	11	58	36	22
25	0	0	0	0			0	0			0	0			66	22	44	45	11	34
26	0	0	0	0			0	0			0	0								
27	0	0	0	0			0	0			0	0			24	0	24	23	0	23
28	0	0	0	0			0	0			0	0			33	0	33	24	13	11
29	0	0	0	0			0	0												
30	8	0	11	0			11	0							88	55	33			
31	0	0	0	0			0	0												

Gorter: PST40 Coronado + 63 mm protub.tel.
Spaninks: 63 mm protub.tel + PST 40 Coronado

Eerstvolgende bijeenkomst van de Werkgroep Zon: 14 november 2009, Sonnenborg, Utrecht.

Meer informatie over de zon, met o.a. waarnemingen van leden van de Werkgroep Zon, vindt U op de website van de European Radio Astronomy Club:

www.eracnet.org onder [observations](#)

S.I.D.C. SUMMARY OF THE URSIGRAMS

Date	R' _i	PPSI	600	2800	COS	SFI	XI	Ak	SEA
30	0	///	-	68	////	0	0/0	5	
1	0	1	-	68	////	0	0/0	4	
2	0	///	-	67	////	0	0/0	3	
3	0	6	-	67	////	0	0/0	6	
4	16	23	-	71	////	3	0/0	6	
5	16	34	-	72	////	0	0/0	8	
6	16	42	-	70	////	1	0/0	6	
7	13	37	-	71	////	1	0/0	6	
8	13	34	-	71	////	0	0/0	6	
9	11	23	-	69	////	0	0/0	8	
10	9	5	-	68	////	0	0/0	11	
11	0	0	-	68	////	0	0/0	6	
12	0	0	-	68	////	0	0/0	4	
13	0	///	-	67	////	0	0/0	15	
14	0	///	-	67	////	0	0/0	11	
15	0	///	-	67	////	0	0/0	6	
16	0	0	-	67	////	0	0/0	3	
17	0	///	-	66	////	0	0/0	1	
18	0	///	-	67	////	0	0/0	3	
19	0	0	-	68	////	0	0/0	2	
20	0	///	-	68	////	0	0/0	7	
21	0	///	-	68	////	0	0/0	5	
22	0	0	-	68	////	0	0/0	19	
23	8	1	-	68	////	0	0/0	10	
24	0	///	-	68	////	0	0/0	7	
25	0	0	-	69	////	0	0/0	6	
26	0	0	-	68	////	0	0/0	3	
27	0	///	-	68	////	0	0/0	4	
28	0	///	-	69	////	0	0/0	5	
29	0	///	-	68	////	0	0/0	4	
30	8	1	-	68	////	0	0/0	5	
31	0	///	-	69	////	0	0/0	5	

- R'_i** : provisional international sunspot numbers from the S.I.D.C.
- PPSI** : prompt photometric sunspot index from the S.I.D.C. in 10⁻⁵ w/m² : the quantity to be subtracted from the mean solar constant to account for the sunspot contribution.
- 600** : 600 Mhz solar flux from the station at Humain (Belgium).
- 2800** : 2800 Mhz solar flux from Ottawa (origin : Ursigrams - UGEOI). The 10.7cm Flux data are a service of the National Research Council of Canada.
- COS** : thousands of the cosmic ray counts (origin : Ursigrams - UCOSE Terre Adélie).
- SFI** : From October 1992, Solar Flare Index from the S.I.D.C. (origin : Ursigrams - UGEOR, evaluation : 1 x Sn+10 x "1"+100 x ">1").
- XI** : X-flares index from the Ursigrams (M-flares/X-flares) (origin : Ursigrams - UGEOR, UGEOI).
- Ak** : geomagnetic index from Wingst, Germany (origin : Ursigrams).
- SEA** : sudden enhancements of atmospherics from Uccle & Humain (Royal Observatory, Belgium).

Note that due to problems of interferences saturating our receivers, no SEA could be detected this month.

MONTHLY SUMMARY OF SOLAR AND GEOMAGNETIC ACTIVITY

I. Solar Activity

The highlight of July 2009 was the appearance of a flaring new solar cycle sunspot group. After the disappearance of the group, the solar activity was again reduced to minor levels.

A bright spot visible in EIT195 rotated over the east limb in the southern hemisphere on Jun 30. The spot was not yet identified at that moment as a sunspot group on the photosphere or as an active coronal region. On Jul 03, the coronal bright spot got a sunspot group label (Catania 14) and a NOAA active region number (AR 1024). The new cycle sunspot group dominated the X-ray flux from Jul 03 to Jul 10. It produced a large series of A-, B-flares. The largest event occurred on Jul 05 at 07h13 with a C2.7 flare, nicely imaged by Kanzelhoe Observatory (images available through the Solar Weather Browser, download on <http://sidc.be/SWB>). The flare was followed immediately by a EUV dimming (see EIT195 data). On Jul 06, the group produced a second C-flare, C1. From Jul 07, the group declined continuously. On Jul 11, it disappeared at the West limb.

For the rest of the month, there were no noticeable flaring activity or sunspot groups worth mentioning.

Three coronal holes (CH) transiting the solar disk, were noticed in terms of geomagnetic disturbances. We mention the date the CH reaches the solar central meridian (CM):

- An extension of the North polar CH, Jul 06,
- A small, northern, high-latitude CH, Jul 09,
- A small, northern, high-latitude CH, Jul 19.

II. Geomagnetic Activity

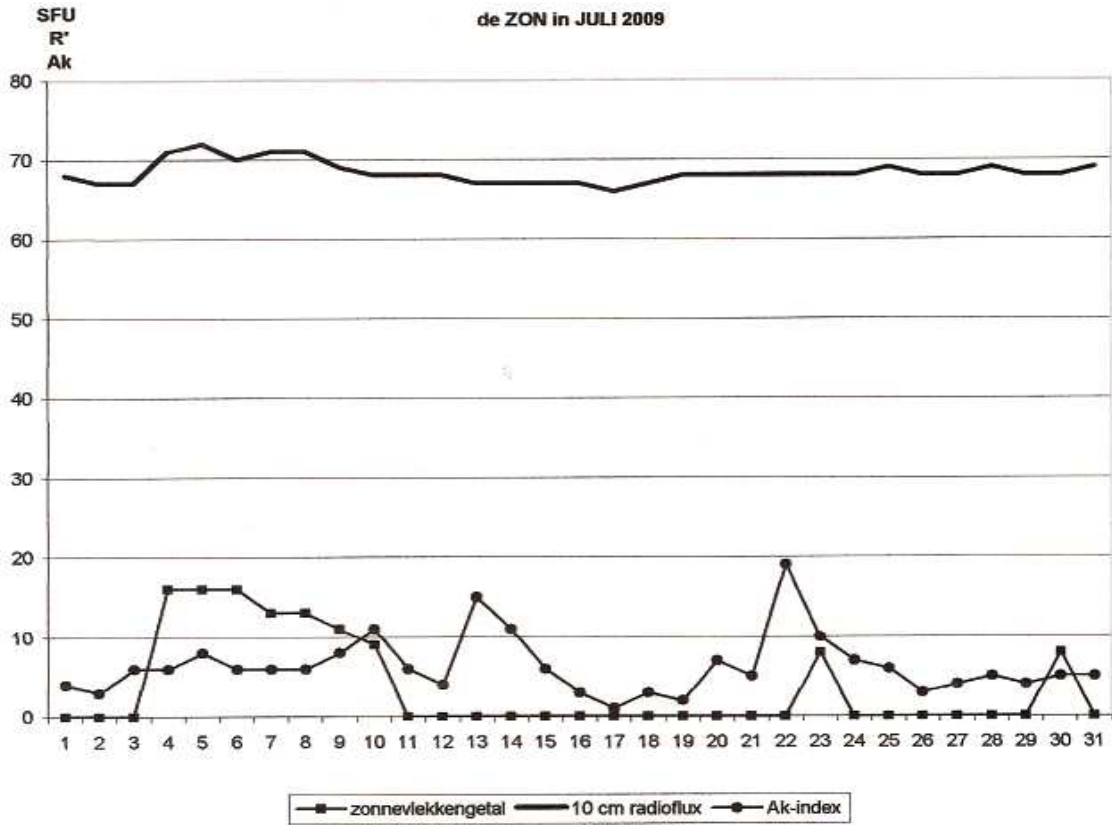
Three periods with geomagnetic disturbances were noticed. During one period, the disturbances went to the red level: minor storm conditions.

The co-rotating interaction region associated with the extension of the North polar CH arrived on Jul 09. The solar wind stream peaked on Jul 10 at 450 km/s. This resulted in temporary unsettled conditions on Jul 09-10.

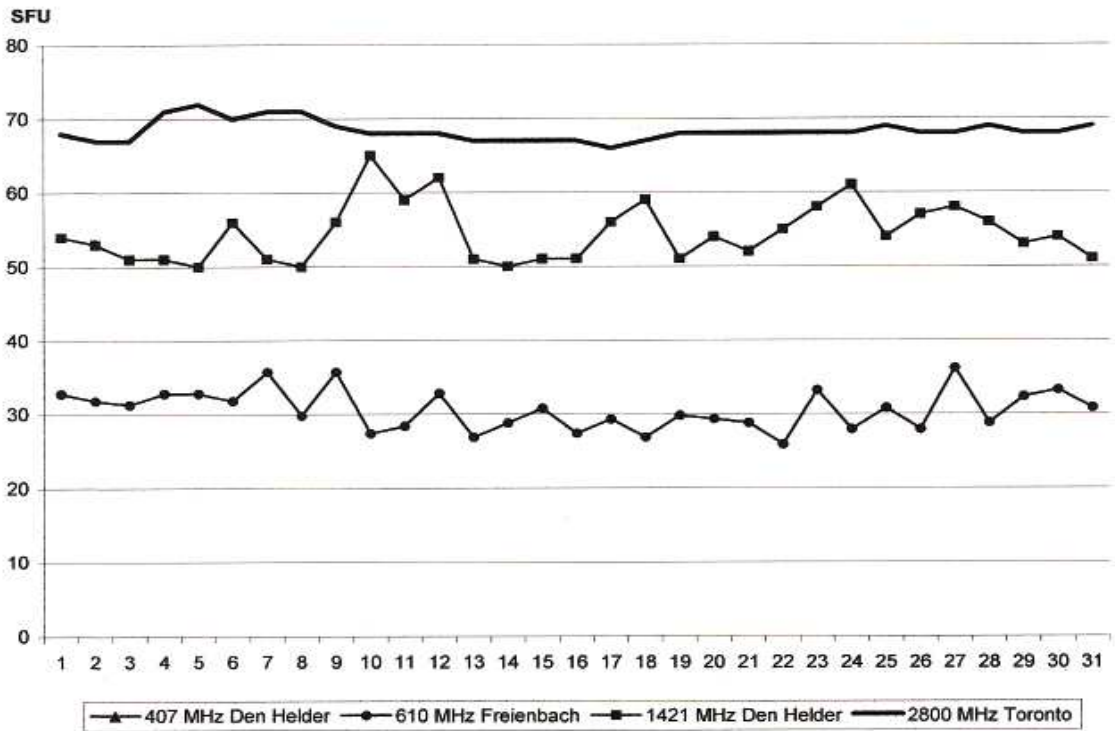
From July 13, the Earth was under the influence of a fast solar wind emanating from the small, high-latitude CH passing the CM on Jul 09. The wind speed reached the maximum value of 550 km/s. Two $K_p=4$ periods were measured. Unsettled conditions were present until July 15.

The largest geomagnetic disturbance this month was seen on Jul 22: two periods with minor storm conditions ($K_p=6$ and $K_p=5$). The deviation of the total interplanetary magnetic field strength from quiet values was the most pronounced on these dates: the total magnetic field strength went up to 20 nT, B_z was strongly negative, but only during a relative short time period. This explained the only short time interval with storm conditions.

de ZON in JULI 2009



Radioflux ZON in JULI 2009



Bulletin Werkgroep Zon

afzender:
N.J.Heijblok
Wezenstraat 70
1781 GM Den Helder.

Eerstvolgende bijeenkomst Werkgroep Zon:
14 november 2009, Sonnenborg, Utrecht