Bulletin Werkgroep Zon — januari 1992

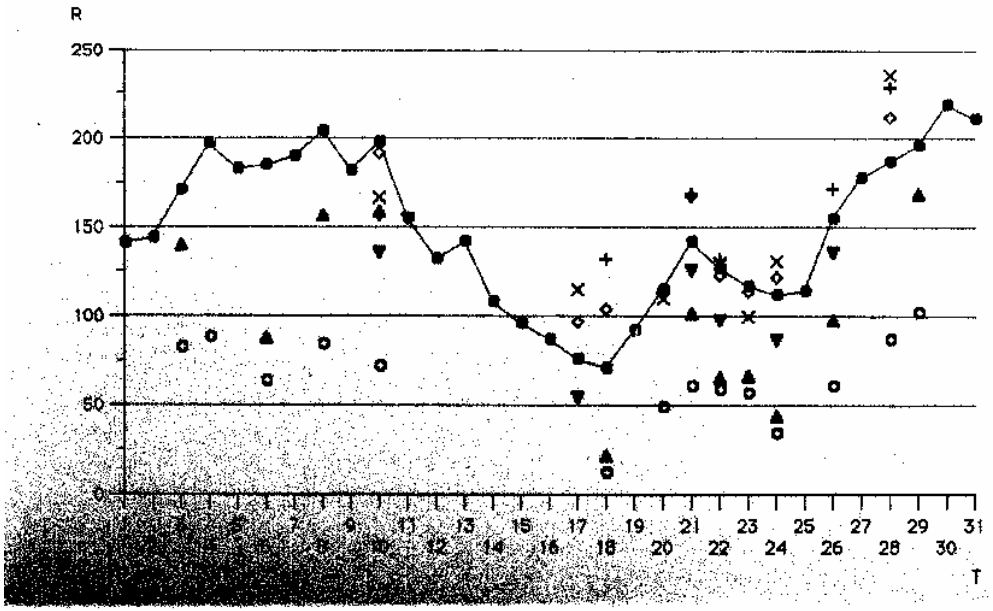
NVWS Werkgroep Zon. Sekretariaat: Veenenburg 36, 2804 WZ Gouda, tel: 01820-39082.

Zonnevlekkengetallen.

Day	Bals	Groe	Idenb	Jann	vSloo	Zans
1						
2						
3		140		82		
4				88		
5						
6		88		64		
7						
8		157		64		
9						
10	192	159	167	72	157	136
11						155
12						
13						
14						
15						
16						
17	97		115			55

Day	Bals	Groe	Idenb	Jann	vSloo	Zans
18	104	221		12	132	
19						
20			110	49		112
21	168	102		61	169	126
22	123	66	130	59	132	98
23	114	67	100	57		
24	120	44	131	34		87
25						
26		98		61	172	136
27						
28	212		236	87	229	
29		169		102		
30						
31						
obser.	8	11	7	14	6	8
k	0,90	1,77	0,96	2,65	0,89	1,21
st.dev	0,12	0,62	0,18	0,97	0,21	0,16

SIDC · H. Balster · A. Groenewegen · J.A. Idenburg · D. Jannink, 9 mm · B. van Slooten · W.T. Zanstra



Sunspot Index Data Center

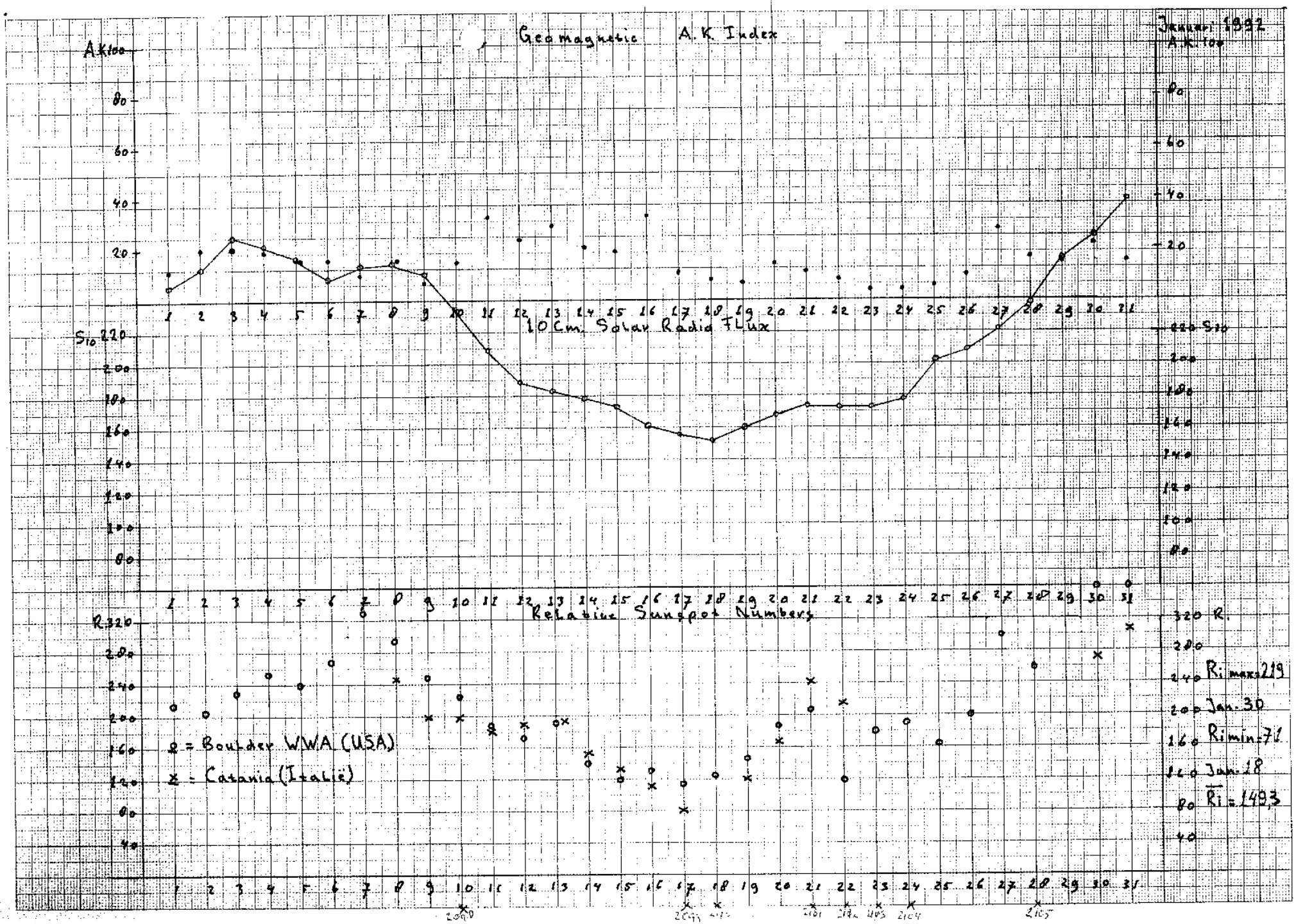
SUNSPOT BULLETIN

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

1992 JANUARY R'IM = 149.3

Date	R'I	PPSI	600	2800	COS	XFI	XI	Ak	SEA	MAG	
31	151	165	47	243	873	21	4/0	12		1426	
1	141	150	45	249	871	82	6/0	12		1644	1n(2032)+T
2	144	151	47	260	857	44	2/0	20			T(0651)
3	171	166	49	280	868	62	5/0	9			T(1733)
4	197	217	52	275	867	38	4/0	18			1n(1827)+T
5	183	236	52	267	867	50	5/0	16			
6	185	262	52	254	867	4	0/0	16			
7	190	272	52	262	861	41	2/0	10		0240	sf(2021)+T
8	204	275	52	263	863	26	1/0	16			
9	182	216	51	257	862	17	1/0	7		2152	1n(1238)+T
10	198	222	52	233	869	5	0/0	15			
11	155	116	50	209	876	2	0/0	32			
12	132	73	52	189	875	1	0/0	24			
13	142	63	51	183	866	0	2/0	29			
14	108	54	44	179	859	3	1/0	21			
15	96	57	44	173	875	3	1/0	20			
16	87	52	43	161	875	2	0/0	33		2010	bp
17	76	51	43	156	877	2	0/0	11			
18	71	40	42	152	876	2	0/0	8			
19	92	50	44	160	886	4	0/0	7			
20	115	61	46	168	880	2	0/0	14			
21	142	82	46	174	896	15	1/0	11			X(1938)
22	127	69	45	173	906	9	0/0	8			1b(1031)
23	117	82	46	173	901	6	0/0	4			
24	112	78	47	178	915	6	0/0	4			
25	114	82	49	202	917	19	1/0	6			X(2341)
26	155	103	47	209	914	113	0/1	10	1527	1458	3b(1521)+T
27	178	159	53	221	908	2	0/0	28			
28	187	190	50	238	889	11	0/0	18			
29	196	221	82	266	883	--	-/-	15	1440		
30	219	269	56	280	882	87	5/0	22	1356		2b(0934)+T
31	211	297	78	---	---	--	-/-	--	0800		

R'I,R'IM: 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.m-2:the quantity to subtract from the mean solar constant.
600 :600 Mhz solar flux from Humain station (Belgium).
2800:2800 Mhz solar flux from Ottawa (origin:Ursigrams).
COS :thousands of the cosmic ray counts (origin:Ursigrams).
XFI :X-flares index from the S.I.D.C. (origin:Ursigrams).
XI :X-flares index from the Ursigrams (M-flares/X-flares).
Ak :planetary geomagnetic index from Wingst (Germany from Ursigrams).
SEA :sudden enhancements of atmospherics from Uccle & Humain (Belgium).
MAG :magnetic events from Dourbes station(Royal Météo. Institute Belgium).
Remarks:sid(sudden ionospheric disturbance);ssc(sudden storm commencement) mgst(magnetic storm);sfe(solar flare effect);s-1-2-3-4(class of flares); II-IV radio-burst;T(ten cm radio-burst);P(proton flare);p(proton event);gle(ground level event:neutron event);si(sudden impulse); F(Forbush)


Geomagnetic A.K Index
A.K 100
80
60
40
20
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 31
10 Cm. Solar Radio Flux
S10 220
200
180
160
140
120
100
80
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 31
Relative Sunspot Numbers
R 320
280
240
200
160
120
80
40
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 31
= Boulder WWA (USA)
= Catania (Italië)
2040
2101
2105
January 1992
A.K 100
80
60
40
20
S10 220
200
180
160
140
120
100
80
320 R
280
240
200
160
120
80
40
Ri max=219
Jan. 30
Rimin=71
Jan. 18
Ri=149,3

Bulletin Werkgroep Zon — februari 1992

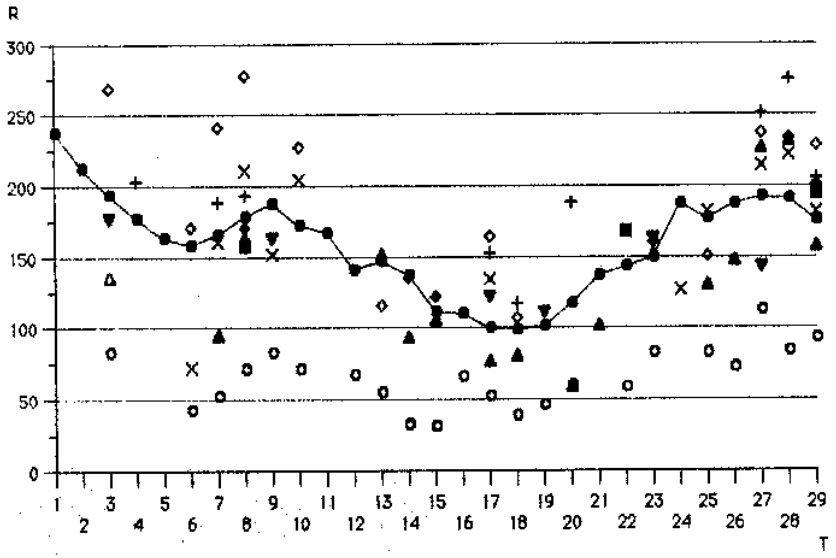
NVWS Werkgroep Zon. Sekretariaat: Veenenburg 36, 2804 WZ Gouda, tel: 01820-39082.

Zonnevlekkengetallen.

Day	Bals	Groe1	Groe2	Idenb	Jann	Schol	vSloo	Zans	Zij 6
1									
2									
3	269	136			83			178	
4							204		
5									
6	171			72	42				
7	241		95	161	53		189		
8	277		164	211	71	171	194		159
9				152	82			164	
10	228			205	71				
11									
12					68				
13	116		152		55				
14	136		94		33				
15			106		31	122			
16					66				

Day	Bals	Groe1	Groe2	Idenb	Jann	Schol	vSloo	Zans	Zij 6
17	165		78	135	52		154	122	
18	107		81		39		117		
19					46			111	
20			60		60		189		
21			102						
22					59				169
23			153		82	161		164	
24				128					
25	151		131	183	83				
26			149		72				
27	238		228	215	112		251	144	
28	234		233	223	84		275		
29	229		159	182	93	201	206		195
obser.	13	1	15	11	22	4	9	6	3
k	0,86	1,43	1,23	1,10	2,46	0,94	0,79	1,03	0,96
st.dev.	0,19	0	0,30	0,40	0,65	0,06	0,10	0,17	0,12

SIDC — H. Balster
A. Groenewegen, 125 mm — A. Groenewegen, 102 mm (nieuw)
J.A. Idenburg — D. Jannink, 9 mm — A. Scholten
B. van Slooten — W.T. Zanstra — W.A. Zijlema, 60 mm



Sunspot Index Data Center

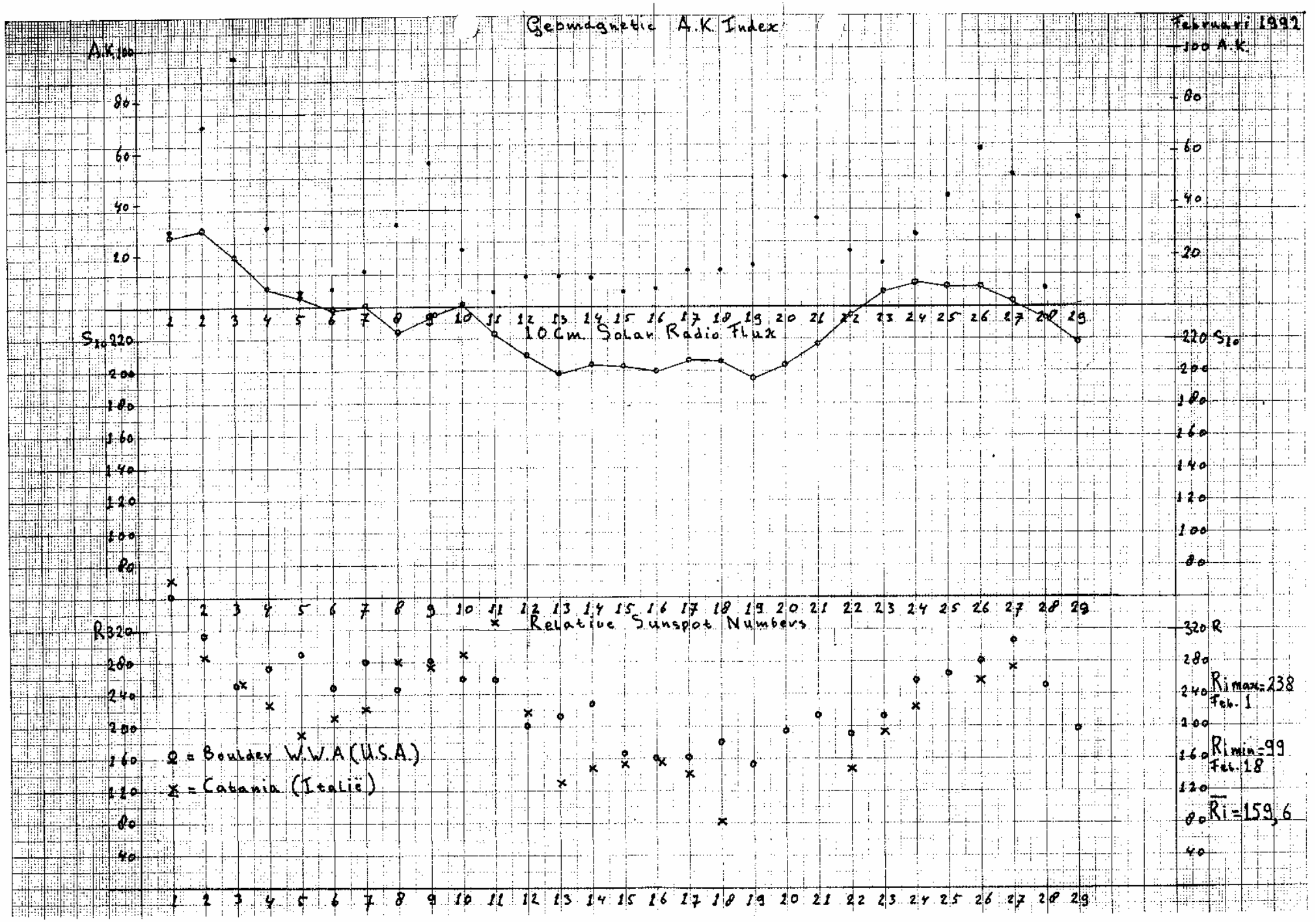
SUNSPOT BULLETIN

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

1992 FEBRUARY R'IM = 159.6

Date	R'I	PPSI	600	2800	COS	XFI	XI	Ak	SEA	MAG	
31	211	297	78	303	880	40	2/0	15	0800		
1	238	261	66	284	866	16	0/0	29		0607	
2	213	228	56	288	867	54	3/0	70		1153	
3	194	219	60	271	765	61	3/0	96		2107	mgst(1300)F?
4	178	196	57	252	867	20	1/0	31			
5	164	156	63	246	867	36	3/0	5			
6	159	147	60	239	869	54	5/0	7	1348		1n(0311);2b(0939)T,II
7	166	126	50	241	879	22	1/0	14	1145		2b(1141)+T;II,IV;p
8	179	111	48	225	869	11	0/0	32		1429	
9	187	140	48	236	847	38	2/0	56			
10	173	183	51	241	857	9	1/0	23			
11	168	200	50	224	866	21	1/0	6			T(0412)
12	141	180	47	210	875	8	0/0	12			
13	148	162	47	198	881	3	0/0	12			
14	137	142	49	204	884	36	3/0	11			2b(2304)
15	111	150	52	203	880	42	3/0	6			1b(2126)+T
16	110	136	50	200	885	136	2/1	7	1234		2b(1231)+T
17	100	110	48	207	886	43	3/0	14		0520	ssc(0807);2n(0021)
18	99	75	51	206	884	59	5/0	14			
19	101	59	48	196	886	11	2/0	16	1350		
20	117	59	47	204	872	14	1/0	50		0109	
21	137	80	49	217	851	27	3/0	34			mgst(1300);1f(1014)
22	144	128	49	235	866	9	0/0	22			
23	150	183	49	249	878	9	0/0	17			
24	188	230	51	255	883	17	1/0	28		0702	ssc(1628);2b(2306)
25	178	263	60	253	875	9	0/0	43			T(0049)
26	188	268	54	253	877	25	2/0	61		1657	ssc(2229)
27	192	235	66	244	---	109	0/1	51			3b(0945);p(1100)
28	191	179	56	233	---	6	0/0	7			
29	176	190	--	218	856	20	1/0	34		0920	

R'I,R'IM: 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.m-2:the quantity to subtract from the mean solar constant.
600 :600 Mhz solar flux from Humain station (Belgium).
2800:2800 Mhz solar flux from Ottawa (origin:Ursigrams).
COS :thousands of the cosmic ray counts (origin:Ursigrams).
XFI :X-flares index from the S.I.D.C. (origin:Ursigrams).
XI :X-flares index from the Ursigrams (M-flares/X-flares).
Ak :planetary geomagnetic index from Wingst (Germany from Ursigrams).
SEA :sudden enhancements of atmospherics from Uccle & Humain (Belgium).
MAG :magnetic events from Dourbes station(Royal Météo. Institute Belgium).
Remarks:sid(sudden ionospheric disturbance);ssc(sudden storm commencement) mgst(magnetic storm);sfe(solar flare effect);s-1-2-3-4(class of flares) II-IV radio-burst;T(ten cm radio-burst);P(proton flare);p(proton event);gle(ground level event:neutron event);si(sudden impulse); F(Forbush)


Geomagnetic A.K. Index
Februari 1992
A.K.
100
80
60
40
20
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
10 Cm. Solar Radio Flux
S10
220
200
180
160
140
120
100
80
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
Relative Sunspot Numbers
R
320
280
240
200
160
120
80
40
Ri max=238
Feb. 1
Ri min=99
Feb. 18
R̄i=159,6
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
Ø = Boulder W.W.A (U.S.A.)
x = Catania (Italie)

Bulletin Werkgroep Zon — maart 1992

NVWS Werkgroep Zon. Sekretariaat: Veenenburg 36, 2804 WZ Gouda, tel: 01820-39082.

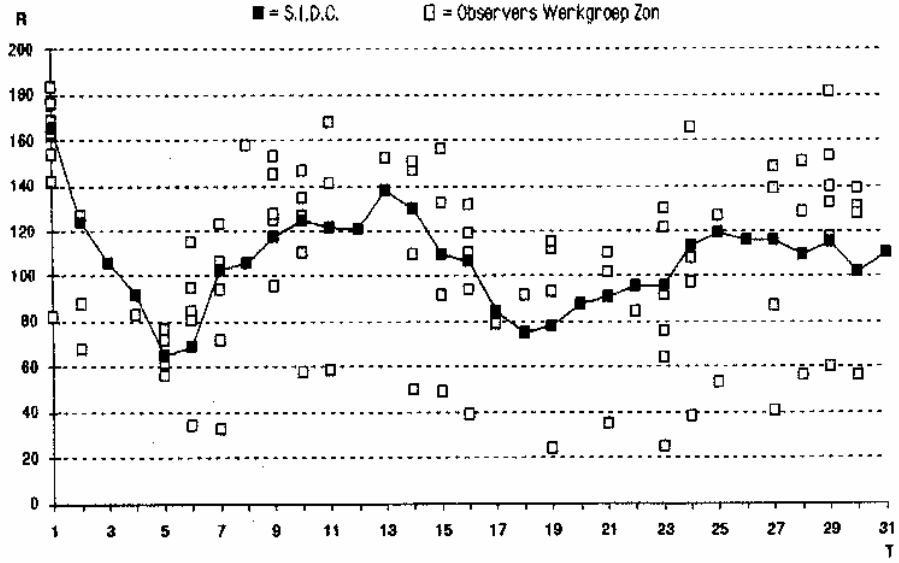
Zonnevlekkengetallen.

Day	Bals	Groe	Idenb	Jann	Schol	vSloo	Zans	Zij 6	Zij10
1	184	163	154	82	169	176	142	177	
2	127	88		68					
3									
4		83							
5	77	62	72	56			62		
6	95	85		34		115	81		
7		123		33	107	107	94	72	
8						158			
9	145	125		96		153	128		
10	147	126	111	58		135	127		
11		141		59		166			
12									
13		152							
14		110		50	147	151			
15		92		49		133			156
16	132	111		39		119	94		
17							79		

Day	Bals	Groe	Idenb	Jann	Schol	vSloo	Zans	Zij 6	Zij10
18	92								
19	112			24		115	93		
20									
21		111		35		102			
22						85			
23	130	84	76	25		122	92		
24	166	97		38		108			
25				53			127		
26									
27	139		87	41		148			
28	129			56		151			
29	140		153	60	133	181	118		
30	131		139	56		128			
31									
observ	15	16	7	20	4	19	12	2	1
k	0,81	1,05	1,03	2,33	0,92	0,82	1,01	1,18	0,71
st.dev.	0,07	0,20	0,22	0,65	0,05	0,14	0,10	0,25	0,00

Observers:

Bals = H.A.M. Balster
Groe = A. Groenewegen, 102 mm
Idenb = J.A. Idenburg
Jann = D. Jannink, 9 mm
Schol = A. Scholten
vSloo = B. van Slooten
Zans = W. Zanstra
Zij 6 = W.A. Zijlema, 60 mm
Zij10 = W.A. Zijlema, 100 mm



Sunspot Index Data Center

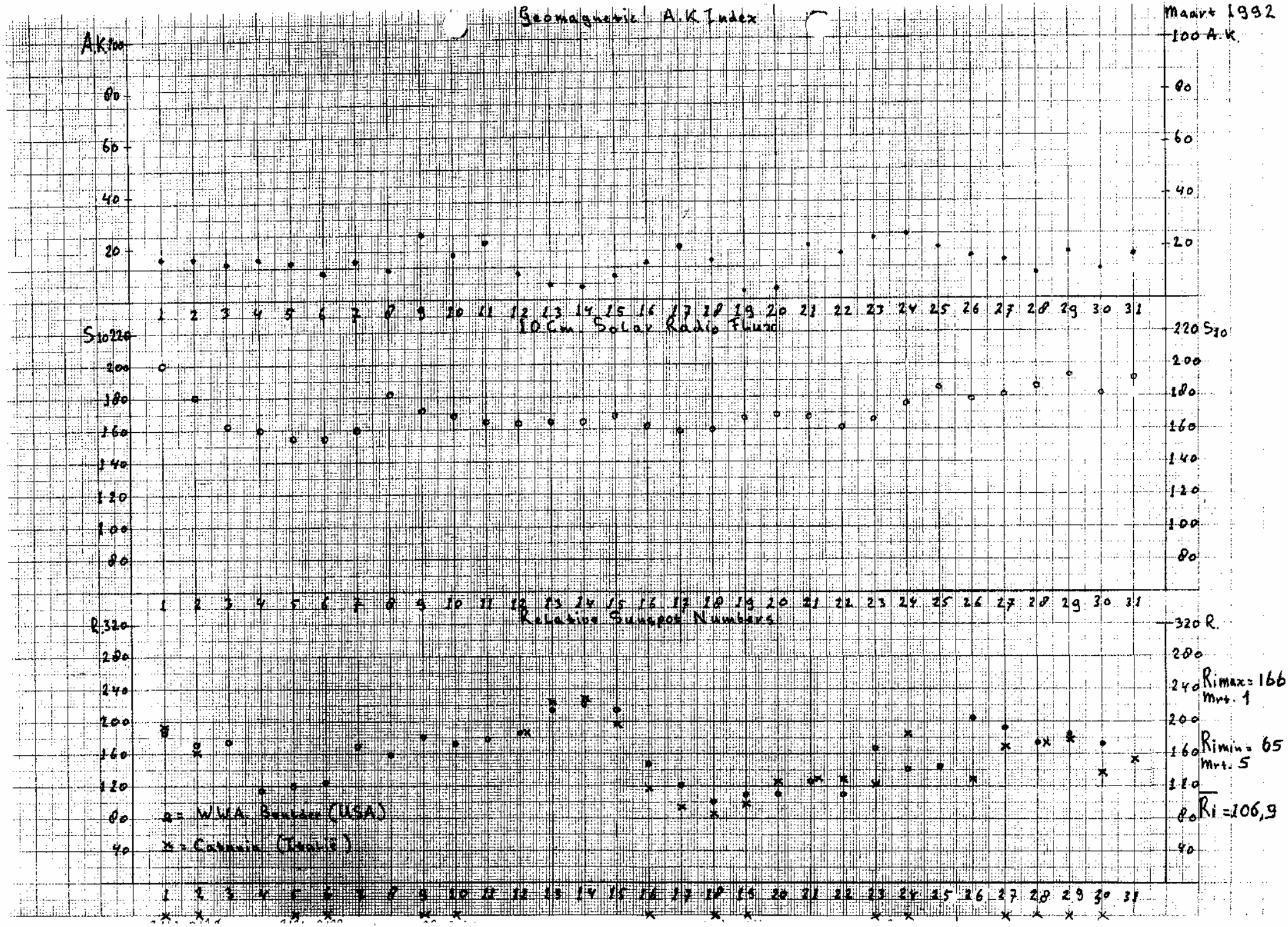
SUNSPOT BULLETIN

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

1992 MARCH R'IM = 106.9

Date	R'I	PPSI	600	2800	COS	XFI	XI	Ak	SEA	MAG	
29	176	190	51	218	856	20	1/0	34		0920	ssc
1	166	168	52	200	882	4	0/0	16	1611	0816	ssc
2	124	87	48	181	854	1	0/0	16			
3	106	48	46	163	864	0	0/0	14			
4	92	45	44	160	---	7	0/0	16	1238		
5	65	38	43	155	875	3	0/0	14			
6	69	44	41	155	884	2	0/0	10			
7	103	41	40	160	885	2	0/0	15	1008		
8	106	65	41	182	878	28	2/0	11			2n(1711)+T
9	118	90	43	172	872	4	0/0	25			
10	125	77	43	169	883	9	0/0	17			
11	122	84	43	165	889	7	0/0	22			
12	121	84	42	164	888	7	0/0	10			
13	138	117	42	165	885	13	0/0	6			
14	130	121	44	165	886	5	0/0	5			
15	110	142	45	169	892	25	1/0	9			3b(0122)+T
16	107	114	44	161	896	5	0/0	14			
17	85	77	43	159	893	4	0/0	20		0950	p(0840)
18	75	72	43	160	875	3	0/0	15			
19	78	71	43	167	862	1	0/0	3	1556	1727	ssc
20	88	86	41	169	897	9	0/0	4			
21	91	95	43	168	902	4	0/0	21	1319		
22	96	89	43	161	900	2	0/0	18			
23	96	73	44	166	904	5	0/0	24			
24	114	80	43	176	903	12	0/0	25			
25	119	108	44	186	900	14	0/0	20			
26	116	161	47	179	909	19	0/0	17			
27	116	252	--	181	917	6	0/0	15		2053	bp
28	110	287	--	186	923	5	0/0	10		2045	bp
29	115	335	--	193	921	5	0/0	18			
30	102	333	--	182	924	10	0/0	12			
31	111	257	--	191	---	--	-/-	18	1418		SEA(1528)+1b

R'I,R'IM: 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.m-2:the quantity to subtract from the mean solar constant.
600 :600 Mhz solar flux from Humain station (Belgium).
2800:2800 Mhz solar flux from Ottawa (origin:Ursigrams).
COS :thousands of the cosmic ray counts (origin:Ursigrams).
XFI :X-flares index from the S.I.D.C. (origin:Ursigrams).
XI :X-flares index from the Ursigrams (M-flares/X-flares).
Ak :planetary geomagnetic index from Wingst (Germany from Ursigrams).
SEA :sudden enhancements of atmospherics from Uccle & Humain (Belgium).
MAG :magnetic events from Dourbes station(Royal Météo. Institute Belgium).
Remarks:sid(sudden ionospheric disturbance);ssc(sudden storm commencement) mgst(magnetic storm);sfe(solar flare effect);s-1-2-3-4(class of flares); II-IV radio-burst;T(ten cm radio-burst);P(proton flare);p(proton event);gle(ground level event:neutron event);si(sudden impulse); F(Forbush)


Geomagnetic A.K. Index
Maart 1992
A.K.
100
80
60
40
20
10 Cm. Solar Radio Flux
S10
220
200
180
160
140
120
100
80
Relative Sunspot Numbers
R
320
280
240
200
160
120
80
40
Rimax = 166
mrt. 1
Rimin = 65
mrt. 5
R̄i = 106,9
= W.W.A. Boulder (USA)
= Cheltenham (Canada)
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 31

Bulletin Werkgroep Zon — april 1992

NVWS Werkgroep Zon. Sekretariaat: Veenenburg 36, 2804 WZ Gouda, tel: 01820-39082.

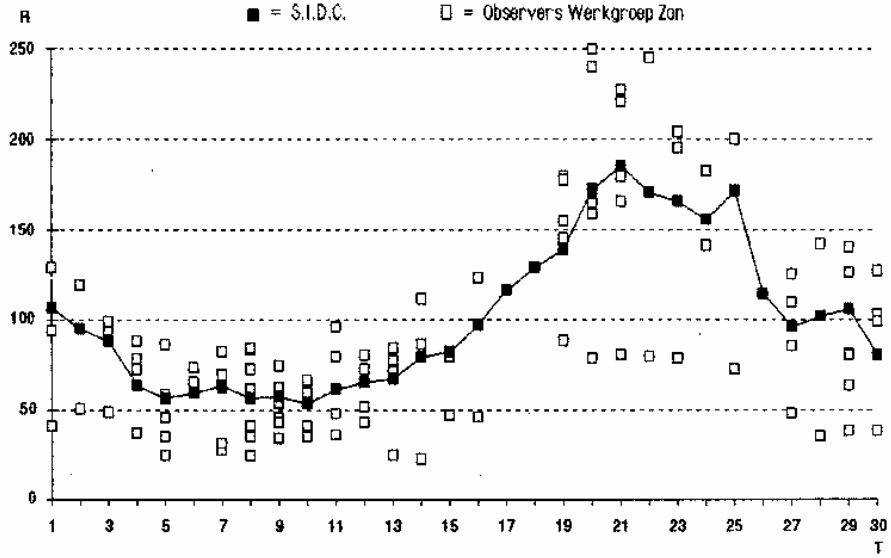
Zonnevlekkengetallen.

Day	Bals	Groe	Iden	Jann	Scho	vSlo	Zans	Zij 6	Zij10
1		129		41		94			
2			120	51		120			
3		94		49		99			
4		88		37	72	78	78		
5	86			24	46	59	35		
6	73		66	1					
7	82	69		27		63	31		
8	83	84	62	24		72	35	41	
9	74	63	54	34		74	46	43	
10	67	67	60	35		67	41		
11		79		36	48	96		48	
12			43		52	80			72
13	77	84	71	24		84			
14		112		22		66			
15				47		79			
16				46		124			

Day	Bals	Groe	Iden	Jann	Scho	vSlo	Zans	Zij 6	Zij10
17									
18									
19		180	155	88	145	178			
20	240	165		78	159	250			172
21	223	228	166	80	180	221			
22				79		245			
23		195		78		204			
24	182		141						
25				72		200			
26									
27	110	85		48		125			
28				35		142			
29	126	64		38		140	81	80	
30	103			38	99	127		60	
observ	13	16	10	24	8	25	7	5	2
k	0,79	0,90	1,02	2,21	1,07	0,82	1,43	1,27	0,96
st.dev.	0,07	0,23	0,20	0,48	0,17	0,12	0,36	0,14	0,04

Observers:

Bals = H.A.M. Balster
Groe = A. Groenewegen
Iden = J.A. Idenburg
Jann = D. Jannink, 9 mm
Schol = A. Scholten
vSloo = B. van Slooten
Zans = W. Zanstra
Zij 6 = W.A. Zijlema, 60 mm
Zij10 = W.A. Zijlema, 100 mm



Sunspot Index Data Center

SUNSPOT BULLETIN

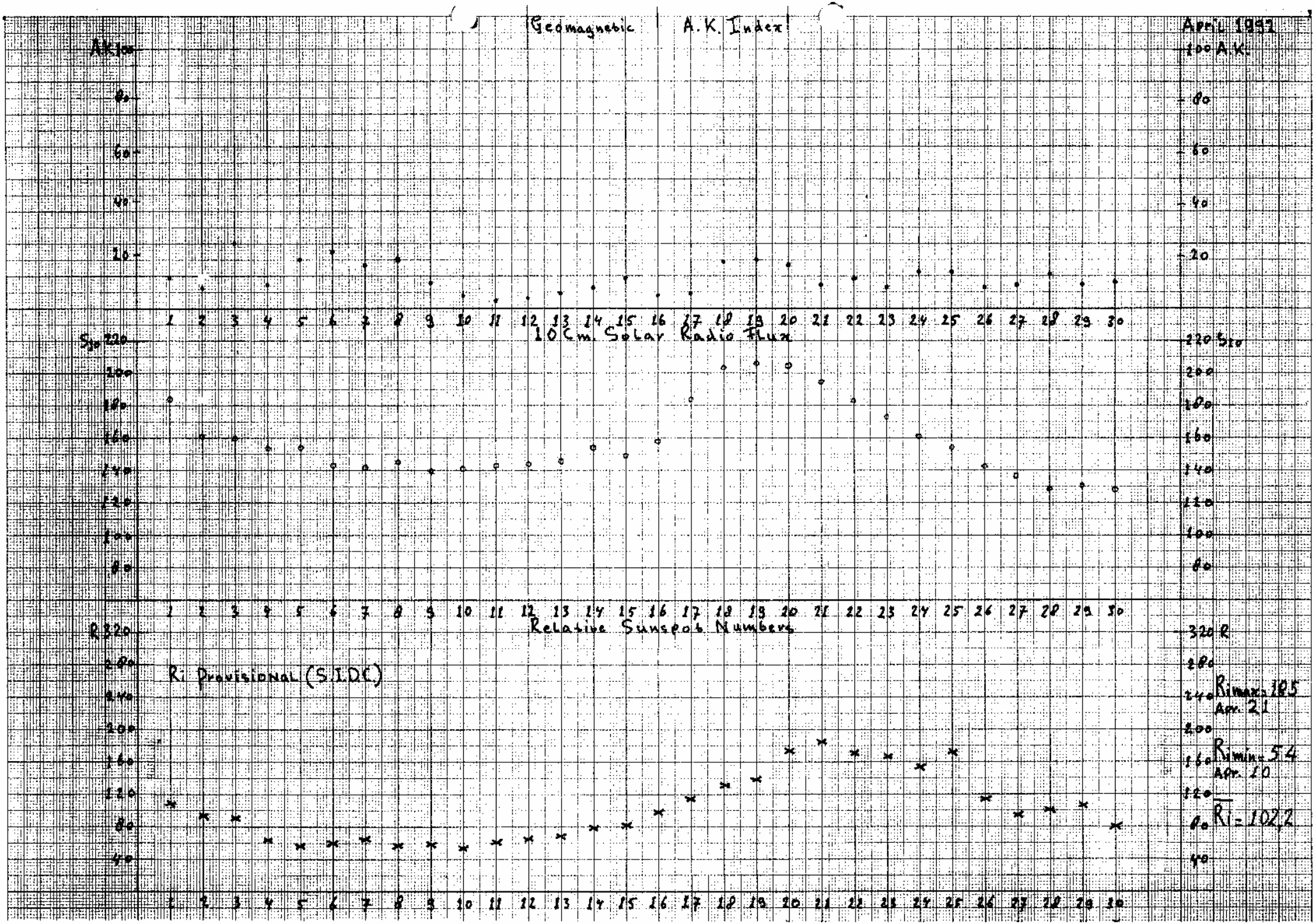
S.I.D.C. SUMMARY OF THE URSIGRAMS

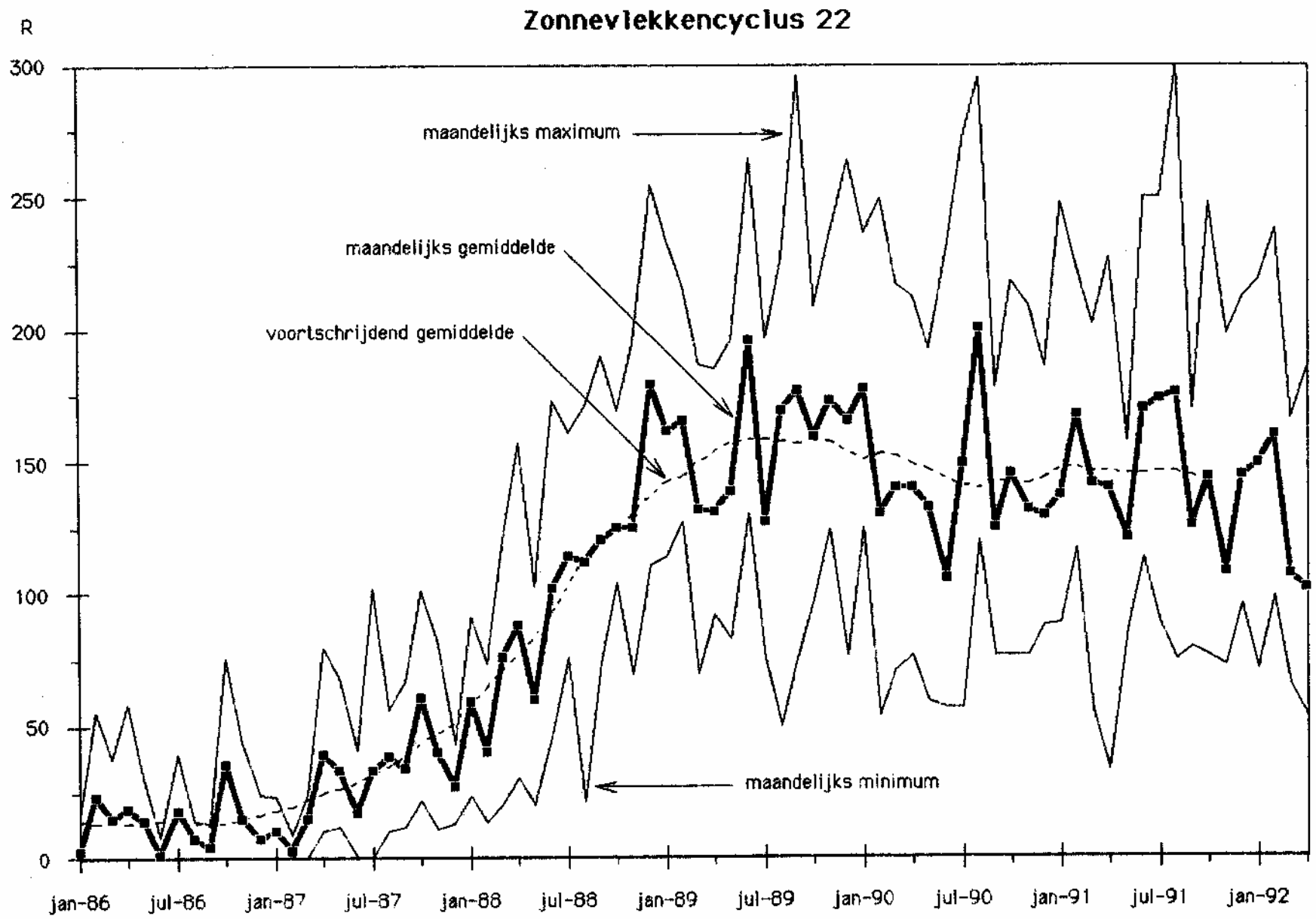
1992 APRIL R'IN = 102.2

Date	R'I	PPSI	600	2800	COS	XFI	XI	Ak	SEA	MAG	
31	111	257	43	191	---	--	-/-	18	1418	1725	SEA(1528)1b
1	107	156	43	184	922	--	-/-	12		1156	sf(0049)+T;1b(1724)
2	95	95	41	161	910	--	-/-	8	1451		
3	88	64	40	160	912	--	-/-	25			
4	64	59	40	154	903	--	-/-	9	0627		
5	57	58	38	154	901	--	-/-	19	0746		
6	60	51	38	143	906	--	-/-	22			
7	64	57	37	142	904	13	0/0	17	0556		
8	57	63	37	145	904	9	0/0	20			
9	58	65	38	140	905	8	0/0	10			
10	54	69	40	141	846	7	0/0	5	0536		F?
11	62	69	40	143	909	3	0/0	3			
12	66	85	41	144	903	3	0/0	4			
13	68	81	41	146	905	2	0/0	6			
14	79	92	43	154	913	6	0/0	8		2025	ssc/si? mgst(2252)
15	82	92	43	149	---	15	0/0	12			
16	97	105	40	158	---	11	0/0	5	1614		
17	117	129	43	184	---	28	1/0	6	1444	2252	
18	129	131	44	203	---	11	0/0	18			
19	139	152	40	206	---	23	0/0	20			
20	173	190	43	205	---	37	1/0	17			
21	185	171	46	195	---	24	0/0	9			
22	171	193	43	183	---	21	1/0	12	1000		2b(0103)
23	166	160	--	173	---	20	0/0	8			
24	156	155	41	161	917	43	2/0	14			
25	172	112	43	154	913	10	0/0	14			
26	115	88	42	143	913	1	-/-	8			
27	96	91	40	137	912	7	0/0	9	1501		
28	102	70	39	129	---	3	0/0	13		2006	
29	106	68	35	131	913	4	0/0	6		1730	
30	80	36	--	---	---	--	-/-	--			

First SIDC forecast for the next minimum:R min between 1995 Feb. and 1997 July. Best actual estimation: R min10 AROUND 1996 July.

R'I,R'IN: 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.m-2:the quantity to subtract from the mean solar constant.
600 :600 Mhz solar flux from Humain station (Belgium).
2800:2800 Mhz solar flux from Ottawa (origin:Ursigrams).
COS :thousands of the cosmic ray counts (origin:Ursigrams).
XFI :X-flares index from the S.I.D.C. (origin:Ursigrams).
XI :X-flares index from the Ursigrams (M-flares/X-flares).
Ak :planetary geomagnetic index from Wingst (Germany from Ursigrams).
SEA :sudden enhancements of atmospherics from Uccle & Humain (Belgium).
MAG :magnetic events from Dourbes station(Royal Météo. Institute Belgium).
Remarks:sid(sudden ionospheric disturbance);ssc(sudden storm commencement) mgst(magnetic storm);sfe(solar flare effect);s-1-2-3-4(class of flares); II-IV radio-burst;T(ten cm radio-burst);P(proton flare);p(proton event);gle(ground level event:neutron event);si(sudden impulse); F(Forbush)


Geomagnetic A.K. Index
April 1952
A.K.
10 Cm. Solar Radio Flux
Relative Sunspot Numbers
Ri Provisional (S.I.D.C)
Rimax=185
Apr. 21
Rimin=54
Apr. 10
Ri=102.2


Zonnevlekkencyclus 22
R
300
250
200
150
100
50
0
maandelijks maximum
maandelijks gemiddelde
voortschrijdend gemiddelde
maandelijks minimum
jan-86
jul-86
jan-87
jul-87
jan-88
jul-88
jan-89
jul-89
jan-90
jul-90
jan-91
jul-91
jan-92

Bulletin Werkgroep Zon — mei 1992

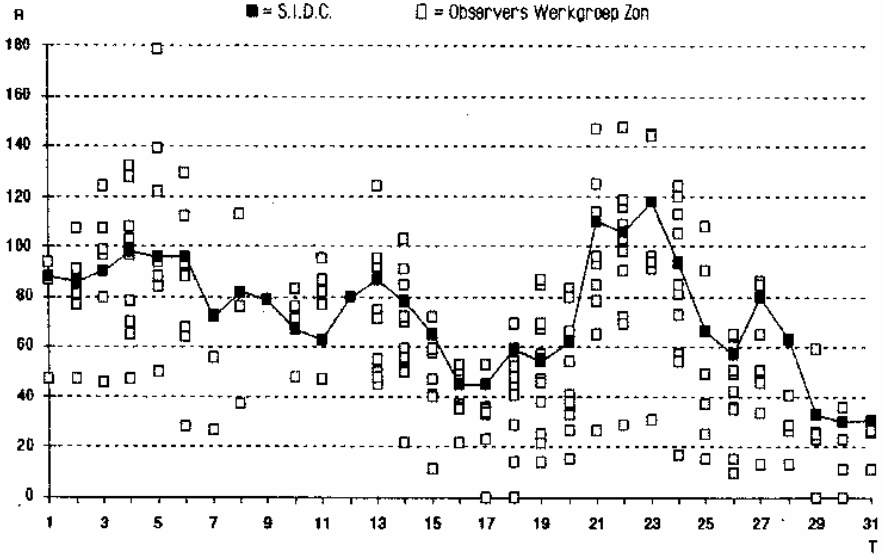
NVWS Werkgroep Zon. Sekretariaat: Veenenburg 36, 2804 WZ Gouda, tel: 01820-39082.

Zonnevlekkengetallen.

Day	Bals	Groe	Iden	Jann	Mk 8	Mk13	Piet	Scho	vSlo	Zans	Zij 6	Zij10
1		87		47					94			
2		81	91	47			77		107			
3		97	99	46			124	89	107			
4	103	108	78	47	65	65	126	97	132		79	
5	139	84	94	50			179		122		89	
6	112	93	88	28	64	64			129	68		
7	56	72		27					73			
8		76		37					113			
9												
10				48				71	83		76	
11	95	93	87	47			82		77			
12												
13	124	75	55	45	50	48	71	92	95			
14	91	70	72	22	51	50	59	85	103	55	56	
15	72	40	47	11	41	41		40	58	40	59	
16	51	49	37	22	36	35	35	51	53	35		
17	36	33	36	0	23	23	23	36	53	35	34	

Day	Bals	Groe	Iden	Jann	Mk 8	Mk13	Piet	Scho	vSlo	Zans	Zij 6	Zij10
18	41	54	44	0	14	14	41	48	69	29	52	
19	47	85	57	14	25	22	67	55	87	38	46	69
20	66	93	27	15	36	33	54		80	41	38	
21	114	125	93	27	78	65	96	85	147	65	78	
22	116	148	109	29	72	69	98	116	119	90	103	
23	145			31			96		144	91	94	
24	105	124	113	17	57	54	73	94	120	81	85	
25	90			15	25	25			108	37	49	
26	64	49	42	15			36	51	65	35	10	
27	86	65	48	13			46		85	51	34	
28		26		13			27			29	41	
29	59		26	0			23				25	
30			36	0			11	23				
31	28		29	11	26	26	29	27		27	27	
observ	22	23	22	29	15	15	22	16	25	17	19	1
k	0,93	1,07	1,19	3,25	1,83	1,90	1,31	1,10	0,82	1,51	1,54	0,76
st.dev.	0,21	0,33	0,34	1,36	0,73	0,72	0,51	0,19	0,11	0,29	1,03	0,00

Observers	[....] = Refractor, d = ... mm;	[Rf..] = Reflector, d = ... mm
Bals = H.A.M. Balster [70]	Mk 8 = A. Mak [80, fluorit]	vSlo = B. van Slooten [90]
Groe = A. Groenewegen [102]	Mk13 = A. Mak [127]	Zans = W. Zanstra [Rf 155*]
Iden = J.A. Idenburg [Rf 125]	Piet = F. Pieters [60]	Zij 6 = W.A. Zijlema [60]
Jann = D. Jannink [9]	Scho = A. Scholten [60]	Zij10 = W.A. Zijlema [100]
		* andere telescoop



Sunspot Index Data Center

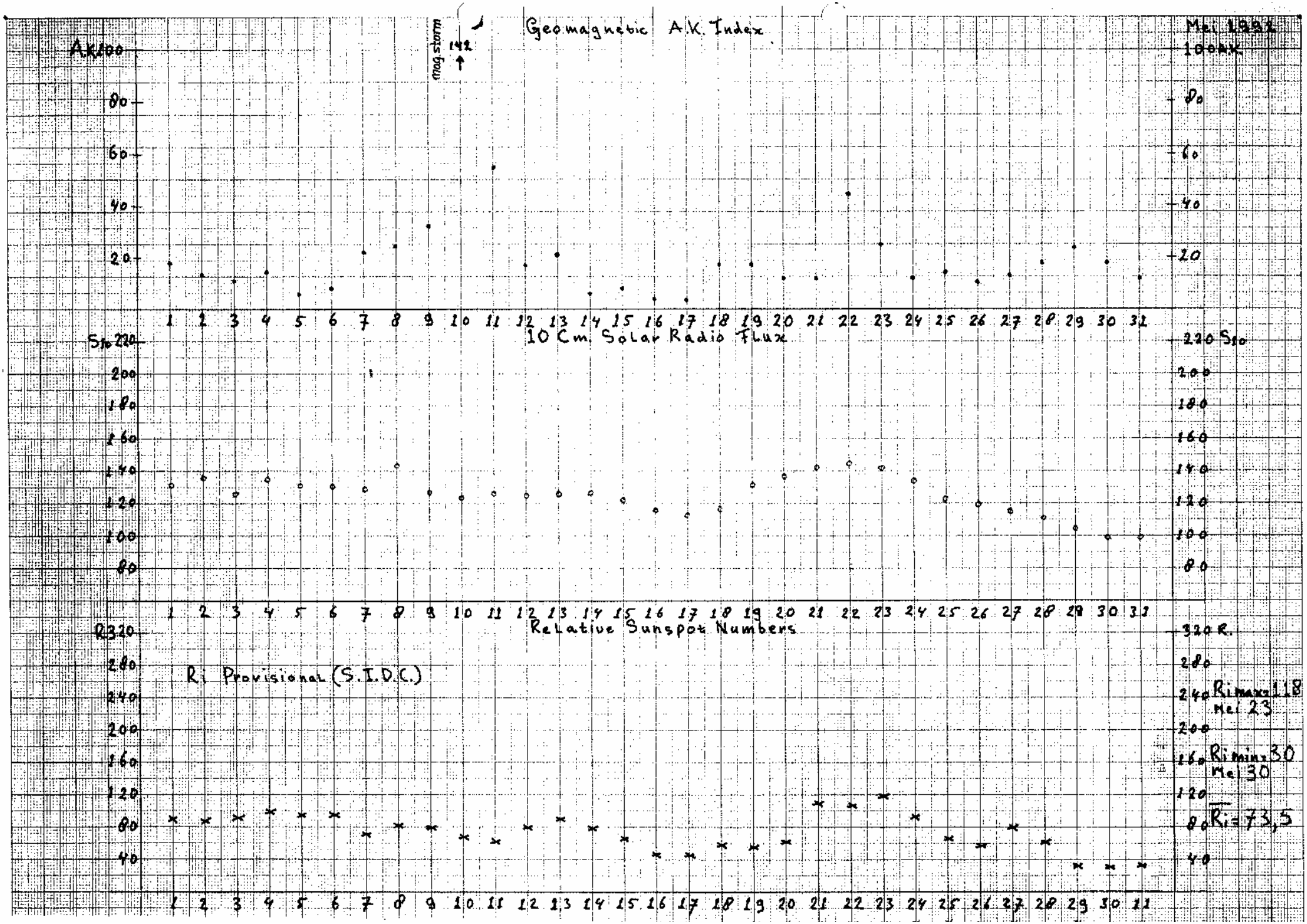
SUNSPOT BULLETIN

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

1992 MAY R'IN = 73.5

Date	R'I	PPSI	600	2800	COS	XFI	XI	Ak	SEA	MAG
30	80	36	41	128	999	3	0/0	5		
1	88	78	33	131	1000	18	0/0	13		
2	86	50	33	136	---	7	0/0	7	0600	
3	90	56	32	126	---	14	1/0	9		
4	98	57	34	135	---	32	2/0	4	1434	1n(2008)
5	96	70	35	133	999	46	1/0	3		
6	96	85	35	131	---	4	0/0	5		
7	72	71	35	129	997	5	0/0	14	1245	ssc
8	82	68	58	143	---	4	1/0	15	1517	4b(1512)//+T
9	79	74	35	127	---	3	0/0	31	0632 1557	p(1005);pca(1405)
10	67	68	36	124	---	1	0/0	81	1656 0446	ssc
11	63	66	36	126	994	5	0/0	19	1200	p(0615);mgst(1200)
12	80	50	38	125	996	8	0/0	8		
13	87	38	37	126	999	3	0/0	9		
14	78	29	37	127	---	5	0/0	2		
15	65	22	38	122	1020	1	0/0	3		
16	45	11	38	116	1020	1	0/0	2		
17	45	8	38	113	1030	0	0/0	2		
18	59	11	38	117	---	17	0/0	14	2020	ssc
19	54	34	40	131	---	18	0/0	7	1132	
20	62	85	40	137	---	1	0/0	6		
21	110	144	39	142	1000	9	0/0	9		
22	106	173	39	145	998	5	0/0	22	0412	ssc
23	118	143	37	142	999	1	0/0	15		
24	93	138	35	134	999	3	0/0	5	1500	?(+1700?)
25	66	95	35	123	---	-	-/-	6		
26	57	71	34	119	1000	0	0/0	7		
27	80	50	33	115	1000	14	0/0	5		
28	63	26	33	111	999	1	0/0	10		
29	33	8	32	105	999	0	0/0	14		very small solar
30	30	3	--	99	999	2	0/0	13		activity
31	31	9	--	99	1000	14	0/0	8		

R'I,R'IN: 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.m-2:the quantity to subtract from the mean solar constant.
600 :600 Mhz solar flux from Humain station (Belgium).
2800:2800 Mhz solar flux from Ottawa (origin:Ursigrams).
COS :thousands of the cosmic ray counts (origin:Ursigrams).
XFI :X-flares index from the S.I.D.C. (origin:Ursigrams).
XI :X-flares index from the Ursigrams (M-flares/X-flares).
Ak :planetary geomagnetic index from Wingst (Germany from Ursigrams).
SEA :sudden enhancements of atmospherics from Uccle & Humain (Belgium).
MAG :magnetic events from Dourbes station(Royal Météo. Institute Belgium).
Remarks:sid(sudden ionospheric disturbance);ssc(sudden storm commencement) mgst(magnetic storm);sfe(solar flare effect);s-1-2-3-4(class of flares II-IV radio-burst;T(ten cm radio-burst);P(proton flare);//(two ribbon flare;p(proton event);gle(ground level event:neutron event);si(sudden impulse);F(Forbush)


Geomagnetic A.K. Index
mag storm
142
AK 100
80
60
40
20
Mei 1982
10 Cm. Solar Radio Flux
Sfu 220
200
180
160
140
120
100
80
Relative Sunspot Numbers
R 320
280
240
200
160
120
80
40
Ri Provisional (S.I.D.C.)
Rimax 118
Mei 23
Rimin 30
Mei 30
Ri = 73,5
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 31

Bulletin Werkgroep Zon — juni 1992

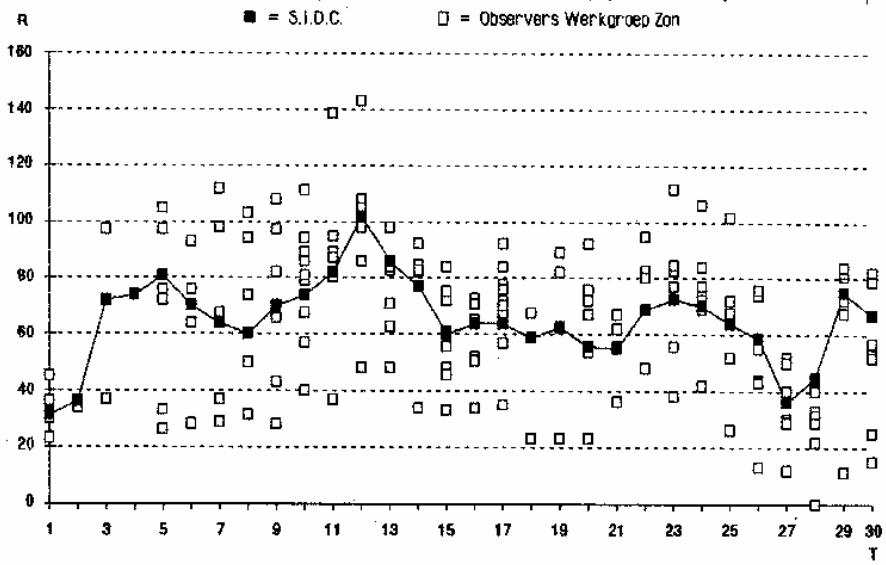
NVWS Werkgroep Zon, Sekretariaat: Veenenburg 36, 2804 WZ Gouda, tel: 01820-39082.

Zonnevlekkengetallen.

Day	Bals	Groe	Iden	Jann	Piet	Scho	vSlo	Zans	Zij 6
1	33	45	33	23	33		36	30	32
2				34					
3		97		37					
4									
5	105		76	26	33		97		72
6			64	28			93		76
7	112	98		29				68	37
8		74	74	31	50	103	94		
9			82	28	43	108	66	97	
10	111	86	94	40	68	89	79	81	57
11	139	89		37			95	87	80
12	143	107		48	86		108	98	105
13		83		48	63		98	84	71
14		82	85	34		83	92		
15	61	72	48	33	48	75	84	56	
16	72	73		34		65	71	52	51

Day	Bals	Groe	Iden	Jann	Piet	Scho	vSlo	Zans	Zij 6
17	72	78	68	35	70	84	92	57	76
18				23			68		
19		89		23			82		
20		76		23	55	72	92	54	67
21			62	36	56	62	67		
22		83		48			95	83	80
23	112	83	56	38		77	85		
24	106	74	84	42			76	77	69
25	102	72		26			68	52	
26	74	44	44	13	44		78	55	43
27	40	30	52	12	30	29	50	29	29
28	41	40	33	0	30	31	45	29	22
29	75	72	81	11	68	82	84	69	68
30	82		57	15	25		79	53	52
observ	17	22	17	29	16	13	26	19	18
k	0,80	0,90	1,01	2,43	1,37	0,96	0,83	1,07	1,17
st.dev.	0,15	0,17	0,20	1,15	0,49	0,22	0,11	0,18	0,30

Observers	[...] = Refractor, d = ... mm;	[Rf..] = Reflector, d = ... mm
Bals = H.A.M. Balster [70]	Jann = D. Jannink [9]	vSlo = B. van Slooten [90]
Groe = A. Groenewegen [102]	Piet = F. Pieters [60]	Zans = W. Zanstra [Rf 155]
Iden = J.A. Idenburg [Rf 125]	Scho = A. Scholten [60]	Zij 6 = W.A. Zijlema [60]



Sunspot Index — Date Center

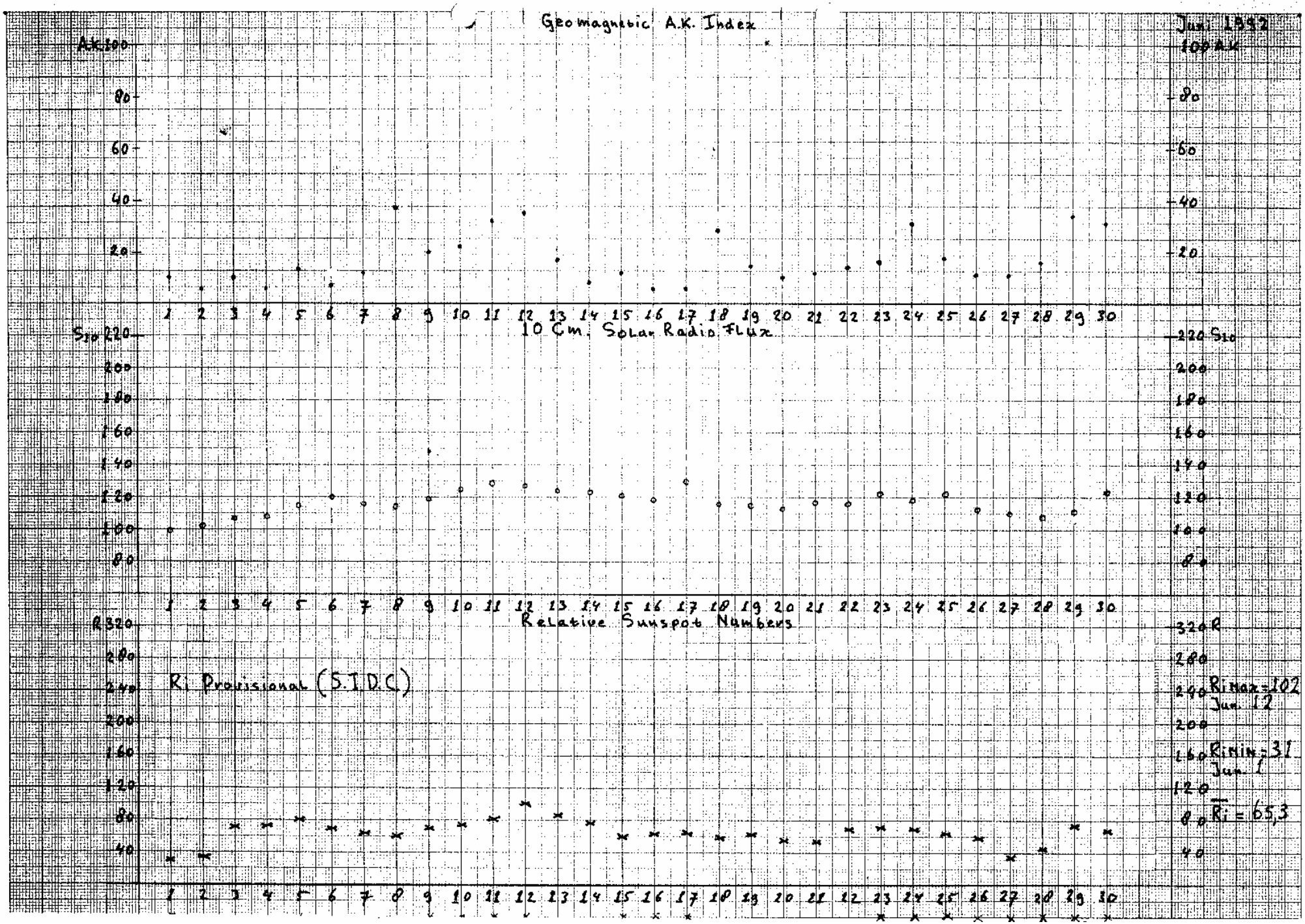
SUNSPOT BULLETIN

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

1992 JUNE R'IN = 65.3

Date	R'I	PPSI	600	2800	COS	XFI	XI	Ak	SEA	MAG	
31	31	9	30	99	1000	14	0/0	8			
1	31	22	29	99	924	0	0/0	10			
2	36	22	30	102	---	3	0/0	6			
3	72	57	32	107	---	2	0/0	10			
4	74	63	32	108	925	-	0/0	6			
5	81	73	32	115	928	9	0/0	13			
6	70	86	32	120	924	22	0/0	7			1n(1113)
7	64	105	35	116	921	111	1/0	12	0200		2b(0234);SEA(0233)
8	60	115	35	115	925	33	1/0	37	0545	0659	ssc
9	70	117	34	119	929	-	-/-	20			
10	74	93	36	125	928	6	0/0	22		0402	ssc
11	82	97	36	129	919	8	0/0	32			F?
12	102	90	36	127	---	3	0/0	36		1204	ssc
13	86	82	37	124	---	3	0/0	17		0408	si
14	77	75	36	123	921	3	0/0	8			
15	60	75	38	121	---	8	0/0	7			
16	64	93	36	119	---	2	0/0	3			
17	64	102	36	130	937	21	0/0	4			X(1546)
18	59	114	35	116	935	14	0/0	18		1252	ssc
19	63	86	35	115	---	7	0/0	11			
20	56	73	33	113	---	13	0/0	10			
21	55	76	32	117	---	8	0/0	9			
22	69	150	33	116	927	8	0/0	14			
23	73	182	34	122	927	122	0/0	16			
24	70	157	47	118	927	18	0/0	31			
25	64	121	--	122	925	17	-/-	17			P;2b(1951);p(2045)
26	59	27	--	112	929	24	1/0	11			
27	36	20	--	110	926	3	0/0	11		2034	ssc
28	45	19	--	108	923	2	2/1	16	0448		sf(0445)
29	75	36	--	111	927	5	0/0	34			
30	67	33	--	123	---	9	0/0	(46)			

R'I,R'IN: 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.m-2:the quantity to subtract from the mean solar constant.
600 :600 Mhz solar flux from Humain station (Belgium).
2800:2800 Mhz solar flux from Ottawa (origin:Ursigrams).
COS :thousands of the cosmic ray counts from Kerguelen;Is(origin:Ursigrams).
XFI :X-flares index from the S.I.D.C. (origin:Ursigrams).
XI :X-flares index from the Ursigrams (M-flares/X-flares).
Ak :planetary geomagnetic index from Wingst (Germany from Ursigrams).
SEA :sudden enhancements of atmospherics from Uccle & Humain (Belgium).
MAG :magnetic events from Dourbes station(Royal Météo. Institute Belgium).
Remarks:sid(sudden ionospheric disturbance);ssc(sudden storm commencement) mgst(magnetic storm);sfe(solar flare effect);s-1-2-3-4(class of flares); II-IV radio-burst;T(ten cm radio-burst);P(proton flare);p(proton event);gle(ground level event:neutron event);si(sudden impulse); F(Forbush)


Geomagnetic A.K. Index
Jun. 1992
A.K.
10 Cm. Solar Radio Flux
S10
Relative Sunspot Numbers
R
R: Provisional (S.I.D.C.)
Rimax=102
Jun. 12
Rimin=31
Jun. 1
Ri = 65,3

Bulletin Werkgroep Zon — juli 1992

NVWS Werkgroep Zon. Sekretariaat: Veenenburg 36, 2804 WZ Gouda, tel: 01820-39082.

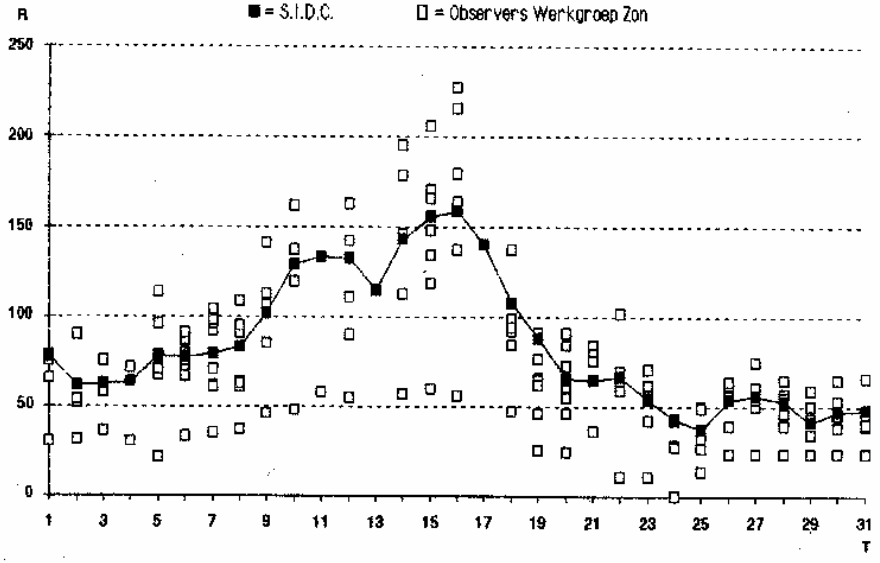
Zonnevlekkengetallen.

Day	Bals	Groe	Iden	Jann	Piet	Scho	vSlo	Zans	Zij 6
1		75	66	30			77		
2	90			31				52	54
3	75			36				58	
4		71		30					
5	114	77	66	21		70	96		
6	86	87	72	33	78	79	91	75	67
7	104	62	92	35	79	96	98	70	61
8	109	61	91	37	64		95	61	63
9	141	107		46			113	85	
10		120	137	48			162		
11				58					
12		111	90	55		142	163		
13									
14	195			57	113	146	179		
15	171		119	60		166	206	148	134
16	228	137	180	56		164	216		
17									

Day	Bals	Groe	Iden	Jann	Piet	Scho	vSlo	Zans	Zij 6
18		99	92	47			137	94	84
19	76	86	63	25	46	76	91	65	62
20	91	61	46	24		65	84	72	55
21	84		79	36			75		
22		62	69	11			102		59
23	70	57		11	62	42	70		56
24		27	28	0		27	42		
25	50		49	13		28	32		26
26	62	64		23		39	56		
27		74	59	23			61		54
28	65	57	46	23		39	55	46	
29	50	59		23		41	34	43	
30	65	53	36	23			45	53	
31	66	43	39	23			45	40	
observ	20	22	20	29	6	15	25	14	12
k	0,79	1,05	1,13	2,64	1,22	1,12	0,89	1,12	1,21
st.dev.	0,11	0,21	0,22	0,92	0,34	0,21	0,13	0,14	0,14

Observers (...) = Refractor, d = ... mm; [Rf..] = Reflector, d = ... mm

Bals = H.A.M. Balster [70]	Jann = D. Jannink [9]	vSlo = B. van Slooten [90]
Groe = A. Groenewegen [102]	Piet = F. Pieters [60]	Zans = W. Zanstra [Rf 155]
Iden = J.A. Idenburg [Rf 125]	Scho = A. Scholten [60]	Zij 6 = W.A. Zijlema [60]



Sunspot Index Data Center

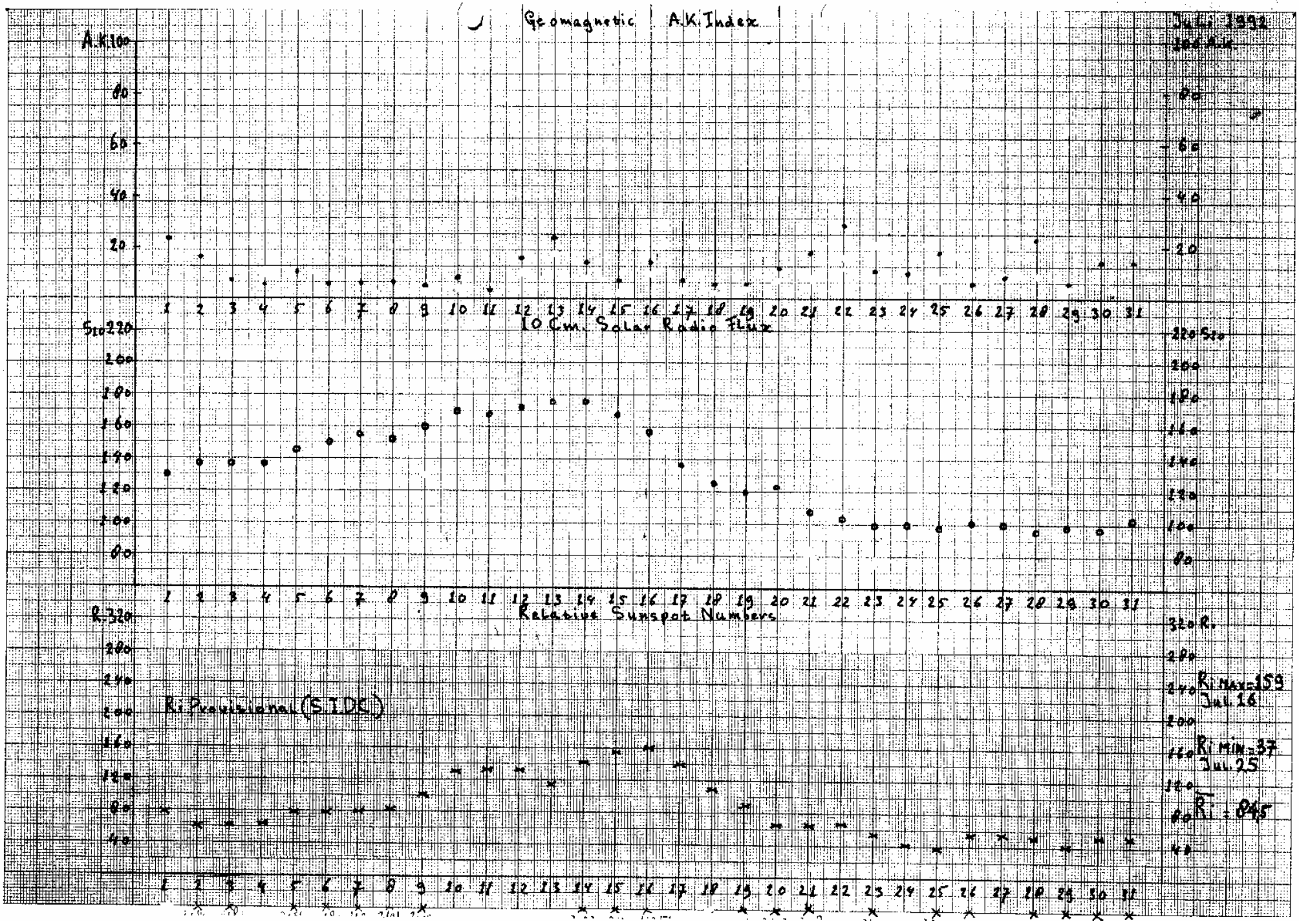
SUNSPOT BULLETIN

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

1992 JULY R'IN = 84.5

Date	R'I	PPSI	600	2800	COS	XFI	XI	Ak	SEA	MAG	
30	67	33	30	123	926	9	0/0	(46)			
1	78	103	31	130	931	13	0/0	23			
2	62	131	31	137	941	6	0/0	16			
3	63	144	34	137	940	3	1/0	7	0937		
4	64	154	32	137	946	5	0/0	6			
5	78	160	34	146	944	35	3/0	10			
6	77	158	35	150	940	21	1/0	6			1F(0145)+X
7	79	158	36	155	944	20	1/0	6	0200		5b(1115)
8	83	163	37	152	942	30	0/1	8	0407		1b(0942)+T
9	102	174	38	160	941	111	1/0	5			2b(1635)+T
10	129	198	37	170	938	28	0/0	8		2355	ssc
11	133	212	39	168	942	11	0/0	4			
12	132	286	39	172	928	12	0/0	16			
13	115	268	39	176	914	37	0/0	24		0505	F(?)si
14	143	266	38	176	924	48	2/0	13			
15	156	208	39	168	923	35	0/0	7			
16	159	132	39	157	924	215	1/0	14			2b(1653)+T
17	140	94	35	136	943	26	0/0	7			
18	108	58	33	126	941	22	2/0	6			
19	88	42	32	119	942	4	0/0	6			
20	66	33	33	124	945	1	0/0	12			
21	65	25	31	108	939	11	0/0	18			
22	67	23	29	104	935	11	0/0	28			
23	54	19	30	99	930	1	0/0	11		1840	bp
24	43	14	29	100	937	13	0/0	10			
25	37	20	29	98	936	2	0/0	18			
26	54	31	30	101	945	5	0/0	6			
27	56	43	29	100	946	17	0/0	8			
28	53	47	29	96	947	0	0/0	23	0448		
29	41	58	31	98	953	2	0/0	6			
30	47	67	31	97	951	7	0/0	14			
31	48	67	31	--	---	--	-/-	-			

R'I,R'IN: 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.m-2:the quantity to subtract from the mean solar constant.
600 :600 Mhz solar flux from Humain station (Belgium).
2800:2800 Mhz solar flux from Ottawa (origin:Ursigrams).
COS :thousands of the cosmic ray counts from Kerguelen:Is(origin:Ursigrams).
XFI :X-flares index from the S.I.D.C. (origin:Ursigrams).
XI :X-flares index from the Ursigrams (M-flares/X-flares).
Ak :planetary geomagnetic index from Wingst (Germany from Ursigrams).
SEA :sudden enhancements of atmospherics from Uccle & Humain (Belgium).
MAG :magnetic events from Dourbes station(Royal Météo. Institute Belgium).
Remarks:sid(sudden ionospheric disturbance);ssc(sudden storm commencement) mgst(magnetic storm);sfe(solar flare effect);s-1-2-3-4(class of flares); II-IV radio-burst;T(ten cm radio-burst);P(proton flare);//(two ribbon flare;p(proton event);gle(ground level event:neutron event);si(sudden impulse);F(Forbush)


Geomagnetic A.K. Index
A.K.
Jul. 1992
10 Cm. Solar Radio Flux
S10
Relative Sunspot Numbers
R.
Ri Provisional (S.I.D.C.)
Ri Max=159
Jul. 16
Ri MIN=37
Jul. 25
Ri : 845

Bulletin Werkgroep Zon augustus 1992

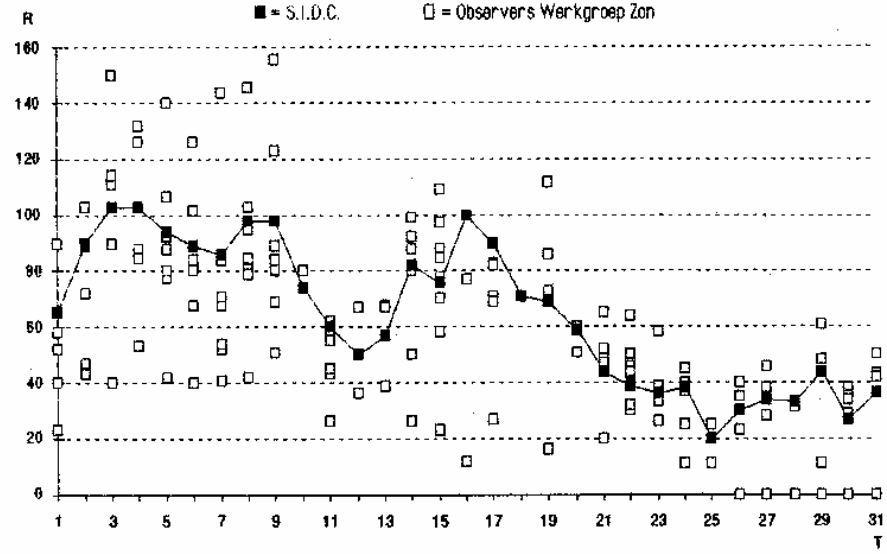
NVWS Werkgroep Zon. Sekretariaat: Veenenburg 36, 2804 WZ Gouda, tel: 01820 - 39082

Zonnevlekkengetallen

Day	Bals	Groe	Iden	Jann	Piet	Scho	vSlo	Zans	Zij 6
1	90	58	40	23			65	52	
2		89	43	47			103	72	
3	150	111	90	40			114		
4	132	103	132	53		88	126	85	
5	140	88	107	42		80	92	78	80
6	126		102	40			80	68	84
7	144	68	84	41		52	71	54	86
8	146	95		42	85		103	81	79
9	156	89	80	51	81	84	123	89	
10	80								
11	62	57	62	26	43	45	62	55	
12	50			36			67		
13	69			39			67		
14	92		80	26	50		99	88	
15	88		78	23	58	70	109	97	85
16				12			77		
17	71			27	89		83	82	
18									
19	112		86	16			73		
20							60	51	
21	65	49		20			52	47	
22	64	43	46	30	39		50	44	32
23	58	34		26	34		39	33	
24	45	37	40	11				25	
25		11		11			25	11	11
26	40		35	0			40	23	
27	28	46		0			38		
28				0			31		
29		48		0	11		61		
30		38		0	29		35	27	34
31	43			0			50	42	
observ	23	17	15	28	10	6	28	21	8
k	0,80	1,04	1,07	2,63	1,50	1,26	0,91	1,19	1,15
st.dev.	0,18	0,23	0,34	1,46	0,86	0,19	0,15	0,25	0,29

Observers

Bals	= H.A.M. Balster [70]	[....]	= Refractor, d = ... mm;	[Rf..]	= Reflector, d = ... mm
Groe	= A. Groeneweegen [102]	Jann	= D. Jannink [9]	vSlo	= B. van Slooten [90]
Iden	= J.A. Idenburg [Rf 125]	Piet	= F. Pieters [60]	Zans	= W. Zanstra [Rf 155]
		Scho	= A. Scholten [60]	Zij 6	= W.A. Zijleme [60]



Sunspot Index Data Center

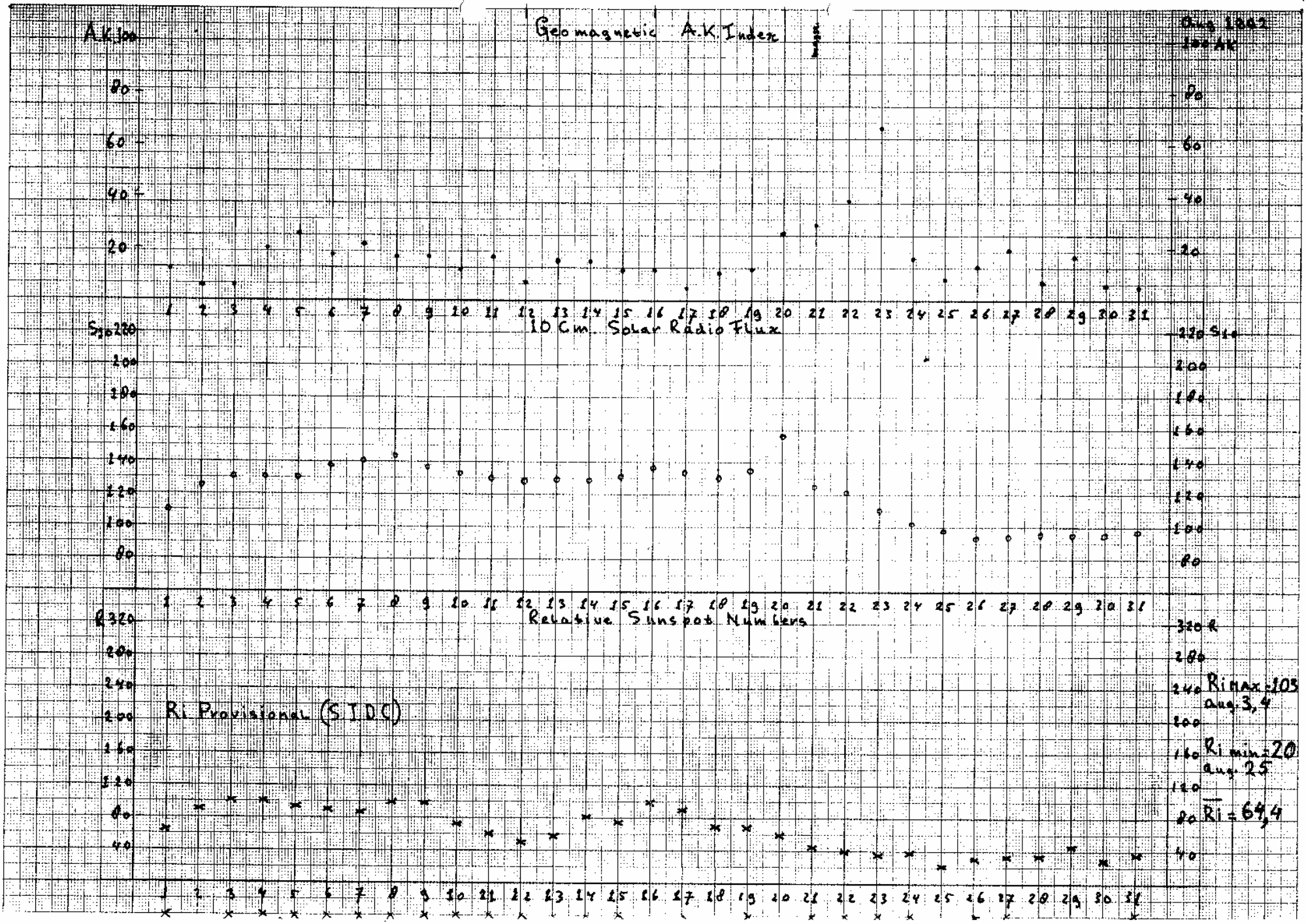
SUNSPOT BULLETIN

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

1992 AUGUST R'IK = 64.4

Date	R'I	PPSI	600	2800	COS	XFI	XI	Ak	SEA	MAG	
31	48	67	31	103	961	3	0/0	14			
1	65	55	34	110	962	1	0/0	12			
2	90	69	33	125	961	12	1/0	6	1456		sf(2246)
3	103	94	34	131	954	36	2/0	6			1n(0625)(1007)
4	103	97	34	131	953	28	0/0	20		1409	ssc
5	94	86	37	131	943	20	0/0	28		0020	ssc
6	89	97	39	138	930	29	0/0	18		0428	ssc+p(1210)
7	86	113	40	141	929	14	0/0	22			
8	98	110	43	144	924	30	0/0	16			
9	98	94	42	137	925	13	0/0	17			
10	74	69	39	133	926	10	0/0	12	1234		
11	60	58	39	130	929	25	1/0	18	0653		
12	50	55	38	128	936	40	1/0	7			
13	57	71	37	129	941	14	0/0	15		1513	ssc
14	82	83	37	129	938	13	0/0	15			
15	76	95	37	131	943	10	0/0	12			
16	100	115	38	137	948	19	0/0	12			
17	90	146	35	134	944	27	0/0	5		1251	ssc
18	71	150	35	130	937	12	0/0	11			
19	69	154	36	135	945	19	0/0	12			
20	59	160	43	156	939	54	4/0	23			1b(1425)(1654)(2030)
21	44	112	33	125	930	--	-/-	29	1101	0935	mgst
22	39	65	32	122	921	19	0/0	37			F
23	36	41	32	111	902	--	-/-	63			
24	38	21	30	102	933	14	0/0	16			
25	20	6	31	98	950	0	0/0	8			
26	30	7	31	93	---	2	0/0	13			
27	34	9	31	94	954	3	0/0	19			
28	33	13	32	96	955	3	0/0	7			
29	44	11	31	95	962	0	0/0	17			
30	27	12	30	95	967	5	0/0	6			
31	36	14	--	97	---	5	0/0	4			

R'I,R'IK: 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.m-2:the quantity to subtract from the mean solar constant.
600 :600 Mhz solar flux from Humain station (Belgium).
2800:2800 Mhz solar flux from Ottawa (origin:Ursigrams).
COS :thousands of the cosmic ray counts from Kerguelen:Is(origin:Ursigrams).
XFI :X-flares index from the S.I.D.C. (origin:Ursigrams).
XI :X-flares index from the Ursigrams (M-flares/X-flares).
Ak :planetary geomagnetic index from Wingst (Germany from Ursigrams).
SEA :sudden enhancements of atmospherics from Uccle & Humain (Belgium).
MAG :magnetic events from Dourbes station(Royal Météo. Institute Belgium).
Remarks:sid(sudden ionospheric disturbance);ssc(sudden storm commencement) mgst(magnetic storm);sfe(solar flare effect);s-1-2-3-4(class of flares); II-IV radio-burst;T(ten cm radio-burst);P(proton flare);//(two ribbon flare;p(proton event);gle(ground level event:neutron event);si(sudden impulse);F(Forbush)


Geomagnetic A.K. Index
A.K.
Aug 1992
10 Cm. Solar Radio Flux
S_{10}
Relative Sunspot Numbers
R
Ri Provisional (SIDC)
Ri max = 105
aug. 3, 4
Ri min = 20
aug. 25
$\overline{Ri} = 64,4$

Bulletin Werkgroep Zon september 1992

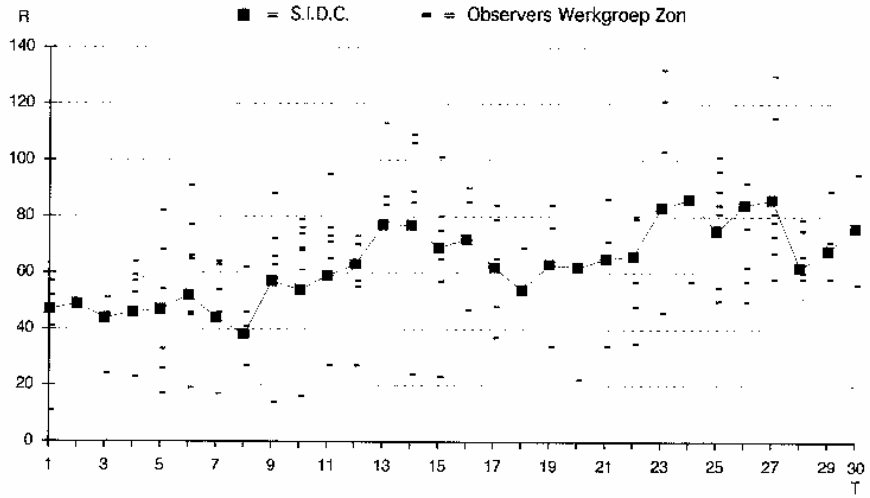
NVWS Werkgroep Zon. Sekretariaat: Veenenburg 36, 2804 WZ Gouda, tel: 01820 -39082

Zonnevlekkengetallen

Day	Bals	Groe	Iden	Jann	Piet	Scho	vSlo	Zans	Zij 6
1	57	52		11			41	57	
2									
3		51		24					
4	58	64		23			53	57	
5		68		17	33		82	54	26
6		66		19	65	91	77	45	46
7	54	63	46	17			64		
8	41	46		27			62	41	
9	72		66	14	63		86	63	
10	69	76	79	16	68		74	61	55
11	65	73	76	27			95	71	76
12	63		55	27		70	73	57	55
13			113			84	87		
14	89	109		24			106	85	
15	57	101		23	65	75	80		
16		90		47			85		
17	84			37	85		79	48	

Day	Bals	Groe	Iden	Jann	Piet	Scho	vSlo	Zans	Zij 6
18			69						
19		84		34			76		
20				22					
21	88		85	34			71		
22	80			35			79	57	48
23	121		132	46				103	
24				57					
25	96	89	101	55			81	84	60
26				57	50		92	76	62
27		87	73	56	78	115	130	87	81
28	79	63		58			75	66	60
29	89	71		58					
30	95			58					
observ	18	17	11	27	8	5	22	17	10
k	0.84	0.81	0.86	2.17	1.09	0.81	0.79	0.98	1.22
st.dev.	0.12	0.10	0.18	0.84	0.29	0.14	0.13	0.16	0.28
st.d./k	0.14	0.12	0.21	0.39	0.27	0.17	0.17	0.16	0.23

Observers		[....] = Refractor, d = ... mm;		[Rf..] = Reflector, d = ... mm	
Bals	= H.A.M. Balster [70]	Jann	= D. Jannink [9]	vSlo	= B. van Slooten [90]
Groe	= A. Groenewegen [102]	Piet	= F. Pieters [60]	Zans	= W. Zanstra [Rf 155]
Iden	= J.A. Idenburg [Rf 125]	Scho	= A. Scholten [60]	Zij 6	= W.A. Zijlema [60]



Sunspot Index Data Center

SUNSPOT BULLETIN

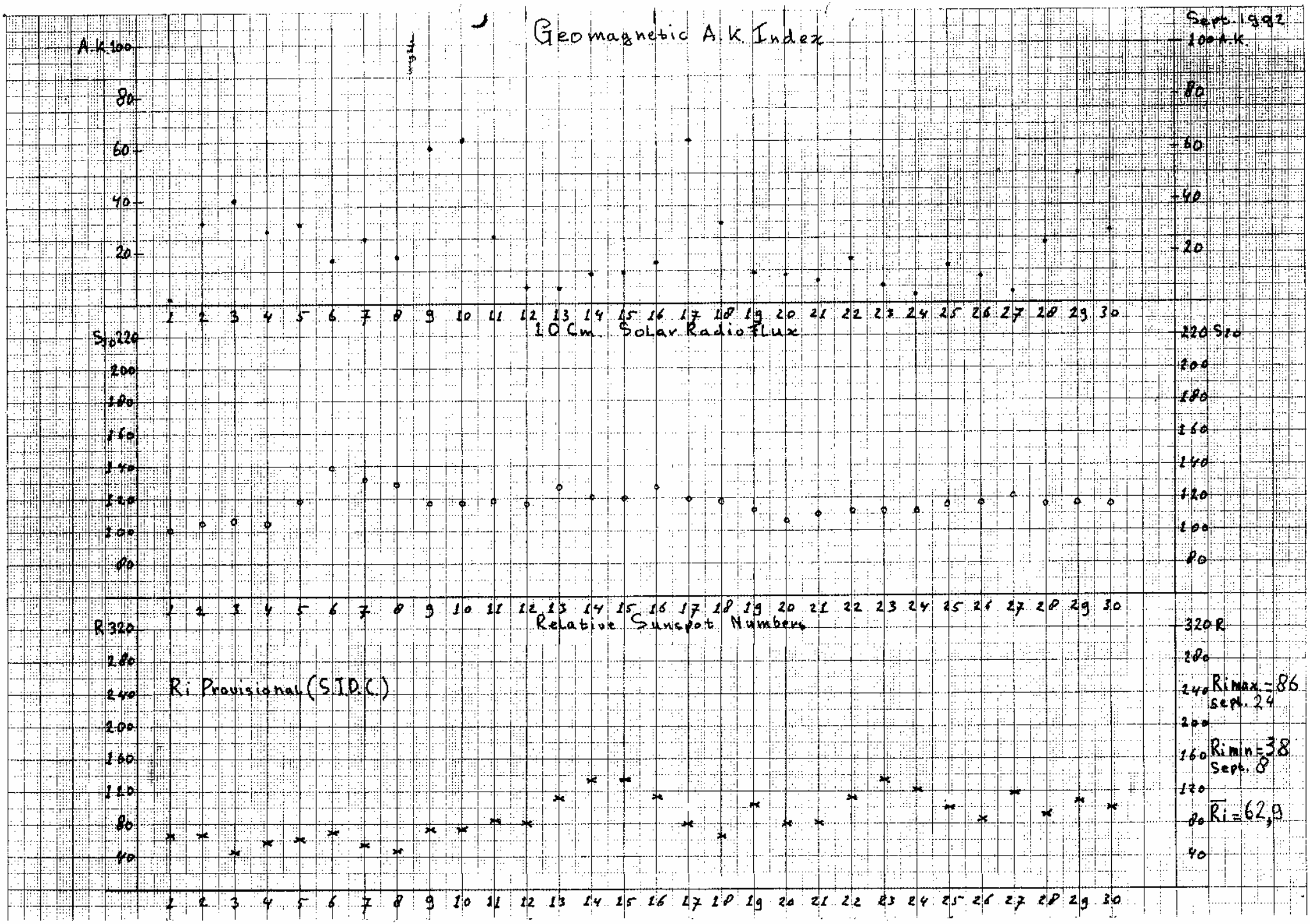
S.I.D.C. SUMMARY OF THE URSIGRAMS

1992 SEPTEMBER R'IN = 62.9

Date	R'I	PPSI	600	2800	COS	XFI	XI	Ak	SEA	MAG	
31	36	14	30	97	---	5	0/0	4			
1	47	26	32	100	972	2	0/0	2			
2	49	43	32	105	969	3	0/0	31		1040	ssc
3	44	52	33	107	964	4	0/0	40		0946	ssc
4	46	38	33	105	943	36	1/0	28			F
5	47	64	34	119	931	39	2/0	31		0840	1n(1132)+T
6	52	88	36	139	926	282	9/2	16	1146		1n(0907)(1158)2B(1852
7	44	83	36	132	932	353	8/0	25	1303		2B(0628)+(1925)
8	38	45	34	129	933	6	3/0	18	1206		SN(1204)
9	57	38	34	117	902	6	1/0	60	0555	0139	F, X(0153)+T
10	54	42	34	117	890	104	1/0	63			2B(2230)
11	59	48	34	119	905	1	2/0	27			,X(0603)+T
12	63	61	32	117	905	5	0/0	6			
13	77	81	31	127	916	1	0/0	6			
14	77	73	31	122	930	13	0/0	11			
15	69	60	31	120	934	4	0/0	12			
16	72	91	35	127	931	27	2/0	16			4X flares
17	62	96	36	119	930	38	2/0	63		0426	ssc and Sn
18	54	69	32	118	944	7	0/0	31			
19	63	58	32	113	954	7	0/0	12			
20	62	43	32	106	943	0	0/0	11			
21	65	115	31	110	944	3	0/0	8			Coronal Hole N30W23
22	66	104	31	112	940	1	0/0	17			
23	83	110	31	112	945	2	0/0	7			
24	86	97	30	112	954	7	0/0	3			
25	75	83	32	116	960	3	0/0	14			
26	84	102	34	117	962	8	0/0	10			
27	86	129	35	121	962	10	0/0	4			
28	62	147	34	116	967	11	0/0	23			
29	68	158	34	117	944	10	0/0	50			
30	76	146	34	---	---	--	-/-	--			

Decreasing sunspots activity but highly flares,Xand MAG activity between 2 and 11.

R'I,R'IN: 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.m-2:the quantity to subtract from the mean solar constant.
600 :600 Mhz solar flux from Humain station (Belgium).
2800:2800 Mhz solar flux from Ottawa (origin:Ursigrams).
COS :thousands of the cosmic ray counts from Kerguelen;Is(origin:Ursigrams)
XFI :X-flares index from the S.I.D.C. (origin:Ursigrams).
XI :X-flares index from the Ursigrams (M-flares/X-flares).
Ak :planetary geomagnetic index from Wingst (Germany from Ursigrams).
SEA :sudden enhancements of atmospherics from Uccle & Humain (Belgium).
MAG :magnetic events from Dourbes station(Royal Météo. Institute Belgium).
Remarks:sid(sudden ionospheric disturbance);ssc(sudden storm commencement) mgst(magnetic storm);sfe(solar flare effect);s-1-2-3-4(class of flares) II-IV radio-burst;T(ten cm radio-burst);P(proton flare);p(proton event);gle(ground level event:neutron event);si(sudden impulse); F(Forbush)


Geomagnetic A.K Index
Sept. 1992
A-K
100
80
60
40
20
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
10 Cm. Solar Radioflux
S10 220
200
180
160
140
120
100
80
Relative Sunspot Numbers
R 320
280
240
200
160
120
80
40
Ri Provisional (S.I.D.C.)
Rimax = 86
Sept. 24
Rimin = 38
Sept. 8
Ri = 62,9

Bulletin Werkgroep Zon — oktober 1992

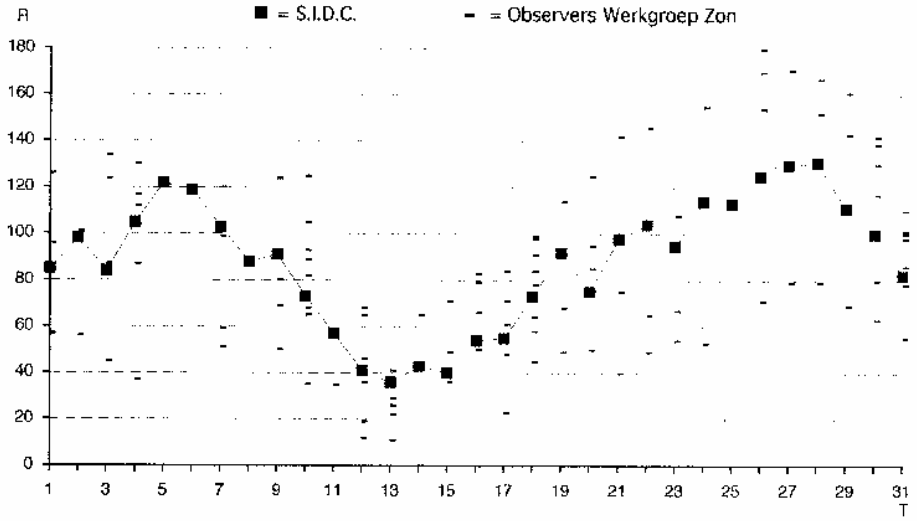
NVWS Werkgroep Zon. Sekretariaat: Veenenburg 36, 2804 WZ Gouda, tel: 01820 -39082

Zonnevlekkengetallen

Day	Bals	Gr 5	Gr13	Groe	Iden	Jann	Piet	Scho	vSlo	Zans	Zijl 9
1	126			96		57					
2				101		56					
3	124			87		46			134		
4			130	87		37	104		117	112	
5											
6											
7				59		51				99	120
8											
9				69		50			124	80	
10	105			65		35	82	69	93	68	125
11						35					
12	65			36		12			68	46	19
13	29			22	26	11			41		
14					65	0					
15	49			36		0			71		
16	79			50		0		66	83		
17	71			48		23	61		84		

Day	Bals	Gr 5	Gr13	Groe	Iden	Jann	Piet	Scho	vSlo	Zans	Zijl 9
18	91	84		58	98	45	78		99		64
19	114			68		49					
20	125					50			85		95
21				75		40			142		
22	148			65		49					
23				67		54			108		
24		116				53			113		155
25											
26	180				154	71			170		
27					171	79					
28	152					79			167		
29					161	69			143		
30	130			80		63		142	117		139
31	98			78	98	55	86	100	101		110
observ	16	2	1	19	7	27	5	4	19	5	8
k	0.77	0.93	0.81	1.24	0.84	1.99	0.94	0.79	0.77	1.02	0.97
st.dev.	0.14	0.06	0.00	0.23	0.23	0.52	0.04	0.05	0.11	0.09	0.47
st.d./k	0.19	0.06	0.00	0.18	0.27	0.26	0.05	0.06	0.15	0.09	0.48

Observers	[....] = Refractor, d = ... mm;	[Rf..] = Reflector, d = ... mm
Bals = H.A.M. Balster [70]	Iden = J.A. Idenburg [Rf 125]	vSlo = B. van Slooten [90]
Gr 5 = Mv. G. Gravers [50]	Jann = D. Jannink [9]	Zans = W. Zanstra [Rf 155]
Gr 13 = Mv. G. Gravers [Rf 130]	Piet = F. Pieters [60]	Zijl 9 = W.A. Zijlema [90]
Groe = A. Groenewegen [102]	Scho = A. Scholten [60]	



Sunspot Index — Date Center

SUNSPOT BULLETIN

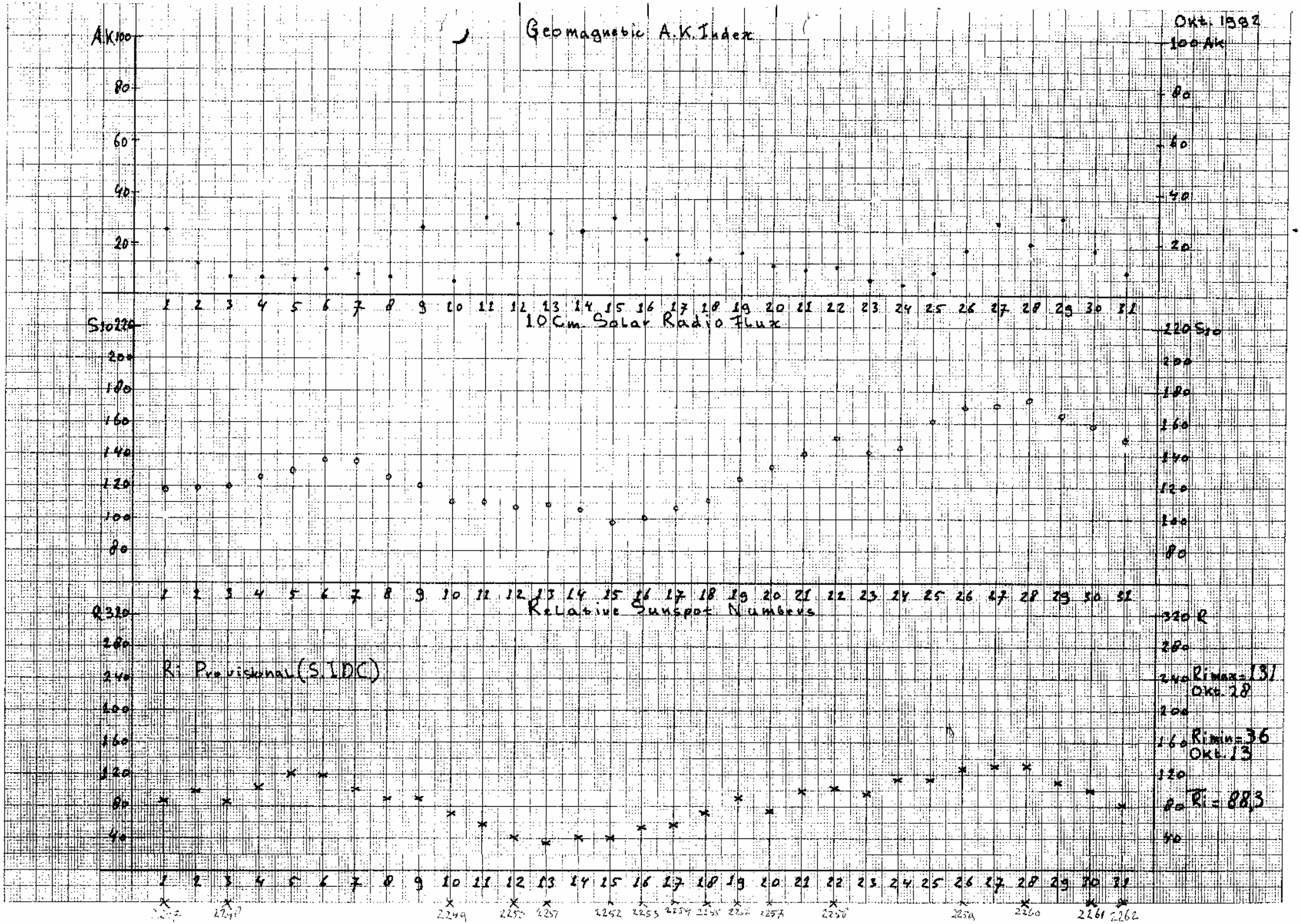
S.I.D.C. SUMMARY OF THE URSIGRAMS

1992 OCTOBER R'IK = 88.3

Date	R'I	PPSI	600	2800	COS	SFI	XI	Ak	SEA	MAG	
30	76	146	34	116	936	13	0/0	28			
1	85	114	33	118	948	3	0/0	25			
2	98	111	34	119	960	15	1/0	12			
3	84	99	35	120	962	5	0/0	7			
4	105	95	34	126	962	13	1/0	7			
5	122	108	35	130	962	6	2/0	6			Sn(1509)+T
6	119	115	34	137	949	6	0/0	10			
7	103	123	37	136	942	88	4/0	8	1501		1B(0501)+T
8	88	114	35	126	933	27	0/0	7		1839 ssc	
9	91	81	32	121	921	8	0/0	27		0911 ssc	
10	73	64	32	119	928	15	1/0	12	1227		
11	57	35	31	111	935	4	0/0	30			mag storm minor
12	41	19	31	107	932	4	0/0	28	1300		
13	36	12	31	109	933	5	0/0	24			
14	43	11	30	106	930	1	0/0	25			
15	40	14	30	98	930	1	0/0	30			
16	54	21	30	101	937	0	0/0	22			
17	55	24	30	107	940	2	0/0	16			
18	73	38	30	112	942	11	0/0	14			
19	92	91	31	125	942	57	1/0	17	1314		
20	75	174	32	133	951	19	0/0	12			1B(0909)+T
21	98	220	34	141	957	13	0/0	10			
22	104	230	34	151	954	8	0/0	11			
23	95	245	32	142	960	131	1/0	6			2B(0054)+T
24	114	241	34	147	963	14	0/0	4			
25	113	278	34	161	964	11	0/0	9			
26	125	310	33	170	972	112	1/0	18			2B(1754)+T
27	130	315	36	171	963	142	6/0	36			2N(0652)+T
28	131	344	37	175	964	23	0/0	20			1F(1005)+II
29	111	279	36	164	966	36	2/0	30			
30	100	219	36	158	963	129	2/1	18			2B(1659)+T;p(1920
31	82	135	36	150	964	5	2/0	9			

Growing of flare activity during the third decade.

R'I,R'IK: 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.m-2:the quantity to subtract from the mean solar constant.
600 :600 Mhz solar flux from Humain station (Belgium).
2800:2800 Mhz solar flux from Ottawa (origin:Ursigrams:UGEOI group2).
COS :thousands of the cosmic ray counts (origin:Ursigrams:UCOSE Iergueiea).
SFI :Now (October 1992)Solar Flare Index from the S.I.D.C. (origin:Ursigrams:UGEOR group3).
XI :X-flares index from the Ursigrams (X-flares/X-flares)(origin:Ursigrams:UGEOR group2;UGEOI group5).
Ak :planetary geomagnetic Index from Wingst (Germany from Ursigrams).
SEA :sudden enhancements of atmospherics from Uccle & Humain (Belgium).
MAG :magnetic events from Dourbes station(Royal Météo. Institute Belgium).
Remarks:sid(sudden ionospheric disturbance);ssc(sudden storm commencement);mgst(magnetic storm);sfa(solar flare effect);
s-1-2-3-4(class of flares);II-IV radio-burst;T(ten cm radio-burst);P(proton flare);p(proton event);glo(ground level event:
neutron event);si(sudden impulse);F(Forbush);SFI Evaluation(1 x Sx+10 x 1+100 x)1+).


Geomagnetic A.K.Index
Okt. 1992
AK
100
80
60
40
20
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 31
10 Cm Solar Radio Flux
Sfu
220
200
180
160
140
120
100
80
Relative Sunspot Numbers
R
320
280
240
200
160
120
80
40
Ri Provisional (SIDC)
Rimax=131
Okt. 28
Rimin=36
Okt. 13
R̄i = 88,3
2249
2250
2251
2252
2253
2254
2255
2256
2257
2258
2259
2260
2261
2262

Bulletin Werkgroep Zon november 1992

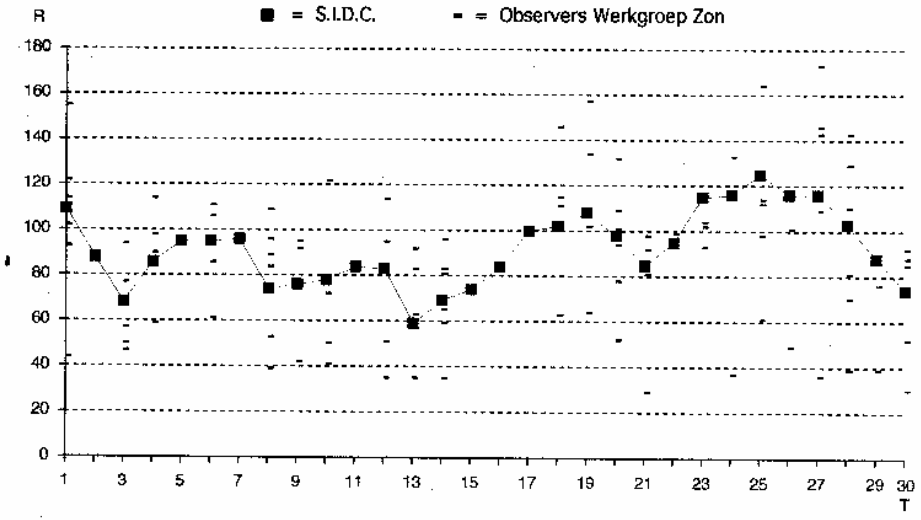
NVWS Werkgroep Zon. Sekretariaat: Veenenburg 36. 2804 WZ Gouda. tel: 01820 -39082

Zonnevlekkengetallen

Day	Bals	Gr 5	Gr 6	Gr13	Groe	Iden	Jann	Piet	Scho	vSlo	Zans	Zijl 9
1	155				102		44	83	122	114		
2												
3	94				50	57	47			77		
4	114				90		59			98		
5												
6	111						61			86	106	
7												
8	109			96	58		39	73	69	84		75
9	92						42			95		
10	122				50	72	41					
11												
12	114				51		35			95		
13	92				35	83	35			83		
14					59	96	35		83	81		85
15												
16												
17												

Day	Bals	Gr 5	Gr 6	Gr13	Groe	Iden	Jann	Piet	Scho	vSlo	Zans	Zijl 9
18	146					115	83			111		
19	157				102		64			134		
20	132	94			78		52			109		101
21		98				92	29			81		
22		99										
23		102			104					93		
24							37					133
25	164	112			98		61			114		
26					101		49			115		
27	146		143			173	36			109		
28	143		81		70		39			110		129
29							39			76		76
30	92				52	85	30			88		
observ	16	5	2	1	15	8	21	2	3	20	1	6
k	0.74	1.02	1.04	0.77	1.30	0.91	2.14	1.09	0.85	0.95	0.90	0.97
st.dev.	0.06	0.10	0.23	—	0.21	0.16	0.52	0.08	0.03	0.13	—	0.12
st.d./k	0.08	0.10	0.22	—	0.16	0.18	0.24	0.07	0.03	0.14	—	0.12

Observers	[...] = Refractor, d = ... mm;	[Rf..] = Reflector, d = ... mm
Bals = H.A.M. Balster [70]	Groe = A. Groenewegen [102]	Scho = A. Scholten [60]
Gr 5 = Mw G. Gravers [50]	Iden = J.A. Idenburg [Rf 125]	vSlo = B. van Slooten [90]
Gr 6 = Mw G. Gravers [60]	Jann = D. Jannink [9]	Zans = W. Zanstra [Rf 155]
Gr 13 = Mw G. Gravers [Rf 130]	Piet = F. Pieters [60]	Zijl 9 = W.A. Zijlema [90]



Sunspot Index Date Center

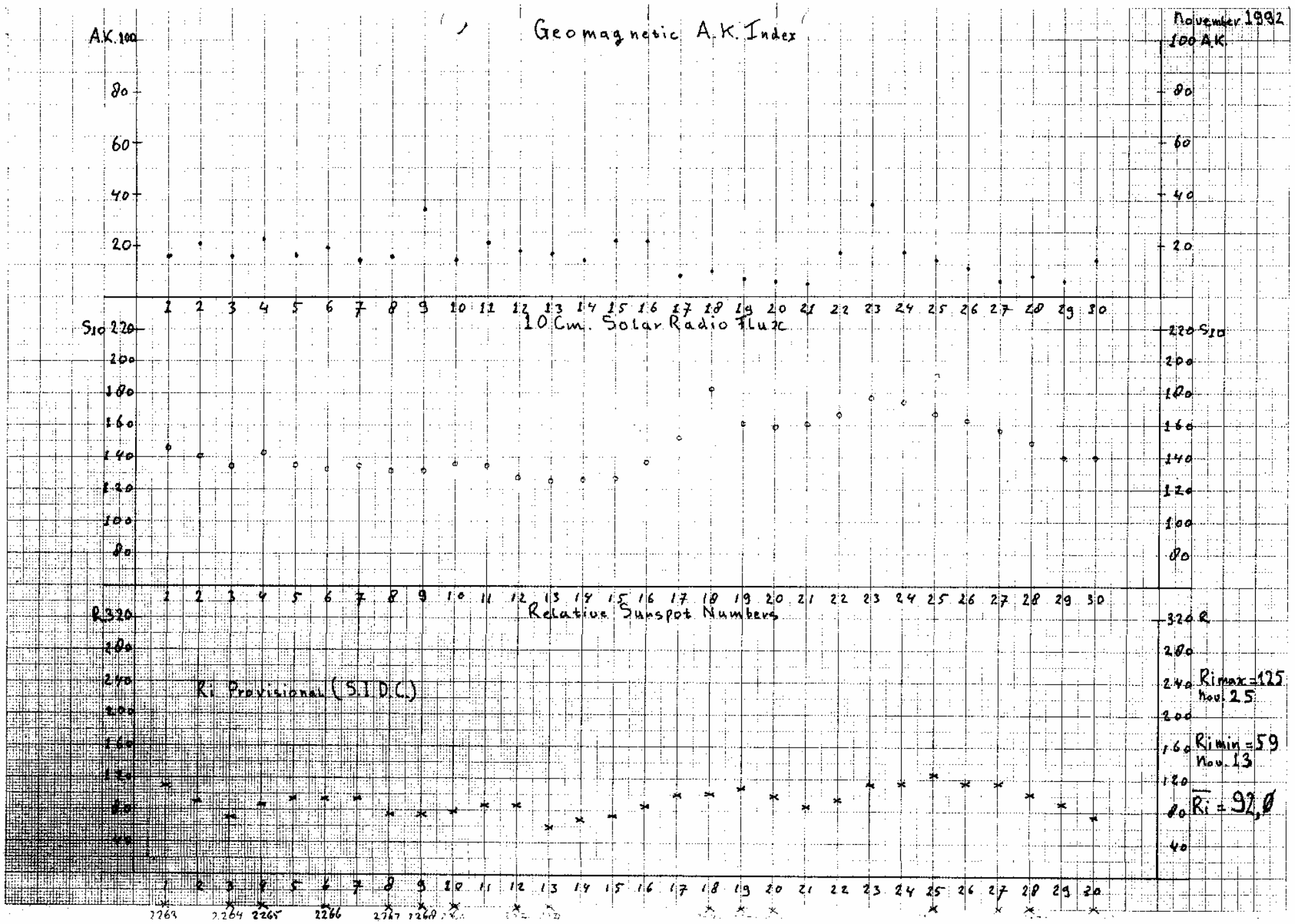
SUNSPOT BULLETIN

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

1992 NOVEMBER R'IN = 92.0

Date	R'I	PPSI	600	2800	COS	SFI	XI	Ak	SEA	MAG	
31	82	135	36	150	964	5	2/0	9			
1	109	89	36	147	966	2	0/0	17	1143	2146	ssc
2	88	88	35	141	946	6	0/1	21			P+X(0231)+(0400)
3	68	84	34	135	942	14	0/0	16			
4	86	100	34	143	931	11	0/0	23			
5	95	119	33	136	939	3	1/0	17			
6	95	129	33	133	934	13	0/0	19			
7	96	140	32	135	934	13	0/0	14			
8	74	140	33	132	940	5	0/0	16	1418		
9	76	166	34	132	949	20	0/0	34	1430		mgst
10	78	155	30	136	938	15	0/0	14			
11	84	153	30	135	924	4	0/0	21			
12	83	118	30	127	931	4	0/0	18			
13	59	93	30	125	933	1	0/0	17			
14	69	79	30	126	932	2	0/0	14			
15	74	58	30	127	936	2	0/0	22			
16	84	46	31	137	945	10	0/0	22			
17	100	55	30	152	943	11	0/0	8			
18	102	84	33	183	949	108	1/0	10			2n(1918)
19	108	105	34	161	961	103	0/0	7		1003	2b(2018)
20	98	132	35	159	962	1	0/0	6			
21	85	109	36	161	962	7	0/0	5			
22	95	129	37	166	959	114	2/0	17	1303		
23	115	153	38	177	944	56	1/0	36		1557	sf(2014)
24	116	161	40	174	950	5	0/0	16	1414		
25	125	156	37	167	949	..	./.	14			
26	116	151	38	163	947	5	0/0	11			
27	116	139	37	157	956	6	0/0	6	1243		
28	103	122	36	149	958	21	0/0	8			sf(1604)
29	88	107	36	140	957	18	1/0	6	1231		
30	74	96	34	140	...	18	1/0	11			

R'I,R'IN: 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.m-2:the quantity to subtract from the mean solar constant.
600 :600 Mhz solar flux from Humain station (Belgium).
2800:2800 Mhz solar flux from Ottawa (origin:Ursigrams:06EOI group2).
COS :thousands of the cosmic ray counts (origin:Ursigrams:UCOSE Kerguelen).
SFI :New (October 1992)Solar Flare Index from the S.I.D.C. (origin:Ursigrams:06EOR group3).
XI :X-flares index from the Ursigrams (M-flares/X-flares)(origin:Ursigrams:06EOR group2;06EOI group5).
Ak :planetary geomagnetic index from Wingst (Germany from Ursigrams).
SEA :sudden enhancements of atmospherics from Uccle & Humain (Belgium).
MAG :magnetic events from Dourbes station(Royal Météo. Institute Belgium).
Remarks:sid(sudden ionospheric disturbance);ssc(sudden storm commencement);mgst(magnetic storm);sfe(solar flare effect);
s-1-2-3-4(class of flares);II-IV radio-burst;T(ten cm radio-burst);P(proton flare);p(proton event);gle(ground level event:
neutron event);si(sudden impulse);F(Forbush);SFI Evaluation(1 x Sn+10 x "1"+100 x "2").


Geomagnetic A.K. Index
November 1992
A.K.
100
80
60
40
20
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
S10
220
200
180
160
140
120
100
80
10 Cm. Solar Radio Flux
R
320
280
240
200
160
120
80
40
Relative Sunspot Numbers
Ri Provisional (S.I.D.C.)
Rimax=125
nov. 25
Rimin=59
nov. 13
$\overline{Ri} = 92,0$
2263 2264 2265 2266 2267 2268

Bulletin Werkgroep Zon — december 1992

NVWS Werkgroep Zon. Sekretariaat: Veenenburg 36, 2804 WZ Gouda, tel: 01820 -39082

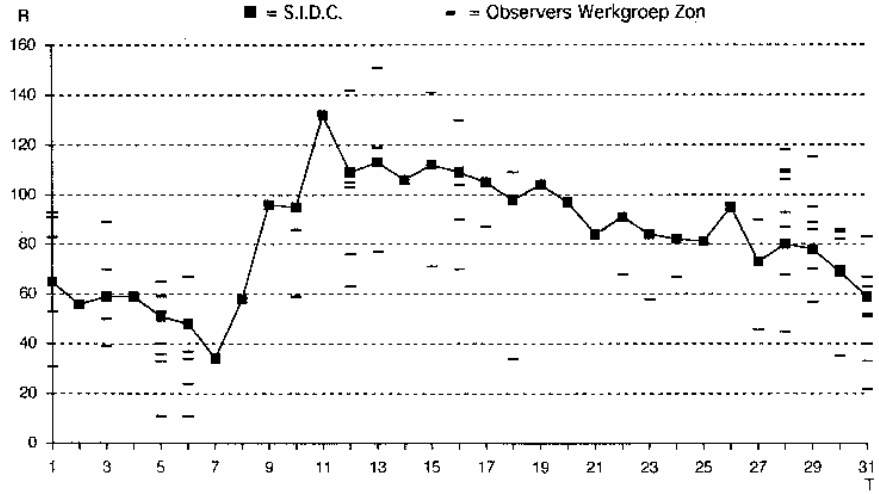
Zonnevlekkengetallen

Day	Bals	Gr 6	Groe	Iden	Jann	Piet	Scho	vSlo	Zijl 9
1	93		53	83	31			91	
2									
3	88		50	60	39			70	
4									
5	59		33		11	36	65	40	53
6	37	67	34		11	24	24	87	
7									
8									
9									
10			86		59				
11									
12	103	105	76		63	103		142	
13	119		77					151	
14									
15	141				71				
16	130		90	104	70				
17			87						

Day	Bals	Gr 6	Groe	Iden	Jann	Piet	Scho	vSlo	Zijl 9
18	109				34				
19									
20									
21									
22			68						
23			58						
24				67					
25									
26									
27			46		46			90	
28	118	109	68	106	45	79	87	110	93
29	96		70	95	57		69	115	
30	82	85	69	70	35		71	86	
31	67	63	33		22	51	52	83	40
observ	13	5	16	7	14	5	6	11	3
k	0.87	0.85	1.33	0.94	2.24	1.33	1.11	0.80	1.10
st.dev.	0.16	0.12	0.20	0.16	1.02	0.36	0.41	0.16	0.27
st.d./k	0.19	0.15	0.15	0.16	0.45	0.27	0.37	0.20	0.24

Correctie Bulletin november '92:
Gravers; 28 nov: geen waarneming; 29 nov: R = 81; k = 0.95; st.d. = 0.14; st.d./k = 0.15

Observers	[....] = Refractor, d = ... mm;	[Rf..] = Reflector, d = ... mm
Bals = H.A.M. Balster [70]	Iden = J.A. Idenburg [Rf 125]	Scho = A. Scholten [60]
Gr 6 = Mw G. Gravers [60]	Jann = D. Jannink [9]	vSlo = B. van Slooten [90]
Groe = A. Groenewegen [102]	Piet = F. Pieters [60]	Zijl 9 = W.A. Zijlema [90]



Sunspot Index Date Center

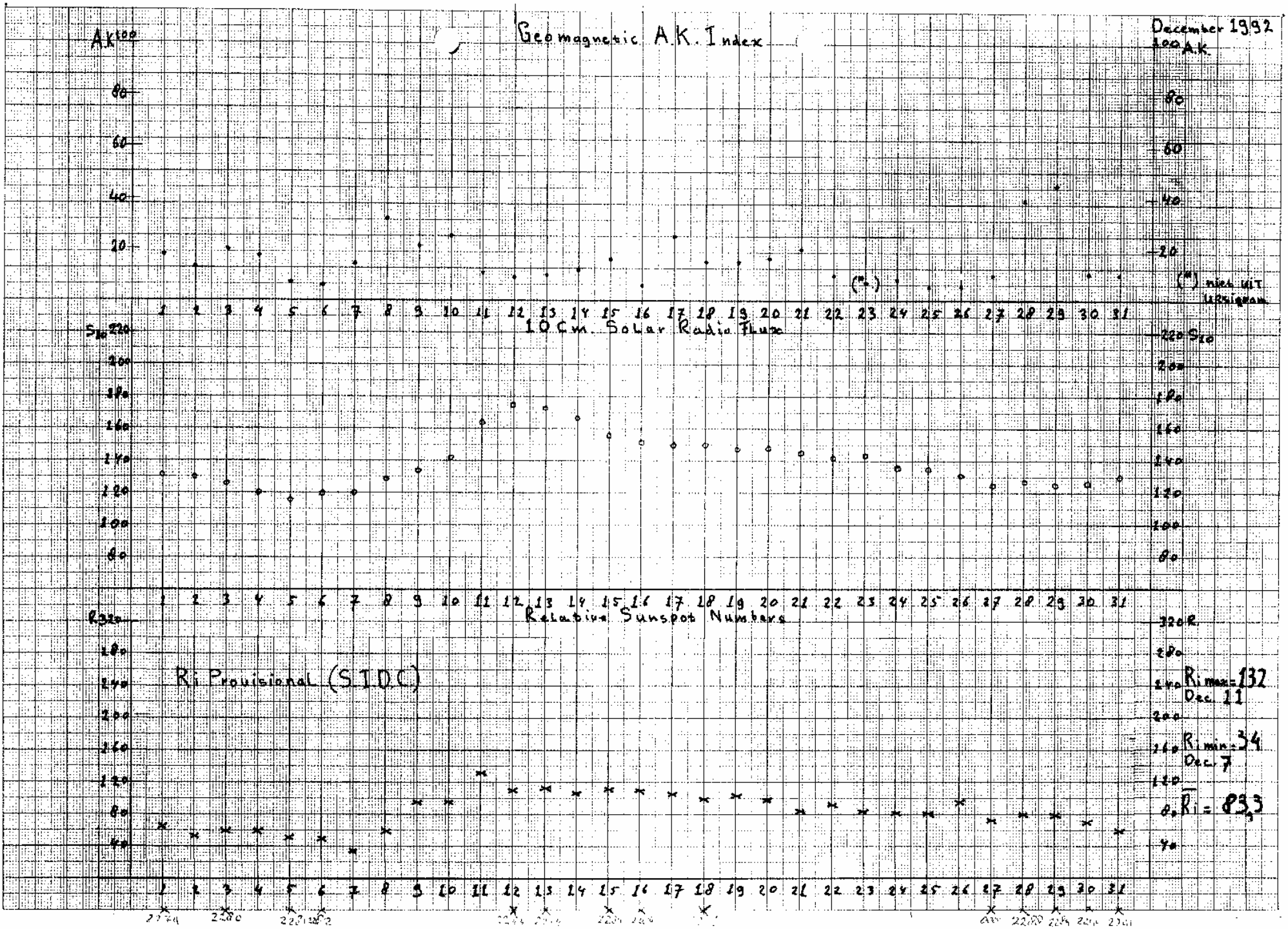
SUNSPOT BULLETIN

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

1992 DECEMBER R'IN = 83.9

Date	R'I	PPSI	600	2800	COS	SFI	XI	Ak	SEA	MAG
30	74	96	34	140	960	18	1/0	14		
1	65	118	33	131	959	19	1/0	18		
2	56	87	35	130	958	26	0/0	13		
3	59	55	33	126	966	8	0/0	20		
4	59	27	32	120	966	9	2/0	18		
5	51	29	32	116	954	2	0/0	7		
6	48	30	31	120	955	0	0/0	6		
7	34	27	31	120	950	6	0/0	14	ssc	0754+1230+1248+1345
8	58	41	32	129	948	3	0/0	33		
9	96	83	32	134	952	5	0/0	21		
10	95	148	33	142	955	9	0/0	25		
11	132	234	37	164	951	7	0/0	11		
12	109	274	38	175	950	5	0/0	9		
13	113	241	37	173	956	18	0/0	10		
14	106	202	37	167	958	6	0/0	12		
15	112	162	37	156	963	-	-/-	16		T(0111)
16	109	117	37	151	964	24	0/0	6		T(0313)
17	105	84	36	150	959	0	0/0	25		
18	98	64	35	150	---	2	0/0	15		
19	104	80	37	147	963	0	0/0	15		
20	97	85	38	148	960	3	0/0	16		
21	84	107	38	145	956	-	-/-	20		
22	91	118	38	142	957	-	-/-	10		
23	84	106	38	144	960	6	0/0	(7)		
24	82	109	38	136	961	7	0/0	8		
25	81	95	--	136	969	11	0/0	7		
26	95	102	37	131	?	2	0/0	6		
27	73	115	37	125	987	1	0/0	10	ssc	2012
28	80	116	36	127	968	0	0/0	42		
29	78	89	35	125	969	5	0/0	45		
30	69	64	35	126	960	7	0/0	10		
31	59	30	35	130	952	4	1/0	10		

R'I,R'IN: 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.m-2:the quantity to subtract from the mean solar constant.
600 :600 Mhz solar flux from Humain station (Belgium).
2800:2800 Mhz solar flux from Ottawa (origin:Ursigrams:06ZOI group2).
COS :thousands of the cosmic ray counts (origin:Ursigrams:NC05K Kerguelen).
SFI :Now (October 1992)Solar Flare Index from the S.I.D.C. (origin:Ursigrams:06ZOI group3).
XI :X-flares index from the Ursigrams (H-flares/X-flares)(origin:Ursigrams:06ZOI group3;96BOI group3).
Ak :planetary geomagnetic index from Wingst (Germany from Ursigrams).
SEA :sudden enhancements of atmospherics from Uccle & Humain (Belgium).
MAG :magnetic events from Dourbes station(Royal Météo. Institute Belgium).
Remarks:sid(sudden ionospheric disturbance);ssc(sudden storm commencement);mgst(magnetic storm);sfe(solar flare effect);
s-1-2-3-4(class of flares);II-IV radio-burst;T(ten cm radio-burst);P(proton flare);p(proton event);gle(ground level event/
neutron event);si(sudden impulse);F(Forbush);SFI Evaluation(1 x Sw+10 x "1"+100 x "2").


December 1992
Geomagnetic A.K. Index
Ak
100 A.k.
80
60
40
20
(*) niet uit
Ursigram
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 31
10 Cm. Solar Radio Flux
S10
220
200
180
160
140
120
100
80
Relative Sunspot Numbers
R
320
280
240
200
160
120
80
40
Ri Provisional (SIDC)
Ri max = 132
Dec. 11
Ri min = 34
Dec. 7
R̄i = 89,3

NOVEMBER 1992

PROVISIONAL INTERNATIONAL NORMALIZED HEMISPHERIC SUNSPOT NUMBERS

Date	Ri	Rn	Rs
1	109	26	83
2	88	14	74
3	68	10	58
4	86	0	86
5	95	18	77
6	95	14	81
7	96	15	81
8	74	18	56
9	76	31	45
10	78	35	43
11	84	46	38
12	83	35	48
13	59	23	36
14	69	22	47
15	74	21	53
16	84	21	63
17	100	14	86
18	102	10	92
19	108	10	98
20	98	9	89
21	85	10	75
22	95	9	86
23	115	11	104
24	116	23	93
25	125	28	97
26	116	30	86
27	116	42	74
28	103	41	62
29	88	37	51
30	74	37	37
MONTHLY MEAN :	92.0	22.0	70.0
COOPERATING STATIONS :	39	27	27

PILOT STATION : Specola Solare Ticinese, Locarno

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e-mail pierrec@astro.oma.be