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1995年11月

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《太阳地球物理资料》各表表头内容说明

注:各表按目录顺序依次说明,若各表内容有相同的则只作一次说明。

太阳黑子相对数与面积数表

Day:	每天观测日期	E':	预报误差
Gro:	每天在日面上的黑子群总数	H α	太阳耀斑表
Relative—Num—bers:	每天的黑子相对数值	Sta:	台站
N. H.:	每天北半球的黑子相对数	Start (UT):	耀斑开始时间(UT 为世界时,其中“E”为小于此时间。)
S. H.:	每天南半球的黑子相对数	Max (UT):	耀斑的极大时间(“U”为接近此时间,不确定。)
Sum:	南、北半球黑子相对数的总和	End (UT):	耀斑的结束时间(“D”为大于此时间。)
Sunspot Areas:	太阳黑子面积数值	Cen	日心距,即 r/R 。
Drawing:	手描的	Dist:	
Photographic:	照相的	Area	耀斑极大时的面积(S_d 为视面积,单位为太阳圆面积的
N. H.:	每天北半球黑子面积	Measurement	10^{-6} ; S_q 为校正面积,以平方度为单位。)
S. H.:	每天南半球黑子面积	Appar Corr	
Sum:	南、北半球黑子面积的总和	(sd) (sq):	耀斑的级别
太阳黑子观测表		Imp:	耀斑资料类型
Group:	在日面上的黑子群号	Obs	
CMP	黑子群过日面中心经圈日期,用月一日表示。	Type:	
Mo—Day:		A. R.:	耀斑所在活动区的黑子群号
Lat:	黑子群在日面上的纬度	Rem:	备注(记录耀斑发生时的形态)
L:	黑子群在日面上的卡林顿经度		
CMD:	黑子群在日面上的中经距		
Type:	黑子群的 McIntosh 类型		
r/R:	黑子群在日面上的日心距(以太阳半径为 1)		
Corre. Area Sd	黑子群在日面上所占的面积		
whole Max:	(S_d 为视面积,Whole 为校正后的全群面积,Max 为校正后的最大黑子的面积。)		
Sec:	观测时大气视宁静度		
Remarks:	备注(空白表示云南天文台的观测资料,注明 PLAT 的为北京天文馆资料,PURP 为南京紫金山天文台资料。)		

太阳黑子相对数的平滑值预报表

Time:	预报的时间	PURP	每天的太阳在 2840 MHz 的流量密度(北台 0400 UT 测
R':	月平滑黑子相对数的预报值	2700:	量,以 $10^{-22} \cdot \text{瓦} \cdot \text{米}^{-2} \cdot \text{赫}^{-1}(\text{s. f. u.})$ 为单位。)

URUM 每天的太阳在 9375 MHz 的
9375 : 流量密度(乌站 0500 UT 测)
YUNN 每天的太阳在 2840 MHz 的
2840 : 流量密度(云台 0500 UT 测)

太阳射电辐射显著事件表

Freq: 观测频率
Type: 射电爆发的型别
Duration: 射电爆发的持续时间(以分钟为单位)
Flux Density: 射电爆发的流量密度
Peak: 射电爆发流量的峰值增值
Rel: 射电爆发峰值流量与爆发前流量之比值
Mean: 流量密度的增值对时间求积分再除以爆发持续时间

太阳射电辐射巡视时间表

BELJ 北京天文台 2840 MHz 频率
From To 巡视时间
2840 :
PURP 紫金山天文台 2700 MHz 频率
From To 巡视时间
2700 :
URUM 新疆乌鲁木齐天文站频率为
From To 9375 MHz 巡视时间
9375 :
YUNN 云南天文台 2840 MHz 频率
From To 巡视时间
2840 :

宇宙线强度表

这部分共有三个表和宇宙线强度图。其中第 1 个表是“中子堆数据表”,它给出的值是记数率与 1500 的差;第 2 个表是“ μ 介子垂直分量表”它给出的值是记数率与 3000 的差;第 3 个表是“ μ 介子数据表”,它列出的是相对强度与 1000 的差。这三个表的第一行数据是 1—24 小时。

详细说明请见每年第一期。

Explanation of data reports can be found in the first issue of the year.

Mean: 日均值
N: 记录的小时数
Day: 日期
最后四行是仪器全天工作天数的月平均日变化与相应的月均值的差。宇宙线强度图说明请参见每年第 1 期说明。

突然电离层扰动(D 层)表

Imp: 级别(最小为 1—级,最大为 3+ 级。)
SPA: 相位突然异常
LF-SPA: 低频相位突然异常
VLF-SPA: 甚低频相位突然异常
LF-SFA: 低频场强突然异常
地磁活动指数 K 和 A_K 表
第一行: 以三小时为时段的 K 指数
Sum: 总和
 A_K : A_K 指数

磁暴表

Time of Magnetic 磁暴时间
tic:
Beginning: 开始时间
Ending: 终止时间
h: 小时
m: 分钟
Type: 类型
Sudden Com. Amplitude 急始变幅
D' HnT ZnT:
Deg. of Acti.: 活动程度
Maximum Acti. on K-scale: 最大活动程度
3 hour Int.: 三小时时段
K Index: K 指数
Maximum Range 最大幅度
D' HnT ZnT:

DAILY RELATIVE SUNSPOT NUMBERS AND SUNSPOT AREAS

NOVEMBER 1995

Day	Relative-Numbers				Sunspot Areas					
	Gro.	N.H.	S.H.	Sum	Drawing			Photographic		
					N.H.	S.H.	Sum	N.H.	S.H.	Sum
1	0	0	0	0	0	0	0			
2	1	0	7	7	0	2	2			
3	1	0	8	8	0	4	4			
4	1	0	0	0	0	0	0			
5	3	0	21	21	0	9	9			
6	2	0	14	14	0	140	140			
7	1	0	8	8	0	121	121			
8	1	0	7	7	0	142	142			
9	1	0	8	8	0	144	144			
10	1	0	12	12	0	146	146			
11	3	8	15	23	5	131	136			
12	2	0	21	21	0	180	180			
13	2	0	17	17	0	129	129			
14	1	0	8	8	0	173	173			
15	2	0	22	22	0	198	198			
16	3	0	26	26	0	196	196			
17	4	10	25	35	57	154	211			
18	3	10	15	25	56	123	179			
19	1	11	0	11	32	0	32			
20	1	11	0	11	26	0	26			
21	1	10	0	10	11	0	11			
22	1	8	0	8	6	0	6			
23	1	10	0	10	2	0	2			
24	0	0	0	0	0	0	0			
25	0	0	0	0	0	0	0			
26	0	0	0	0	0	0	0			
27	0	0	0	0	0	0	0			
28	2	7	7	14	3	3	6			
29	3	10	16	26	11	9	20			
30	1	10	0	10	19	0	19			
Mean		3.5	8.6	12.1	7.6	66.8	74.4			

DAILY SUNSPOT OBSERVATIONS

NOVEMBER 1995

Day	Group	CMP		L	CMD	Type	r/R	Sd	Corre. Area		See	Remarks
		Mo-Day	Lat						Whole	Max		
1.35	0											
2.38	132	11-	3.4	-13	263	14E	AXX 0.38	4	2	2	0	
3.03	132					5E	BXO 0.30	8	4	2	0	PLAT
4.02	0											PURP
5.04	132					19W	AXX 0.45	4	2	2	0	
	133	10-31.3	-12	304	62W	AXX 0.90		4	5	5	0	
	134	11- 3.8	-3	258	16W	AXX 0.30		4	2	2	0	PURP
6.17	134					24W	AXX 0.44	4	2	2	0	PURP
	135	11-12.1	-10	149	79E	HSX 0.98		59	138	138	0	
7.05	135					69E	HSX 0.93	88	121	121	0	PURP
8.06	135					53E	HSX 0.82	164	142	142	0	
9.08	135					39E	HSX 0.67	214	144	141	0	
10.12	135					26E	CSI 0.48	257	146	139	0	
11.03	135					14E	CSO 0.33	244	129	127	0	
	136	11- 8.8	24	193	30W	AXX 0.57		8	5	3	0	
	137	11- 8.8	-7	192	29W	AXX 0.51		4	2	2	0	
12.03	135					1E	CSI 0.22	344	176	170	0	PURP
	138	11-15.9	-9	98	57E	AXX 0.84		4	4	4	0	PURP
13.05	135					11W	CSO 0.29	236	123	121	0	PLAT
	138					39E	AXX 0.64	8	6	3	0	PLAT
14.21	135					27W	CSO 0.48	303	173	170	0	
15.08	135					39W	CSO 0.64	286	187	184	0	
	138					11E	BXI 0.26	21	11	4	0	
16.09	135					52W	HSX 0.79	219	180	180	0	

DAILY SUNSPOT OBSERVATIONS

NOVEMBER 1995

		CMP		L	CMD	Type	r/R	Sd	Corre. Area		See	Remarks
Day	Group	Mo-Day	Lat						Whole	Max		
	138				2W	BXI	0.21	25	13	6	0	
	139	11-19.2	-4	55	42E	AXX	0.67	4	3	3	0	PLAT
17.03	135				64W	HSX	0.91	114	136	136	0	
	138				14W	BXI	0.31	21	11	7	0	
	139				29E	AXX	0.49	13	7	5	0	
	140	11-22.3	7	15	72E	CRI	0.94	38	57	38	0	
18.12	135				78W	HSX	0.92	93	118	118	0	
	138				28W	AXX	0.49	8	5	2	0	
	140				57E	CSO	0.83	63	56	49	0	
19.03	140				44E	CSO	0.69	46	32	29	0	PURP
20.05	140				29E	CSO	0.49	46	26	24	0	PURP
21.32	140				13E	CRO	0.23	21	11	9	0	
22.04	140				3E	BXO	0.10	13	6	4	0	
23.04	140				11W	AXX	0.21	4	2	2	0	PURP
24.02	0											PURP
25.23	0											
26.09	0											
27.22	0											
28.07	141	11-28.9	-27	288	14E	AXX	0.55	4	3	3	0	
	142	11-30.6	8	265	37E	AXX	0.60	4	3	3	0	
29.03	141				2W	BXO	0.46	8	5	2	0	
	142				23E	BXO	0.40	21	11	2	0	
	143	11-28.2	-10	297	11W	AXX	0.26	8	4	2	0	
30.09	142				8E	CRO	0.18	38	19	13	0	

NOVEMBER 1995

Day From To From To From To From To From To From To From To From To From To

Combined reports from the observatories listed below:

4

OBSERVATION OF MAGNETIC AND VELOCITY FIELDS OF SOLAR ACTIVE REGIONS

NOVEMBER 1995

HUAIROU ST. BEIJING OBS.

Day	L0	Huairou Region	Lat	L	Data
1	295.4	66	10	6	S5 L5
2	282.2	0			
3	269.0	0			
4	255.8	0			
5	242.6	0			
6	229.4	67	(-10)	151	S5 L5
7	216.3	67			S5 L5
8	203.1	67			S5 L5
9	189.9	67			S5 L5
10	176.7	67			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
11	163.5	67			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
12	150.3	67			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
13	137.1	67			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
14	124.0	67			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
15	110.8	67 68	-9	97	S5 L5 S5 L5
16	97.6	67 68			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
17	84.4	67 68			S5 L5 S5 L5
19	58.0	69	11	10	D4 V4 S5 L5 D5 V5
20	44.9	69			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5

OBSERVATION OF MAGNETIC AND VELOCITY FIELDS OF SOLAR ACTIVE REGIONS

NOVEMBER 1995

HUAIROU ST. BEIJING OBS.

Day	LO	Huairou Region	Lat	L	Data
21	31.7	69			S5 L5
22	18.5	69			S5 L5
24	352.1	69			S5 L5
25	339.0	69			S5 L5
26	325.8	69			S5 L5
27	312.6	69			S5 L5
28	299.4	69			L5
29	286.2	69			S5 L5
		70	6	(265)	S5 L5
30	273.1	70			D4 V4 S5 L5 D5 V5 T5 Q5 U5

NPL : 1 2 3 4 5 6 26 27 28 29

SPL : 2 3 4 5 6 26 27 28 29

PREDICTED SMOOTHED SUNSPOT NUMBERS

JUNE 1995 — MAY 1996

Date	Jun 95	Jul 95	Aug 95	Sep 95	Oct 95	Nov 95
R'	18.8	18.3	17.5	16.2	14.9	13.6
E'	0.9	1.5	1.7	2.4	3.1	3.0
Date	Dce 95	Jan 96	Feb 96	Mar 96	Apr 96	May 96
R'	12.5	11.8	11.0	10.2	9.6	8.9
E'	2.7	3.1	4.0	3.9	4.0	3.5

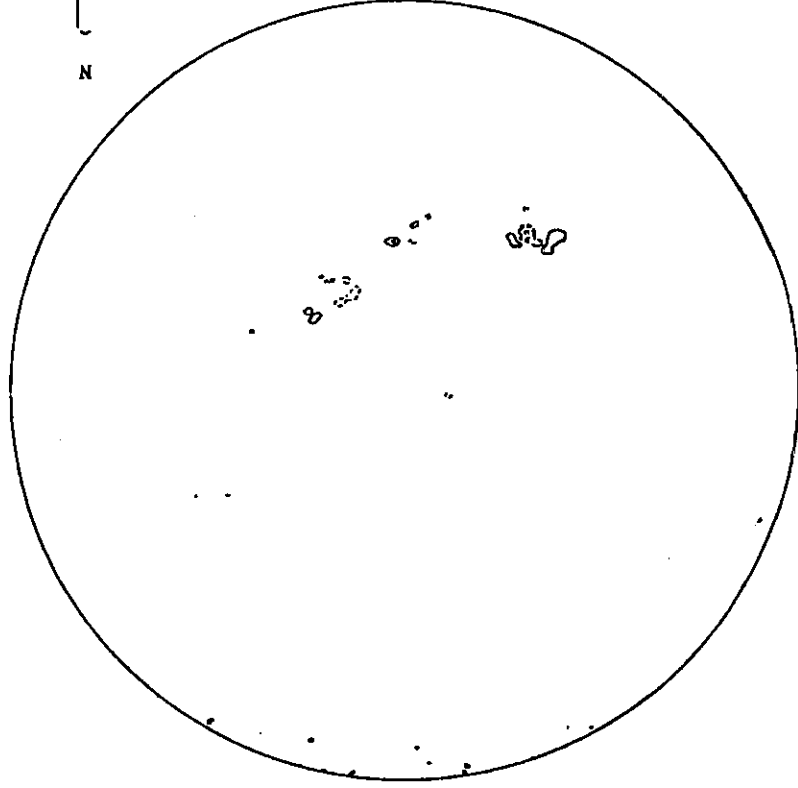
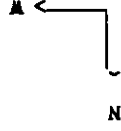
R': The predicted value of monthly smoothed sunspot numbers.

E': The error of the predicted value.

FULL DISK LONGITUDINAL
MAGNETOGRAMS
OF SOLAR PHOTOSPHERE

HUAIROU ST. BEIJING OBS.

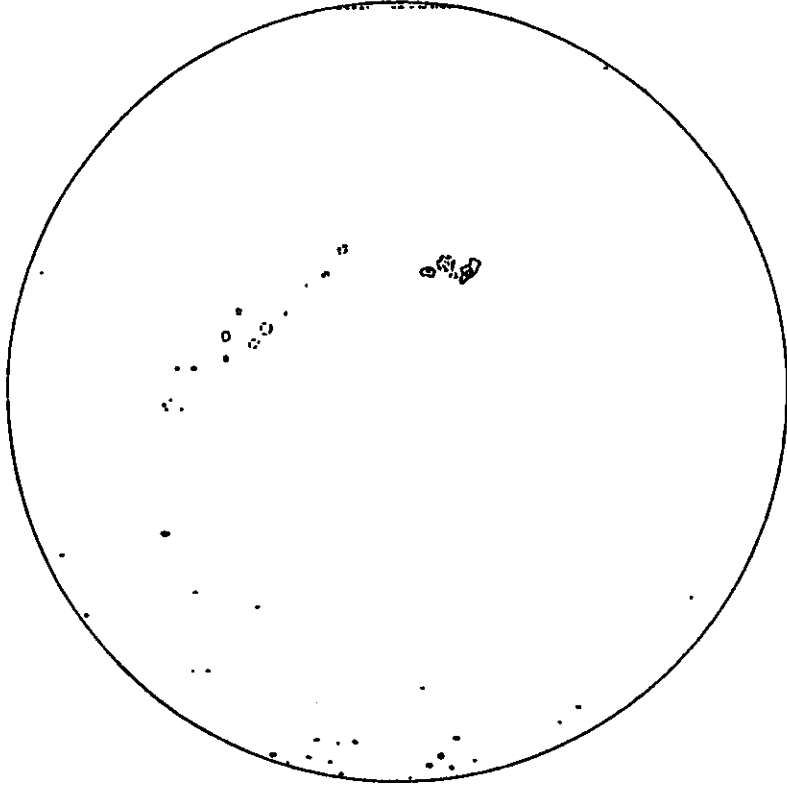
Time : Nov-10,1995 05:00:57



N : ———
S : - - - -
Lev. : Gauss

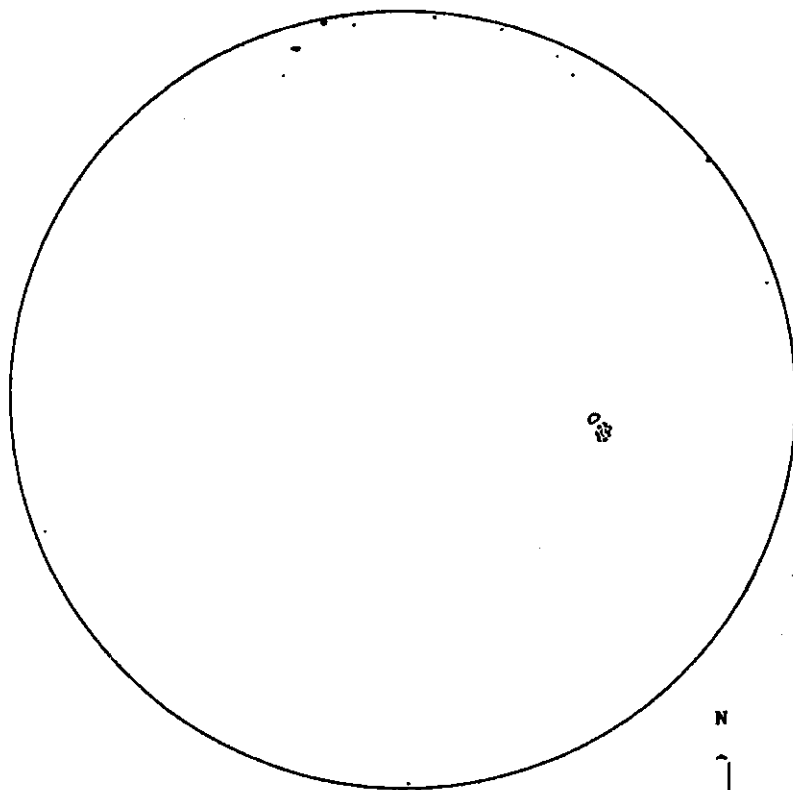
80.0 160.0 320.0
640.0 1280.0 1920.0

Time : Nov-11,1995 03:32:48

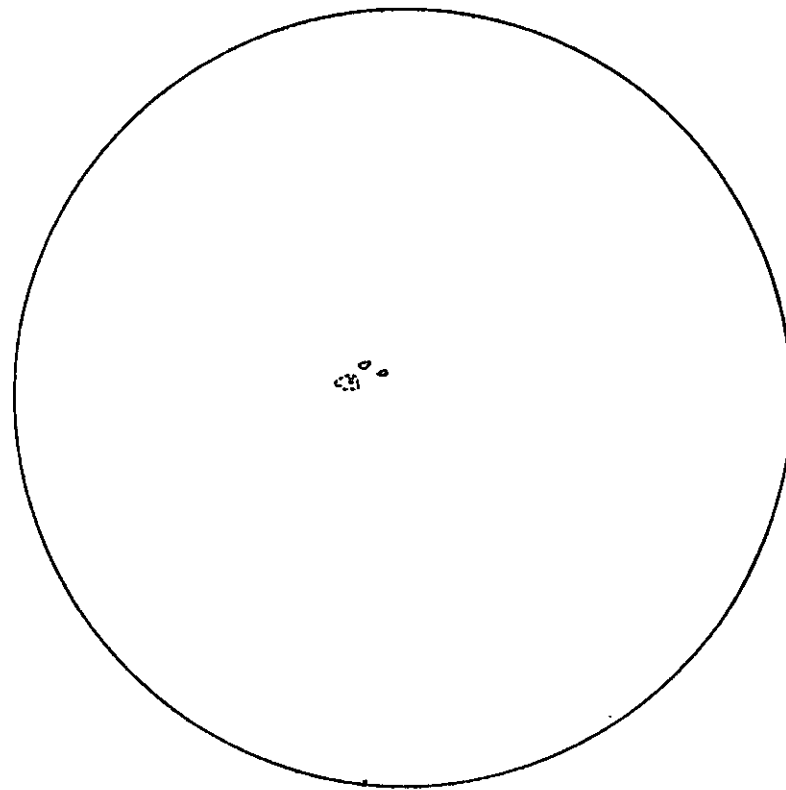
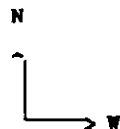


N : _____ 80.0 640.0
S : _____ 160.0 1280.0
Lev. : Gauss 320.0 1920.0

6



Time : Nov-14,1995 01:31:29



Time : Nov-22,1995 03:24:05

SOLAR RADIO EMISSION FLUX

NOVEMBER 1995

Day	BEIJ 2840	PURP 2700	URUM 9375	YUNN 2840
1	73	64		
2	72	63		
3	74	61		
4	73	63		
5	72	63		
6	73	64		
7	75	65		
8	77	68		
9	76	65		
10	78	70		
11	79	68		
12	79	68		
13	75			
14	73	65		
15	75	65		
16	74	64		
17	72	63		
18	70	68		
19	74	71		
20	69	72		
21	74	72		
22	73	75		
23	69	75		
24	71	74		
25	72	73		
26	71	72		
27	70	71		
28	72	71		
29	72	73		
30	72	73		
Mean	73.3	68.2		

INTERVALS OF SOLAR RADIO EMISSION PATROL OBSERVATION

NOVEMBER 1995

Day	BEIJ	PURP	URUM	YUNN
	From To	From To	From To	From To
	2840	2700	9375	2840

1	0000 0856	0027 0810		
2	2352 2400	0027 0805		
	0000 0825			
	2314 2400			
3	0000 0853	0027 0810		
	2336 2400			
4	0000 0857	0037 0810		
	2324 2400			
5	0000 0856	0023 0810		
	2329 2400			
6	0000 0850	0027 0810		
	2340 2400			
7	0000 0750	0047 0809		
	2322 2400			
8	0000 0750	0041 0802		
	2353 2400			
9	0000 0847	0052 0803		
	2342 2400			
10	0000 0853	0047 0812		
	2348 2400			
11	0000 0849	0046 0808		
	2341 2400			
12	0000 0852	0028 0803		
	2349 2400			
13	0000 0852			
	2336 2400			
14	0000 0847	0042 0800		
	2337 2400			
15	0000 0903	0040 0800		
	2334 2400			
16	0000 0859	0036 0800		
	0000 0834	0045 0800		
17	2350 2400			
18	0000 0835	0053 0800		
	2335 2400			
19	0000 0844	0040 0800		
	2337 2400			
20	0000 0819	0045 0800		
	2342 2400			

INTERVALS OF SOLAR RADIO EMISSION PATROL OBSERVATION

NOVEMBER 1995

Day	BEIJ From To 2840	PURP From To 2700	URUM From To 9375	YUNN From To 2840
-----	-------------------------	-------------------------	-------------------------	-------------------------

21	0000 0846	0028 0810
22	2342 2400 0000 0850	0033 0810
23	2336 2400 0000 0844	0029 0810
24	2329 2400 0000 0828	0032 0205 0250 0810
25	2341 2400 0000 0838	0033 0805
26	2335 2400 0000 0833	0039 0805
27	2339 2400 0000 0750	0028 0810
28	0015 0822	0032 0815
29	0040 0840	0027 0810
30	0001 0835	0027 0810

COSMIC RAY NEUTRON INTENSITY
Real Counts: 256 Times (Tabulated Counts Plus 1500)

NOV 1995

U.T. Hours at End of Interval

Day 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 Mean

1	538	540	541	545	560	544	528	541	531	527	520	526	521	525	528	527	526	530	529	535	539	534	531	543	533.3	24
2	535	535	532	539	536	526	533	527	529	525	526	523	524	522	519	522	519	522	519	528	533	533	539	527	528.5	24
3	530	525	526	529	526	525	524	511	517	514	523	515	513	514	522	506	519	513	523	519	530	535	524	521.1	24	
4	532	529	521	520	525	519	520	521	511	510	506	508	519	511	525	517	525	522	520	520	529	520	519	531	520.0	24
5	525	520	511	526	521	519	521	512	506	510	499	517	514	519	510	511	519	508	509	511	515	522	529	523	516.7	24
6	525	519	510	512	512	510	519	514	508	516	517	507	506	502	509	497	513	506	517	525	528	527	529	530	514.9	24
7	526	523	514	534	519	516	532	524	533	529	545	546	553	548	559	526	527	538	530	532	532	541	537	540	533.5	24
8	532	533	527	546	545	536	539	528	533	528	539	536	538	537	533	538	545	536	541	544	544	536	536	540	537.1	24
9	537	539	541	534	540	551	537	536	529	538	549	546	544	540	549	541	537	546	546	538	546	520	535	532	539.6	24
10	537	534	536	536	533	533	527	524	522	532	519	540	529	539	534	530	523	529	523	531	528	536	531	529	530.6	24
11	528	526	533	533	535	530	525	521	525	528	526	525	528	533	525	530	525	523	530	526	530	532	534	546	529.0	24
12	531	536	534	539	529	528	526	525	528	525	525	527	526	521	539	533	524	534	537	536	534	527	525	532	530.0	24
13	526	526	524	514	505	508	516	522	515	527	523	523	521	526	533	519	529	532	523	536	526	526	533	530	523.5	24
14	535	522	530	528	523	527	525	525	525	526	527	518	520	518	528	525	531	524	525	516	528	528	527	539	525.8	24
15	520	532	528	523	526	530	519	523	521	516	519	525	524	532	527	529	530	528	531	534	532	531	535	532	527.0	24
16	531	529	533	534	532	526	527	516	529	529	529	530	527	528	529	526	530	527	540	533	536	536	528	530	529.8	24
17	547	539	537	534	533	535	537	526	519	525	529	529	523	531	536	531	528	527	528	527	534	546	535	532.0	24	
18	537	538	529	538	531	535	532	534	539	539	540	535	541	546	542	541	538	544	535	540	549	543	544	554	539.3	24
19	557	553	549	552	556	544	552	545	548	553	551	546	551	555	549	551	551	544	538	556	556	557	561	555	551.3	24
20	556	552	541	548	536	531	538	541	547	551	556	551	552	547	549	555	557	547	556	558	558	548	551	562	549.5	24
21	562	545	541	542	541	540	535	538	533	540	536	534	538	534	528	535	546	540	538	544	543	546	553	542	540.6	24
22	549	543	544	541	547	541	539	533	541	531	537	543	533	534	535	544	542	547	548	552	552	544	559	555	543.1	24
23	551	560	549	547	548	542	538	550	541	528	534	535	532	536	539	520	534	518	529	545	527	531	549	548	538.8	24
24	539	539	548	536	526	534	532	534	531	529	519	527	528	527	529	529	538	526	533	533	538	536	541	541	531.0	24
25	536	548	544	536	540	537	539	530	522	534	521	544	526	521	525	525	533	536	519	535	527	535	531	530	531.8	24
26	526	527	518	519	518	523	527	517	521	515	515	520	511	526	522	534	525	529	529	519	519	527	528	535	522.5	24
27	534	528	521	525	525	522	520	515	518	516	519	540	528	529	527	520	531	531	539	529	532	538	539	534	527.5	24
28	540	528	536	535	527	523	527	530	508	520	526	521	527	524	517	522	516	521	535	528	531	526	528	530	526.1	24
29	532	522	521	515	517	518	527	517	517	516	518	519	521	517	519	510	521	518	525	519	529	524	525	534	520.9	24
30	532	526	530	529	520	522	510	516	523	516	511	505	522	511	516	518	524	532	532	523	542	538	530	527	523.1	24

MONTHLY MEAN DAILY VARIATION FOR 30 COMPLETE DAYS DEVIATIONS FROM AVERAGE:530.631

(1-12) 5.54 3.24 1.00 2.34 0.10 -1.46 -1.60 -4.10 -4.96 -4.20 -3.83 -1.93
(13-24) -2.63 -2.16 -0.63 -3.50 -0.56 -1.43 0.27 1.94 3.67 2.90 5.64 6.37

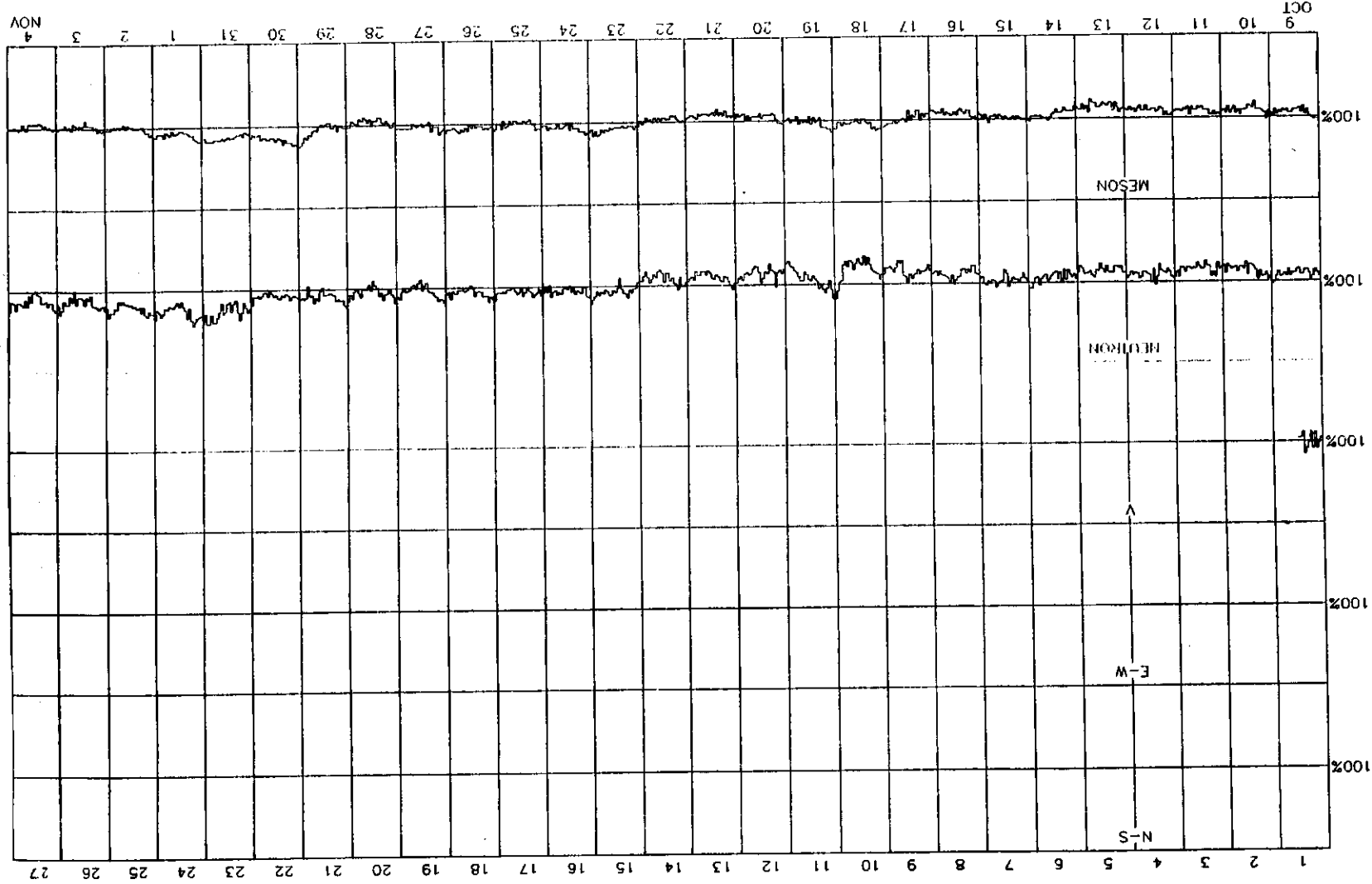
HARMONIC COMPONENTS (ORDER, COS, SIN, AMPLITUDE, MAX.-HR)

U.T.=(1 4.05 -1.16 4.21 22.93) (2 1.29 0.13 1.30 0.20) (3 -0.22 -0.51 0.56 5.47) (4 0.47 -0.14 0.49 5.73)
L.T.=(1 -1.02 4.09 4.21 6.93) (2 -0.53 -1.18 1.30 8.20) (3 -0.22 -0.51 0.56 5.47) (4 -0.12 0.48 0.49 1.73)

MONTHLY MEAN=530.631

MONTHLY MEAN DAILY VARIATION FOR 29 COMPLETE DAYS DEVIATIONS FROM AVERAGE: 30.668												
HARMONIC COMPONENTS (ORDER, COS, SIN, AMPLITUDE, MAX-HR)												
(1-12)	2.26	2.60	1.44	0.06	-0.15	-1.01	-1.05	-1.36	-1.81	-2.15	-1.50	-0.77
(13-24)	-0.32	-0.12	-0.70	-0.70	0.23	0.54	1.33	1.33	0.53	0.13	0.37	1.13
U.T.=(1) 1.24 -0.63 1.39 22.21) (2) 0.29 0.52 0.59 2.03) (3) -0.08 0.43 0.43 2.24) (4) 0.40 0.46 0.61 0.82)												
L.T.=(1) -0.07 1.38 1.39 6.21) (2) 0.31 -0.51 0.59 10.03) (3) -0.08 0.43 0.43 2.24) (4) -0.60 0.11 0.61 2.82)												

COSMIC RAY INDICES Bortels Rotation 2215(OCT1995-NOV1995)



SUDDEN IONOSPHERIC DISTURBANCES (D REGION)
 NOVEMBER 1995

Day	Sta	Start (UT)	Max (UT)	End (UT)	Imp	LF	SPA	VLF	SFA
11	LINT	0430	0442	0500	1-	- 0.5			+ 0.4
20	LINT	0158	0205	0225	1-	- 0.5			+ 0.7

GEOMAGNETIC ACTIVITY INDICES K AND A_K

NOVEMBER 1995

BGMO

Day	Three-Hourly Indices K								Sum	A _K
	0-3	3-6	6-9	9-12	12-15	15-18	18-21	21-24		
1 D	4	3	4	4	4	2	4	1	26	20
2 D	2	5	3	5	3	5	3	1	27	25
3	1	2	3	2	2	3	2	1	16	8
4	0	1	1	2	3	5	3	2	17	12
5 D	3	2	2	3	3	2	2	3	20	11
6 D	4	2	4	3	4	3	3	2	25	18
7	1	3	2	3	3	1	2	2	17	9
8	1	1	2	1	2	3	1	2	13	6
9 Q	2	2	1	1	2	1	1	0	10	4
10	1	1	1	2	2	1	3	1	12	6
11	1	1	0	2	2	2	2	3	13	6
12	2	3	3	2	4	2	5	1	22	16
13	1	0	0	1	3	3	2	0	10	5
14	2	1	1	1	1	2	1	1	10	4
15 Q	2	3	2	2	1	1	0	1	12	6
16	1	1	1	2	3	1	0	2	11	5
17	2	2	3	3	2	1	1	2	16	8
18	1	2	2	2	1	1	2	2	13	6
19	2	3	2	2	2	1	1	2	15	7
20	1	2	3	1	2	0	0	2	11	5
21 Q	1	1	1	0	1	2	0	1	7	3
22	2	2	2	3	2	2	1	1	15	7
23	2	2	1	1	1	0	2	0	9	4
24 Q	0	1	1	1	0	2	0	0	5	2
25 Q	1	1	0	1	1	0	1	1	6	2
26	1	1	1	1	0	0	0	0	4	2
27 D	1	1	3	7	5	4	5	3	29	37
28	3	3	2	2	2	2	3	3	20	11
29	2	2	3	2	4	3	2	3	21	13
30	2	2	2	3	1	1	0	1	12	6
Sum									274	
Mean									9.1	

MAGNETIC STORMS

NOVEMBER 1995

BGMO

Time of Magnetic					Sudden Com.			Deg.	Maximum Acti.			Maximum			
Beginning Ending					Amplitude			of	on K-scale			Range			
									3hour k						
Day	h	m	Day	h	Type	D'	HnT	ZnT	Acti.	Day	Int.	Index	D'	HnT	ZnT
27	08	28	27	22	SC	0.6	13	1	ms	27	4	7	8.2	145	14

Late Data for October 1995.

Quietest Day: 28, 29, 1, 26, 25

Most disturbed Day: 4, 20, 8, 7, 18

1995 年 10 月份的一次较强太阳活动

张桂清

(中国科学院北京天文台)

1995 年是第 22 周太阳活动峰年过后的第 6 个年头, 今年 2 月和 4 月虽然曾有活动区产生过 M 级的 X 射线耀斑, 但总的说来太阳活动已经很弱了。特别是从 1995 年 4 月至 9 月, 太阳黑子相对数月均值均未超过 16。可以说太阳活动已开始步入它 11 年活动周期的谷期。

和第 21 太阳活动周的下降相类似, 本活动周在极小前也有一次较强的太阳活动。虽然强度比第 21 太阳周极小期前的 1986 年 2 月的那次活动弱很多, 但也有质子事件伴随。这次活动发生在 1995 年 10 月中旬, 共产生了三个 M 级 X 射线耀斑, 其中与 10 月 20 日的一次耀斑相应的 10 cm 射电爆发峰值流量达 750 s. f. u.。这些耀斑活动均产生于 AR7912 (NOAA 编号), 怀柔编号为 63。耀斑活动情况见表 1。

表 1

日期	耀 斑			耀斑级别	10 cm 爆发流量 (SESC)
	开始	极大	结束		
10.12	0552	0605	0617	SF/M1.5	21
10.13	0501	0504	0507	1F/M4.8	210
10.20	0510	0607	0645	SF/M1.5	750

据 SESC 报告 10 月 20 日的耀斑活动还产生了 II 型射电爆发, 估计冲击波速度为 1250 km/s。这个耀斑还伴有峰值流量为 63 pfu ($\geq 10\text{MeV}$) 的质子事件。质子事件开始于 20 日 0825 UT, 结束于当日 2350 UT。20 日还观测到了极盖事件, 极盖吸收峰值为 1.26db, 地磁增强 7nT。结束前的最后一次强活动。预计第 23 太阳周将始于 1996 年上半年。

A STRONGER SOLAR ACTIVITY IN OCTOBER,1995

ZHANG Gui-qing

(Beijing Astronomical Observatory Chinese Academy of Sciences)

1995 is the sixth year after the peak-time of Cycle 22. Generally, the solar activity in 1995 is getting very weak though some class M X-Ray flares occurred in a few regions in February and April. Especially, the monthly means of sunspot numbers were smaller than 16 from April, 1995 to September, 1995. Obviously, the solar activity is about to its valley.

Similar to the declining phase of Cycle 21, before the end of cycle 22 there was also one stronger solar activity. Although the strength of this activity was weak than that in February, 1986. The solar activity occurred in October, 1995, which included three class M X-Ray flares. The relevant tenflare to the flare on 20th October was detected with a flux of 750 s.f.u. The three class M X-Ray flares all occurred in AR 7912(NOAA). The flares occurred in AR 7912 were given in Table 1.

Table 1.

Time	Flare			Class of flare	Tenflare (SESC)
	Begin	Max.	End		
12 October	0552	0605	0617	SF/M1.5	21
13 October	0501	0504	0507	1F/M4.8	210
20 October	0510	0607	0645	SF/M1.5	750

The flare on 20th October produced a type II radio emission along with a proton event. The shock velocity of 1250 km/sec. was estimated from the type II radio emission. The solar proton event with a peak flux of 63 p.f.u.(≥ 10 Mev) began at 20/0825 UT and ended at 20/2350 UT. A relevant PCA was observed on 20th October and experienced a peak absorption of 1.26 db. A sudden impulse was detected in the geomagnetic field at 22/2155UT with a magnitude of 7nT^[1].

NOAA 7912 was a small sunspot group, which was located at S10 L144. The longitudinal magnetograms from Huairou Station of BAO shows that the leading of the sunspot group was S polarity and the following was N polarity (Fig. 1). According to Hale-Nicholson law, the leading of sunspot group in Cycle 22 on the South hemisphere should be N polarity. Therefore, NOAA 7912 was a region with a reverse polarity(as judged by its heliographic latitude, it was a region of Cycle 22). In addition, there were the opposite magnetic fluxes to emerge around the leading spot successively. The longitudinal magnetogram on 21st October shows that the NOAA 7912 changed into a normal region on 21st October(Fig. 2). The close relation between the reverse sunspot groups and the flares and between the emerging fluxes and the flares has been analysed and studied many times which might explain that this small region produced the flares.

According to estimate and analysis, this activity might be last stronger activity before the end of Cycle 22. It is predicted that Cycle 23 will begin in the first half of 1996.

Acknowledgement

A lot of thanks for stuff of Huairou Station providing me with longitudinal magnetograms.

Reference

[1] Preliminary Report and Forecast of Solar Geophysical Data, No.1051(1995), p1.

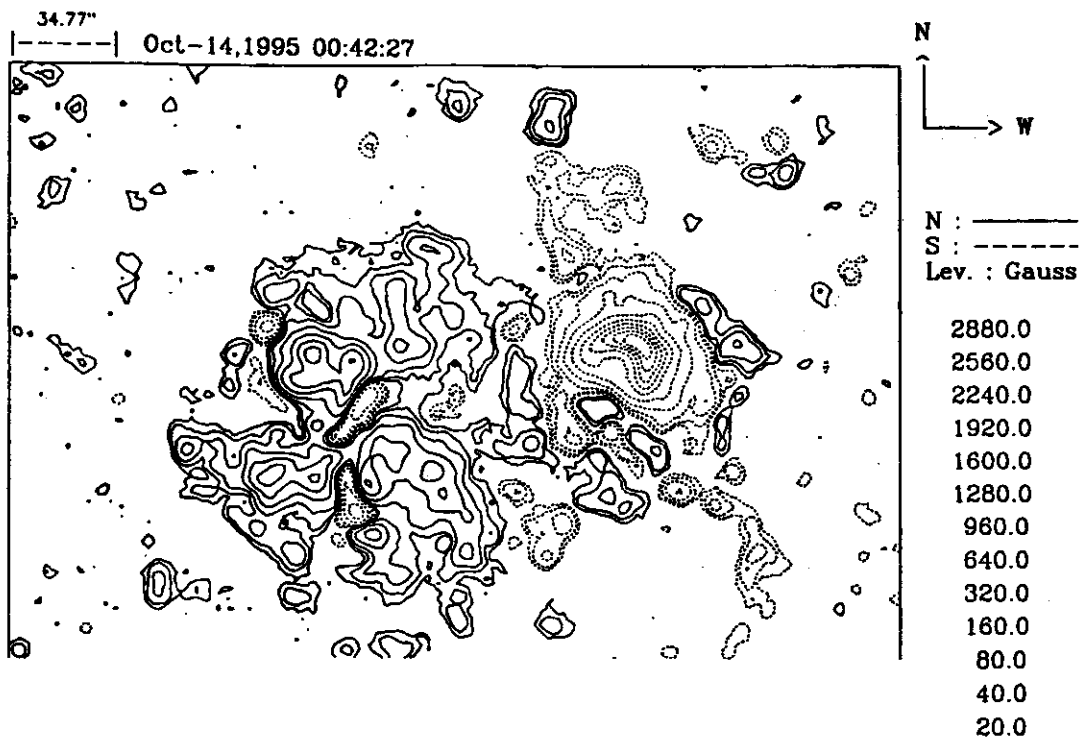


Figure 1. The longitudinal magnetogram of NOAA 7912 on 14th October, 1995.

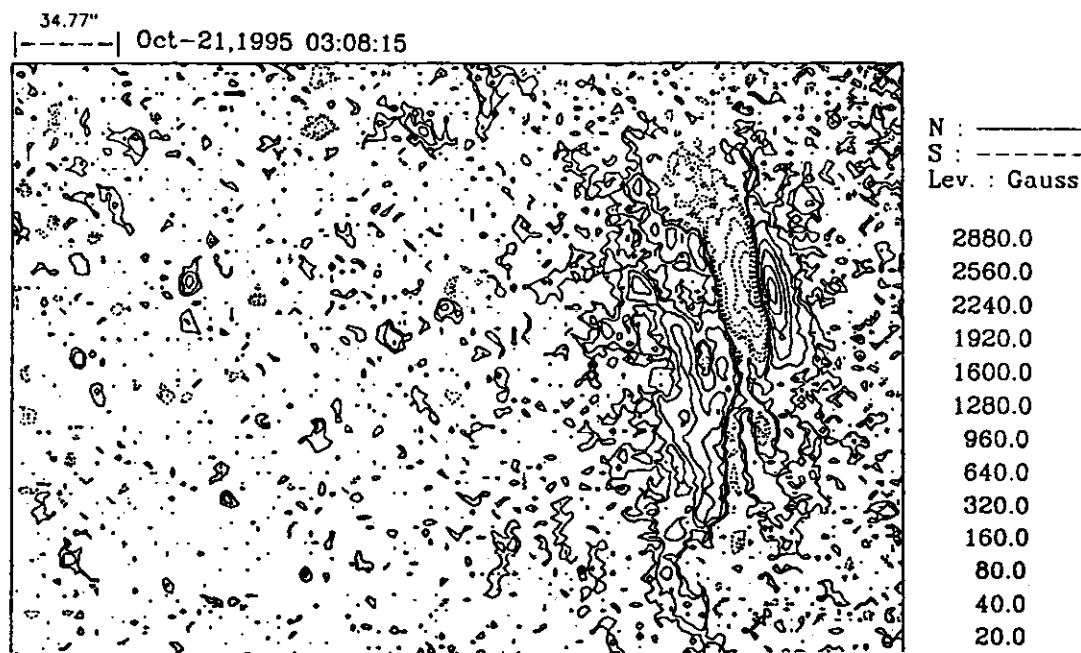


Figure 2. The longitudinal magnetogram of NOAA 7912 on 21st October, 1995.

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