目　　录

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说　明
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《太阳地球物理资料》(简称 CSGD) 刊登来自北京天文台 (简称北台或 BEIJ)、空间科学与应用研究中心、北京地磁台 (BGMO)、北京天文馆 (北馆或 PLAT)、陕西天文台 (陕台或 LINT)、紫金山天文台 (紫台或 PURP)、乌鲁木齐天文工作站 (乌站或 URUM) 和云南天文台 (云台或 YUNN) 等八个单位的有关观测结果。内容包括下列十个部分：

1. 太阳黑子相对数与面积数值表、太阳黑子观测表 (由紫金山天文台编辑)
2. 太阳黑子相对数的平滑值预报
3. 怀柔站太阳活动区磁场与速度场观测表
4. 太阳耀斑表、耀斑巡视时间表
5. 太阳射电辐射流量表、太阳射电辐射显著事件表、太阳射电辐射巡视时间表和太阳射电辐射显著事件图
6. 宇宙线强度表 (由空间科学与应用研究中心编辑)
7. 突然电离层扰动 (D 层) 表
8. 地磁活动指数 K 和 A_K表
9. 磁暴表 (由北京地磁台编辑)
10. 不定期刊登有关论文

以上各种数据表均利用计算机 (VAX　11/780) 存取、作必要的计算和检验以及提供照相印刷的正本。

内容简介

1. 与黑子有关的表格中所列的由目视观测 (手描) 获得的数据，以云台的观测为主。云台缺测时，则用其它台站的结果，并在备注栏内注明台站简称。黑子照相面积由北台提供。"太阳黑子观测" 表中的群号为综合各台站观测记录后的统一编号。(See) 栏给出观测时大气视宁静度的优劣评分，"5" 为最佳；"1" 为最差。

2. 黑子相对数的平滑值预报给出近一年的预报值 R′和置信度为 90%的预报误差 E′。预报方法参见 1989 年 1 月 CSGD 的论文部分。

3. 黑子表和耀斑表中的日面位置指卡林顿 (Carrington) 坐标。中经距 (CMD) 指黑子或耀斑所在经圈与日面中心经圈之经度差，以度表示。E、W 分别表示在日面中心经圈之东、西。日心距 (r/R) 指太阳圆面上的黑子或耀斑相对于日面中心之距离，以太阳半径为单位。视面积 (Sd) 指其在太阳圆面上的表观面积，以太阳圆面积的 10^{-6}为单位。校正面积 (Sp 或 Sq) 指经过投影改正后，黑子或耀斑在太阳球面上的真正面积，分别以太阳半球面积的 10^{-6}或平方度为单位。黑子型别 (Type) 按 McIntosh 分型。详见附录 1。

4. 在怀柔站太阳磁场、速度场观测表中，发表怀柔太阳观测站的观测日期，日面中心的日面经度 (L_0)，所观测的太阳活动区的怀柔站编号 (Huairou Region)、卡林顿坐标 (L 表示经度，Lat 表示纬度，括号内的数字是参考值) 及所获得的以英文字母表示的观测资料类型。所

用字母的含义是：

S或T—单色像

D—多卜勒（Doppler）速度场观测波长上的单色像

L—纵向磁场观测资料

Q及U—横向磁场观测资料

V—多卜勒（Doppler）速度场观测资料

5—使用 Fe I λ5324.19 Å 谱线观测资料（光球）

4—使用 H_β λ4861.34 Å 谱线观测资料（色球）

在表的最后给出太阳极区（NPL表示北极区，SPL表示南极区）纵向磁场观测日期。

5. 太阳耀斑表列出北台、紫台、乌站、云台等单位用色球望远镜（通过 H_α 单色光）观测到的耀斑和亚耀斑（用S表示）。表中列出耀斑发生的时刻，极大（Max）表示耀斑亮度极大时刻，面积（Area）为极大时刻的面积。视面积（Sd）和校正面积（Sq）按下列关系换算：

$$Sq = Sd \times \frac{1}{\sqrt{1-(r/R)^2}} \times 0.020626$$

耀斑级别（Imp）以两个字符表示，第一个字符由耀斑在极大时刻的面积决定，第二个字符表示耀斑亮度，由各观测台站根据经验确定。其中B表示“亮”、N表示“中等”、F表示“弱”。当耀斑日心距 r/R ＜0.906 时，即耀斑日心角 θ（指耀斑和观测者在日心处的张角）＜65° 时，其级别按“校正面积 Sq”定级，如下表所示：

	耀斑级别		
校正面积 Sq	弱(F)	中等(N)	亮(B)
≤2.0	SF	SN	SB
2.1— 5.1	1F	1N	1B
5.2—12.4	2F	2N	2B
12.5—24.7	3F	3N	3B
＞24.7	4F	4N	4B

当耀斑日心距 r/R ≥0.906 时，即耀斑日心角≥65° 时，其级别按“视面积 Sd”定级，如下表所示：

	耀斑级别			
日心距 r/R	S	1	2	3
.906—.939	Sd＜90	90—279	280—599	Sd≥600
.940—.984	75	75—239	240—499	500
.985—.999	50	50—179	180—349	350
1.000	45	45—169	170—299	300

耀斑表中资料栏内各字母分别表示：

C：全部或绝大部分过程有照相观测。

P：部分或很少部分过程有照相观测。

V：目视观测。

备注栏内的各字母的意义详见附录 2。

6. 耀斑巡视时间表仅包括照相巡视，目视和照相间隔小于 5 分钟时，看作连续巡视时段，用（From—To）表示。

7. 太阳射电辐射流量表，给出在各固定单频上每天太阳辐射总流量在当地太阳中天前后(一般北台、紫台在 0400 UT 左右；乌站、云台在 0500 UT 左右)的以 10^{-22} · 瓦 · 米$^{-2}$ · 赫$^{-1}$ (s. f. u.)为单位的实测值，并均已归算到日—地平均距离 1 AU 处的数值。

8. 在太阳射电显著事件表中列出的各栏参数有国内外约定的意义。在流量密度（Flux Density）栏内，峰值（Peak）表示峰时流量的增值；相对值（Rel）表示峰值流量与爆发前流量之比值，平均值（Mean）表示流量密度的增值对时间求积分，除以爆发持续时间，频率单位为兆赫（MHz），持续时间（Duration）单位为分，峰值及平均值单位为 s. f. u.。

太阳射电爆发的分型详见附录 3。分型中 1 S，2 S/F，3 S，4 S/F，5 S，20 GRF，21 GRF，22 GRF，23 GRF，41 F，45 C，46 C，47 GB 型爆发只适用于频率 f＞600 MHz 的射电爆发；而 6 S，7 C，27 RF，42 SER，43 NS，44 NS，48 C，49 GB 型爆发只适用于 f＜600 MHz 的爆发；28 PRE，29 PBI，30 PBI，31 ABS 不能单独存在。

请使用者注意，为了描述简单起见，在附录 3“太阳射电爆发分型”的定义中，取了流量密度的绝对值（原始值以 s. f. u. 为单位）与持续时间的绝对值（原始值以分为单位）进行大小比较（两个量进行比较时均为无量纲量）。

9. 对于峰值流量较大，而且记录质量较好的爆发，在太阳射电显著事件图中给出爆发曲线。图中右上方给出日期、频率、观测台站，横坐标为时间（UT），纵坐标为爆发流量（FLUX）。

10. 太阳射电巡视时间表为各单频射电望远镜实际巡视时间（不计入小于半小时的停顿）。连续巡视时段用（From—To）表示。

11. 宇宙线强度表中分别给出 18－NM－64 超中子堆（SUPER NEUTRON MONITOR)记录的中子数和 ACK—1 大游离室（ION CHAMBER）记录的 μ 介子（MESON）相对强度以及 μ 介子多方向望远镜（MESON MULTI－DIRECTIONAL TELESCOPE)垂直分量的记数。每小时的数据都已作了气压校正。中子堆数据表内给出的值是记数率与 1500 的差，求实际值时还需乘以定标因子 256 。μ 介子垂直分量（VERTICAL COMPONENT）表内给出的值是记数率与 3000 的差，求实际值时还需乘以定标因子 128 。 μ 介子数据表列出的是相对强度与 1000 的差，单位是 0.1% 。表中的空格“ ”和“……”表示没有数据。表中最后两列分别给出日均值(Mean)和有记录的小时数（N)。还给出了月均值（Monthly Mean)。最后四行是仪器全天工作天数的月平均日变化（Monthly Mean Daily Variation） 与相应的月均值的差，以及按世界时（U. T.）和北京时（B. T.）的调和分量（Harmonic Components)。从第一阶取到第四阶。表中给出各阶（Order）的正弦(SIN)、余弦（COS)、幅值(Amplitude）和极大值的时间(Max. —Hr)。

宇宙线强度图是以 Bartels 太阳旋转周 (Solar Rotation) 为周期，分别给出北京宇宙线台的中子和 μ 介子以及广州宇宙线台 μ 介子多方向望远镜的垂直分量 (V)、南北 (S—N) 和东西 (E—W) 各向异性每小时强度变化曲线。两条横线之间的距离表示强度变化为 5%，垂直线表示世界时 0^h。

北京宇宙线台中子堆的地理坐标：40.08° N、116.26° E；海拔高度：47 米。游离室的地理坐标：40.0° N、116.2° E；海拔高度：43 米。广州宇宙线台的地理坐标：23.1° N、113.29° E；海拔高度：21 米。

12. 突然电离层扰动 (D 层) (简称 SID) 表给出了对罗兰 C 100 kHz 低频信号和奥米加 10.2 kHz 甚低频信号传播的观测所得到的相位突然异常 (SPA) 和场强突然异常 (SFA) 的数据。SPA 和 SFA 属突然电离层扰动中的两种表现形式，是电离层 D 层状态突然改变所导致的。这里，低频相位突然异常 (LF—SPA) 数据由陕台和云台提供，而甚低频相位突然异常 (VLF—SPA) 数据和低频场强突然异常 (LF—SFA) 数据则仅由陕台提供。(VLF—SPA) 一般为奥米加导航系统 E 台 10.2 kHz 信号的结果。若接受其它台站信号时，将在相应的数据后面用括号内的字母表明。

表中所列的 LF—SPA 数值 (以微秒为单位) 是对实测值进行了太阳天顶角改正后的结果，所用的分析和计算表达式如下：

$$\Delta\varphi_0 = \left(\frac{5.0}{1.6 + 3.4\,\cos Z(h_m)}\right) \times \Delta\varphi'$$

$$+ \begin{cases} 7.3 \times [\cos Z(h_m - \cos Z(h_s)], & \text{当 } h_m \leqslant 12 \text{ 和 } Z(h_m) \leqslant 80° \\ 0, & \text{当 } 12 < h_m < 13 \\ 7.3 \times [\cos Z(h_m - 1) - \cos Z(h_s - 1)], & \text{当 } h_m \geqslant 13 \text{ 和 } Z(h_m) \leqslant 80° \end{cases}$$

这里 $\Delta\varphi'$ (以微秒为单位) 是 LF—SPA 的实测值，而 $\Delta\varphi_0$ (以微秒为单位) 是将 $\Delta\varphi'$ 统一归算到太阳天顶角为零的改正结果。式中，h_s 和 h_m 是 SPA 传播路径中点的开始和极大时间，用地方平太阳时表示；Z 是相应的太阳天顶角。VLF—SPA (以微秒为单位) 是未经任何改正的实测值。LF—SFA 给出以分贝为单位的幅度变化，其中，正、负号分别表示幅度的增加和减少。如果对同一 LF — SFA 事件给出一负一正两个值，则表示幅度先减少，后增加；符号 "0" 表示幅度无变化。另外，所列值后面的字母 E 表示真实值小于所列值；字母 D 表示真实值大于所列值；字母 U 则代表观测结果不太确定。SID 的级别是根据 $\Delta\varphi_0$ 值所确定的 (最小 1— 级，最大 3+ 级)，其对应关系如下表所示：

$\Delta\varphi_0$	(0,-1]	(-1,-2]	(-2,-3]	(-3,-4]	(-4,-5]	(-5,-6]	(-6,-7]	(-7,-8]	(<-8)
级别	1—	1	1+	2—	2	2+	3—	3	3+

13. 地磁活动指数K和A_K表中日期后有Q者表示当月五天地磁最平静日；有D者表示当月五天地磁最扰动日。三小时时段的K指数由各时段地磁水平强度H的时均值消去正常日变化后的变化磁场值决定。就中、低纬度地区而言，其对应关系如下：

H=	3	6	12	24	40	70	120	200	300	(单位为 nT)
K=0	1	2	3	4	5	6	7	8	9	

每日等效幅度A_k是当日8个三小时时段等效幅度a_K的平均。K指数与a_K的对应关系如下：

K=0	1	2	3	4	5	6	7	8	9	
a_k=0	3	7	15	27	48	80	140	240	400	(单位为 1.2 nT)

14. 在磁暴表中，SC表示急始磁暴；SC*表示先有一小负脉冲然后继以主要脉冲的急始磁暴，在量SC*的急始幅度时，仅量取主要脉冲幅度；GC表示缓始磁暴。活动程度栏中以m、ms、s分别表示中常、中烈和强烈磁暴。即分别对应于K=5，6—7，8—9的磁暴。

北京地磁台的地理坐标：40.0° N、 116.2° E； 地磁坐标：28.9° N、 186.1° E； 海拔高度：43米。

以上所有图表中的时间一律采用世界时（UT）。由世界时转换到北京时间（东经120°标准时）应加上八小时。例如2300—2400（UT）即相当于北京时间次日上午0700—0800。

15. 为鼓励观测和资料处理人员尽快发表他们的较有价值的新的观测资料和反应他们的资料及技术工作的成果，为尽快交流研究工作的新进展，本刊不定期刊登短文，内容包括观测报告、附有说明的照片或图像、资料处理和技术报告以及研究方法和新成果的介绍等。短文限在1000字以内，包括图表不得超过4页，来稿须有英文译文，文责自负。

期刊号说明：

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附录 1　　McIntosh 黑子分型法

黑子的分型由三个字母组成。第一个字母为修正的 Zürich 分型，第二个字母为黑子群中最大的半影情况，第三个字母为黑子群中黑子的分布情况，现将各型分述如下：

(1)　修正的 Zürich 分型

A　无半影单极群。长度上与 B 型群无明确界线。

B　无半影双极群。大多数长度<10°，在老的群中长度可达 20°。黑子间距>3° 者视为双极群。

C　一个极性中有半影的双极群，当半影径向跨度>5° 时，则划为 D 型。C 型长度无限制。

D　二个极性中均有半影的双极群，其径向跨度<10°。

E　二个极性中均有半影的双极群，其径向跨度达 10°—15°。

F　二个极性中均有半影的双极群，其径向跨度>15°。

H　有半影的单极群，伴随黑子距主黑子半影<3°。其主要黑子几乎总是原双极群中的前导黑子。当半影径向跨度>5° 时，则划为密集 D 型。

(2)　最大黑子的半影情况

x　无半影（黑子周围灰区宽度>3″ 时才能视为半影）。

r　不成熟和不规则半影，其宽度～3″，比正常半影亮，半影结构为颗粒状而非纤维状。

s　对称和近于圆型半影，其结构为纤维状，黑子直径<2.5°，本影密集于半影中央。这种黑子变化缓慢。

a　不对称或复杂的半影，其结构为纤维状，黑子直径<2.5°，不对称半影的轮廓不规则或明显变长（不图），半影中有二个以上本影。这种黑子往往逐日变化。

h　大的对称半影，其直径>2.5°。除了尺度较大外，其余特征与 s 相同。

k　大的不对称半影，其直径>2.5°。除了尺度较大外，其余特征与 a 相同。当半影的径向跨度>5° 时，几乎可肯定半影中有二种极性，从而黑子群成为 Dkc 或 Ekc 或 Fkc 型。

(3)　群中的黑子分布

x　单个黑子。

o　开放型分布。前导与后随黑子之间无黑子，黑子群可明确划分为二部分相反极性。开放型分布暗示极性变换线附近的磁场梯度较小。

i　中间型分布。前导与后随黑子之间有一些黑子，但它们均无半影。

c　密集型分布。前导与后随黑子之间有很多黑子，其中至少一个有半影。密集型分布的极端情况是整群黑子处在连续的半影区中。密集型分布暗示极性变换线附近的磁场梯度很大。

注：Zürich 分型中的 G 型与 J 型，在 McIntosh 分型法的第一个字母中已不再出现。

Zürich 分型中的 G 型现对应 McIntosh 分型法中的 Ero、Eso、Eao、Eho、Eko 和 Fro、Fso、Fao、Fho、Fko。

Zürich 分型中的 J 型现对应 McIntosh 分型法中的：Hrx、Hsx、Hax。

附录 2

耀斑表中备注栏内各字母的意义（IAU 系统）

A＝底部位于中经距小于 90°区域的爆发日珥

B＝可能是一个比较大的耀斑的尾声

C＝十分钟以前还看不见

D＝一个亮点

E＝两个或多个亮点

F＝有几个爆发中心

G＝在邻近区域无可见黑子

H＝有高速暗条半随的耀斑

I＝活动区的范围很大

J＝耀斑前或后谱斑亮度有明显变化

K＝有好几个亮度极大

L＝现存暗条有突然活动的迹象

M＝白光耀斑

N＝耀斑连续光谱出现各种偏振效应

O＝用 Ca II 的 H 或 K 线对耀斑进行了观测

P＝耀斑有 HeD_3发射

Q＝耀斑的巴尔麦连续区呈现发射

R＝耀斑的 H_α线显著不对称表明有高速物质抛射

S＝暗条消失以后在同一位置有增亮现象发生

T＝整天活动的区域

U＝平行型（//）或会聚型（Y）的双亮带耀斑

V＝有爆发相的事件：在大约一分钟内，耀斑面积扩展有伴随或不伴随亮度的急剧增大。

W＝强度极大后，耀斑面积突增。

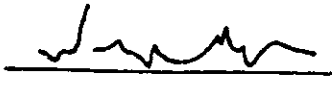
X＝耀斑的 H_α线很宽

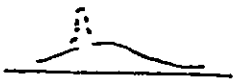
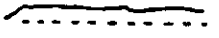
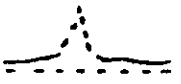
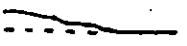
Y＝环形日珥系统

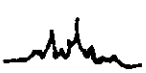
Z＝大的黑子本影为耀斑所掩盖

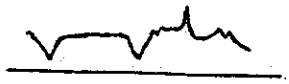
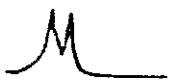
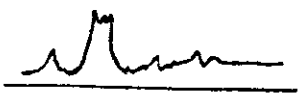
附录3

太阳射电爆发分型

类型	定义	图形
1 S	持续时间和峰值流量均小于10。	
2 S/F	1S型爆发上叠有起伏。	
3 S	峰值流量的绝对值大于持续时间的绝对值，且峰值流量大于10。	
4 S/F	3S爆发上叠有起伏。	
5 S	不符合其它简单型爆发定义，且峰值流量的绝对值大于持续时间的绝对值的爆发。	
6 S	持续时间为1或2分钟的简单上升和下降的爆发。	
7 C	持续时间为几秒，峰值流量小于10的复杂型爆发。	
8 S	迅速上升又迅速下降、持续时间接近或小于1分钟，且峰值流量大于10的简单爆发。	

类 型	定 义	图 型
20 GRF	持续时间从 10 分钟到几小时，峰值流量的绝对值小于持续时间的绝对值，且流量值不超过 50。	
21 GRF	20 GRF 型爆发上叠加有清晰的可分别列出的爆发。	
22 GRF	20 GRF 型爆发上有可分别列出的起伏。	
23 GRF	20 GRF 型爆发上有可分别列出的起伏及爆发。	
24 R	持续时间为 5 到 30 分钟流量持续上升，且在上升后数小时内不伴随下降。“持续时间”附有字母 D。	
25 R	24 R 型爆发上叠加有爆发。	
26 FAL	持续时间为 5 到 30 分种（指图中斜的部分）中等强度的流量下降，下降前数小时无流量上升。	
27 RF	有或多或少规律的连续谱上升和下降，持续时间为分到小时。	

类 型	定 义	图 型
28 PRE	在主爆发之前，流量逐渐上升地（时间大于10分钟）增强，先兆的结束取在斜率突变的时刻。	
29 PBI	爆发后，流量在逐渐下降时（时间大于10分钟）仍有明显的增强，增强的开始取在斜率突变的时刻。	
30 PBI	在29 PBI型爆发上叠加有爆发。	
31 ABS	爆发后流量密度逐渐下降后又回到事件前水平。	
32 ABS	流量密度逐渐下降后又回到事件前水平。	
40 F	流量密度有一系列迅速又无规则的变化，各峰无法明显区别，各次峰强度小于主峰的15%。	
41 F	彼此接近的一群小爆发，每个小爆发均下降至爆发前水平，每两个爆发的时间间隔小于或等于5分钟。	

类 型		定 义	图 型
42	SER	具有显著时间间隔的一系列爆发，每个爆发均降至爆发前水平。	
43	NS	噪爆开始。“持续时间”带有字母 D。	
44	NS	进行中的噪爆。“开始时间”带有字母 E，“持续时间”带有字母 D。	
45	C	几个或多个简单爆发的合成。	
46	C	45 C 型爆发上有起伏。	
47	GB	峰值流量密度＞500 的爆发。	
48	C	有大振幅、复杂变化的复杂型爆发。	
49	GB	持续时间大于 10 分钟、流量有较大增强的爆发。	

CHINESE SOLAR GEOPHYSICAL DATA (CSGD)
EXPLANATION OF DATA REPORTS
(1995)

Introduction

The solar geophysical data contained in " Chinese Solar Geophysical Data " (CSGD) are collected by Beijing Astronomical Observatory (BEIJ), Center for Space Science and Applied Research, Beijing Geomagnetic Observatory (BGMO), Beijing Planetarium (PLAT), Purple Mountain Observatory (PURP), Shaanxi Observatory (LINT), Urumqi Astronomical Station (URUM) and Yunnan Observatory (YUNN). The data in CSGD consist of the following ten parts:

1. Daily Relative Sunspot Numbers and Sunspot Areas, Daily Sunspot Observations compiled by Purple Mountain Observatory
2. Predicted Smoothed Sunspot Numbers
3. Observations of Magnetic and Velocity Fields of Solar Active Regions at Huairou Station, Beijing Astronomical Observatory
4. H-Alpha Solar Flares and Time Intervals of H-Alpha Flare Patrol Observations
5. Solar Radio Emission Fluxes and Solar Radio Emission Outstanding Occurrences, Intervals of Solar Radio Emission Patrol Observations and Time Profiles Solar Radio Emission Bursts
6. Cosmic Ray Meson and Neutron Intensity compiled by Center for Space Science and Applied Research
7. Sudden Ionospheric Disturbances (D-Region) (SID)
8. Geomagnetic Indices K and A_k
9. Magnetic Storms compiled by Beijing Geomagnetic Observatory
10. Nonperiodically Published Special Issues for the Data Corresponding Solar-Terrestrial Effects and Preliminary Analyses of Some Selected Events

All the data mentioned above are stored in a VAX 11/780 computer.

Brief Explanation of the Main Contents

1. There are two kinds of sunspot tables in which the visual data mainly come from the observations of Yunnan Observatory while photographic results of spot areas are supplied by Beijing Astronomical Observatory. When there are gaps in these observations the table will be filled by observations made on the same day by other observatories whose names will appear in the column of remarks. Sunspot group numbers in the table of " Daily Sunspot Observations " are standardized after collecting all sunspot observations from different observatories. The estimated Seeing Conditions are given in the column " See " on a 5-level scale from best (5) to worst (1).

2. The predicted values of R' with the errors E' referred to the confidance 90 % are given for a year in the table of " Predicted Smoothed Sunspot Numbers ". The method of prediction may be found in the CSGD January 1989, P.27 .

3. In the table of " Daily Sunspot Observations " and the table of " H-Alpha Solar Flares ", Carrington coordinates are used for the position measurement of sunspot groups

or flares. Central Meridian Distance shows the distance in degrees between the central meridian and the meridian where a sunspot group or flare is located. E and W indicate that the sunspot group or flare lies to the east or to the west of the central meridian, respectively. Heliocentric Distance measured in units of disk radius represents the distance from the centre of gravity of the sunspot group or flare on the disk to the centre of the disk. Apparent Areas Sd is the area projected on the disk in millionths of the disk and the Corrected Area Sp is the real area of the sunspot group or flare occupied on the solar surface in millionths of the hemisphere after the projecting correction. McIntosh classification is used for the classification of sunspot groups.

4. In the table of observations of solar magnetic and velocity fields, the date, the Carrington longitude of the solar disk center (L0), the number (under Huairou Region) and Carrington coordinates (L: Longitude, Lat: Latitude; in bracket is the reference position from sunspot measurement) of an observed active region and data types obtained at Fe I λ 5324.19$\mathring{A}$ and/or $H_\beta\lambda$ 4861.34 $\mathring{A}$ at Huairou Station of Beijng Astronomical Observatory are given. Meanings of letters in the table are as follows:

S (or T) — monochromatic image

D — monochromatic image at the wave length used in a Doppler field observation

L — data of longitudinal fields

Q and U — data of transverse fields

V — data of Doppler velocity fields

5 — observation at Fe I λ 5324.19$\mathring{A}$

4 — observation at $H_\beta\lambda$ 4861.34 $\mathring{A}$

In the last part of the table the observation date of the longitudinal fields of solar poles (NPL: +90.0, 0.0; SPL: -90.0, 0.0) is given.

5. The table of " H-Alpha Solar Flares " gives H-Alpha flare (including subflares (by S)) patrol observations done at Beijing Astronomical Observatory,Purple Mountain Observatory, Urumqi Astronomical Station, and Yunnan Observatory. For each flare, the start time, end time, the time at which the flare shows its maximum brightness (Maxtime) and the area measured at the time of maximum brightness are given. For flares within 65° from the centre of the disk, the formula relating apparent area Sd and corrected area Sq is as follows:

$$S_q = S_d \times \frac{1}{\sqrt{1-(r/R)^2}} \times 0.020626$$

Two figures are assigned to each flare to show the importance of the flare. The first figure is defined by the area of the flare at the maximum phase and the second one is only a qualitative scale where each observatory uses its experience to decide if a flare is rather faint (F), normal (N), or rather bright(B). For flares within 65° from the centre of the disk, i.e., the heliocentric distance is less than 0.906, the first figure assigned to the flare importance is defined by the corrected area Sq according to the following table where areas are given in millionths of a solar hemisphere.

Corrected Area Sq in Square Degrees	Relative Intensity Evaluation		
	Faint (F)	Normal(N)	Brilliant(B)
≤ 2.0	SF	SN	SB
2.1 — 5.1	1F	1N	1B
5.2 — 12.4	2F	2N	2B
12.5 – 24.7	3F	3N	3B
24.7	4F	4N	4B

For flares which are at a distance equal to or greater than 65° from the centre of the disk, i. e., the heliocentric distance is equal to or greater than 0.906, the first figure assigned to the flare importance can be estimated by the apparent area Sd according to the following table where the areas are given in millionths of the disk.

Heliocentric Distance r/R	Importance			
	S	1	2	3
.906 – .939	Sd < 90	90 – 279	280 – 599	Sd $\geq$ 600
.940 – .984	75	75 – 239	240 – 499	500
.985 – .999	50	50 – 179	180 – 349	350
1	45	45 – 169	170 – 299	300

The letters C, P, and V in the column marked " Observation Type " represent the nature and completeness of the observations, i.e.:

C — a complete or quasi-complete sequence of photographs is obtained

P — only one or a few photographs of the event are obtained due to an incomplete time coverage

V — the development of the flare was visually observed

The meaning of one or more letters of A to Z in the column marked " Remarks " follow the International Astronomical Union notation, in which each letter of the alphabet stands for a particular noteworthy condition, as shown in Appendix 1.

6. In the table of " Intervals of H-Alpha Flare Patrol Observations ", the Intervals of H-Alpha Flare Patrol Observations are given by " from to ". Flare patrol observations are considered to be continuous if the intervals of no flare patrol observations are less than five minutes.

7. The table of " Daily Solar Radio Emission Flux " gives the flux values of the sun calibrated in units of $10^{-22} \cdot W \cdot M^{-2} \cdot Hz^{-1}$ (s.f.u.) at the time around meridian transit (BEIJ, PURP : around 0400 UT; URUM, YUNN: around 0500 UT) every day at different fixed radio frequencies. All flux values are adjusted to mean sun-earth distance: 1 AU.

8. Each column in the table of " Solar Radio Emission Outstanding Occurrences " has its centain implication following an international implied consent. In the column of Flux Density, " Peak " represents the peak value of flux density of the event; " Rel " represents the relative value $\Delta S/S$, i.e., the ratio of the flux increment ΔS and the flux S before the burst; " Mean " represents the mean flux increment which is an integral of flux increment over the time of duration and divided by the duration. Both the peak flux density and the mean flux density are measured in " s.f.u. ", frequency in MHz and duration in minutes.

For the classification of bursts see Appendix 2. Among the types, 1 S, 2 S/F, 3 S, 4 S/F, 5 S, 20 GRF, 21 GRF, 22 GRF, 23 GRF, 41 F, 45 C, 46 C and 47 GB are used in the frequency range greater than 600 MHz, 6 S, 7 C, 27 RF, 42 SER, 43 NS, 44 NS, 48 C and 49 GB are used in the frequency range less than 600 MHz, and on the other hand, 28 PRE, 29 PBI, 30 PBI and 31 ABS are not independent types at all.

Finally, one must notice that, for simplicity, we use the absolute value of flux density (with original value in s.f.u.) and duration (with original value in minute) for the definition of classification in Appendix 2.

9. In the " Profiles Figure of Solar Radio Emission Outstanding Occurrences ", the date, peak fluxes, and frequencies of events are given on the right corner. The time is denoted on the abscissa axis and the amplitude in units of s.f.u. is denoted on the ordinate axis.

10. The table of " Intervals of Solar Radio Emission Patrol Observations " gives the time coverage of the patrol observations made with those radio telescopes that contribute the data. The data gaps less than half hour are not listed.

11. The intensities of cosmic ray neutrons, mesons and meson vertical component, which are respectively recorded with 18-NM-64 super neutron monitor (NM), ACK-1 large ion chamber (IC), and meson multi-directional telescope are monthly tabulated. The hourly mean values in the table are corrected for the atmospheric pressure. To get the real counting rates of cosmic ray neutrons one should and 1500 to the counting rates given in the table and multiplies by the scaling factor 256. The real counting rates of the vertical component of cosmic ray mesons are that the counting rates in the table plus 3000 and multiplies with the scaling factor 128. The relative intensity of cosmic ray mesons is that the tabulated values plus 1000 and in the units of 0.1 %. The space " " and the dash " — " mean no data.

The gragh expresses the variations of cosmic ray intensity monitored with the NM and IC at the Beijing Cosmic Ray Observatory and the variations of the vertical component (V) and north-south (N-S) and east-west (E-W) anisotropies of cosmic ray mesons measured at the Guangzhou Cosmic Ray Observatory hourly. The abscissa is the cycle of the Bartels Solar Rotation. The intensity variation between two horizontal lines corresponds to 5%. The vertical lines indicate 0^h UT.

The neutron monitor is located at 40.08° N, 116.26° E geographic coordinates and elevation is 47 meters and 40.0° N, 116.2° E and 43 m for the ion chamber. The Guangzhou Cosmic Ray Observatory is located at 23.1° N, 113.29° E and has an elevation of 21 m.

12. The table of " Sudden Ionosphereic Disturbances (D-Region) " (SID) presents the information of the Sudden Phase Anomalies (SPA) and the Sudden Field Anomalies (SFA) based on the observations of the propagations of the Loran-C signals at 100 kHz (LF) and the Omega signals at 10.2 kHz (VLF), which are the particular types of the SID resulted from the sudden changes of the condition in the D-Region of the ionosphere. Here, the Sudden Phase Anomalies at low frequency (LF-SPA) are reported by both Shaanxi Observatory and Yunnan Observatory while the Sudden Phase Anomalies at very low frequency (VLF-SPA) and the Sudden Field Anomalies at low frequency (LF-SFA) are reported by Shaanxi Observatory only. (VLF-SPA) is generally obtained from the signal received at 10.2 kHz from Omega-E Station. Letter(s) will be given in the bracket

if other signal is used.

The values of the (LF-SPA) in μs listed in this table are the corrected results of the measurements for the solar zenith correction with following expression resulted from the analyses and calculation:

$$\Delta\phi_0 = \frac{5.0}{1.6 + 3.4\cos Z(h_m)} \times \Delta\phi' +$$

$$+ \begin{cases} 7.3 \times [cosZ(h_m) - cosZ(h_s)], & when\ h_m \leq 12\ and\ Z(h_m) \leq 80°; \\ 0, & when\ 12 < h_m < 13; \\ 7.3 \times [cosZ(h_m - 1) - cosZ(h_s - 1)], & when\ h_m \geq 13\ and\ Z(h_m) \leq 80°; \end{cases}$$

where,$\Delta\phi'$ in μs is a measured value of (LF-SPA) , $\Delta\phi_0$ in μs is a corrected result of $\Delta\phi'$, i.e., a value normalized to the solar zenith angle of zero. h_s and h_m , in local mean solar time for the middle point of the propagation path are the SPA start time and the SPA maximum time, respectively, and Z is the corresponding solar zenith angle. The values of the (VLF-SPA) in μs are the measurement results without any correction and the listed values of (LF-SFA), in db, give the information of amplitude variation, where the signs " + " and " – " prefixed to the values indicate the increase and decrease of the amplitude, respectively. In case there are two values listed for the same (LF-SFA) event, one negative and the other positive, it means the amplitude decrease at first and increase afterwards. Sign " 0 " indicates that there is no amplitude change. Besides, " E " after the listed value means that the real value is less than the listed one; the letter " D " after the listed value indicates that the real value is greater than the listed one ; letter " U " denotes an uncertainty in measurement. As for the importance rating, based on a scale of 1–, the least, to 3+, the most important, is derived from the values of $\Delta\phi_0$, shown as the following table:

$\Delta\phi_0$	(0,-1]	(-1,-2]	(-2,-3]	(-3,-4]	(-4,-5]	(-5,-6]	(-6.-7]	(-7,-8]	(< -8)
IMP.	1–	1	1+	2–	2	2+	3–	3	3+

13. The data included in the table of " The Geomagnetic Activity Indices K and A_k " are: three-hourly K index, five quietest days of the month (Q) and five most disturbed days of the month (D). Three-hourly K index is determined by the H components measured in nT in each corresponding three-hourly period and subtracted by the diurnal normal changes of geomagnetic field. For mid and low latitude areas, the corresponding relation of H and K is as follows :

H = 3 6 12 24 40 70 120 200 300 (in nT)

K = 0 1 2 3 4 5 6 7 8 9

Daily effective A_k is the average of eight values of three-hourly index a_k , the corresponding relation of K and a_k is as follows :

K =	0	1	2	3	4	5	6	7	8	9	
ak=	0	3	7	15	27	48	80	140	240	400	(in 1.2 nT)

14. Three kinds of geomagnetic storm are listed in the table of " The Magnetic Storms " : sudden commencement (SC), a small negative initial impulse followed by a main impulse (SC*) and gradual commencement (GC). Three degrees are used for the rating of geomagnetic storms, i.e.: moderate (m), moderate severe (ms) and severe (s) corresponding to K=5, K=6–7, and K=8–9, respectively.

Beijing Geomagnetic Observatory is located at $40.0°N$, $116.2°E$ in geographic coordinates or $28.9°N$, $186.1°E$ in geomagnetic coordinates, and 43 meters above sea level.

The time used in all these data reports is Universal Time (UT). To transform UT to Beijing Standard Time ($120°E$) one can simply add 8 hours to Universal Time. For instance, for a flare observed at 2230–2400 UT, the equivalent Beijing Standard Time is 0630–0800 next day.

15. To encourage a fast exchange of information about solar observations and studies, short articles including reports of observations, data treatments, observational technology and research work and photographs with a explanation are accepted and published in this data journal nonperiodically. Articles are limited within 1000 words and 4 pages including tables and figures.

Numbering of CSGD :

From the first issue of 1991 on, Issues of the Chinese Solar-Geophysical Data (CSGD) will be numbered. The first issue of 1991 of CSGD is numbered 213.

Address your inquires to our Editorial Group, please: CSGD Editorial Group, Beijing Astronomical Observatory, Beijing 100080 China . Telephone Number : 2567194, Telegram code : 9053, Telex : 22040 BAOAS CN.

Appendix 1

The International Astronomical Union Notation for H-Alpha Solar Flares

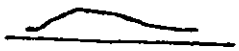
A = Eruptive prominence whose base is less than 90° from the central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant Point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H or K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion
in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

Appendix 2

Classificatiom of Solar Radio Bursts

Type	Definition	Figure
1 S	Peak flux density (sfu) and duration (min) both less than 10.0.	
2 S/F	1 S with fluctuations.	
3 S	Peak flux density (sfu) greater than both the duration (min) and 10.0.	
4 S/F	3 S with fluctuations.	
5 S	Different from the simple events defined above, also peak flux density (sfu) greater than duration (min) of the burst.	
6 S	Simple rise and fall of minor burst with duration 1 or 2 min.	
7 C	Complex events with duration of several seconds and flux density (sfu) less than 10.0.	
8 S	An event which shows a rapid rise to a single peak, followed by a rapid fall to the pre-event level with a duration about one minute or less and flux density (sfu) greater than 10.0.	

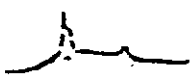
20 GRF Bursts have duration in the range from 10 minutes to several hours and flux density (sfu) less than both the duration (min) and 50.0.



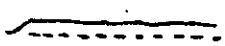
21 GRF 20 GRF type burst with superimposed distinct bursts to be able to list separately.

22 GRF 20 GRF type burst with fluctuations to be able to list separately.

23 GRF 20 GRF type burst with fluctuation and superimposed bursts both to be able to list separately.



24 R A moderate rise of flux from 5 to 30 minutes duration with no accompanying decline during the following hours and with symbol D.



25 R 24 R type bursts with superimposed bursts.

26 FA1 A moderate decline of flux from 5 to 30 minutes duration with no rise of flux during the foregoing hours and with symbol D.

27 RF The rise and fall of continuous spectrum more or less regularly with duration in the range from minutes to hours.

28 PRE A precursive enhancement of the flux density level with duration greater than 10 min preceding the main burst if it is a gradual rise; the end of the precursor is taken at the time when the slope suddenly changes.

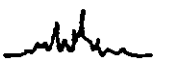
29 PBI A post-burst enhancement of flux density level with duration greater than 10 min if it decreases gradually; the start of the enhancement is taken at the time when the slope suddenly changes.

30 PBI 29 PBI type events with superimposed bursts.

31 ABS After the burst a gradual decrease of the flux density with a subsequent return to the pre-event level.

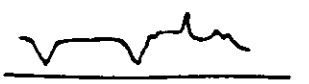
32 ABS A gradual decrease of the flux density with a subsequent return to the pre-event level.

40 F A series of rapid irregular changes in the flux density level, with no distinct peak grouping into individual events; the intensity of each component is less than 15% of the main peak.



41 F A number of single bursts occur in succession and the flux level returns to the pre-event level; the interval between each two bursts is equal to or less than 5 min.

42 SER A series of bursts occur with considerable time intervals between bursts; the flux level of each burst returns to the pre-burst.



43 NS **Onset of noise storm. Duration of events with symbol D.**

44 NS Noise storm in progress. Starting time with symbol E, and duration with symbol D.

45 C Combination of a few or many simple bursts.

46 C 45 C burst with fluctuations.

47 GB Peak flux density of 500 sfu or more.

48 C A complex event with complex and large variation of amplitude.

49 GB Major increase of flux density, duration greater than 10 min.

《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
Gro：	每天在日面上的黑子群总数
Relative—Num—bers：	每天的黑子相对数值
N.H.：	每天北半球的黑子相对数
S.H.：	每天南半球的黑子相对数
Sum：	南、北半球黑子相对数的总和
Sunspot Areas：	太阳黑子面积数值
Drawing：	手描的
Photographic：	照相的
N.H.：	每天北半球黑子面积
S.H.：	每天南半球黑子面积
Sum：	南、北半球黑子面积的总和

太阳黑子观测表

Group：	在日面上的黑子群号
CMP Mo—Day：	黑子群过日面中心经圈日期，用月—日表示。
Lat：	黑子群在日面上的纬度
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 whole Max：	黑子群在日面上所占的面积(Sd 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。)
See：	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
R′：	月平滑黑子相对数的预报值
E′：	预报误差

Hα 太阳耀斑表

Sta：	台站
Start (UT)：	耀斑开始时间(UT 为世界时，其中"E"为小于此时间。)
Max (UT)：	耀斑的极大时间("U"为接近此时间，不确定。)
End (UT)：	耀斑的结束时间("D"为大于此时间。)
Cen Dist：	日心距，即 r/R。
Area Measurement Appar Corr (sd) (sq)：	耀斑极大时的面积(Sd 为视面积，单位为太阳圆面积的 10^{-6}；Sq 为校正面积，以平方度为单位。)
Imp：	耀斑的级别
Obs Type：	耀斑资料类型
A.R.：	耀斑所在活动区的黑子群号
Rem：	备注(记录耀斑发生时的形态)

Hα 耀斑巡视时间表

From：	耀斑照相巡视开始时间
To：	耀斑照相巡视的结束时间

太阳活动区磁场和速度场的观测表

L_0：	每天的日面中心经度
Huairou Region：	北京天文台怀柔观测站的活动区编号
Data：	取得的磁场资料类型

太阳射电辐射流量表

BEIJ 2840：	每天的太阳在 2840 MHz 的流量密度(北台 0400 UT 测量，以 10^{-22} · 瓦 · 米$^{-2}$ · 赫$^{-1}$(s.f.u.)为单位。)
PURP 2700：	每天的太阳在 2700 MHz 的流量密度(紫台 0400 UT 测)

URUM 9375：每天的太阳在 9375 MHz 的流量密度(乌站 0500 UT 测)

YUNN 2840：每天的太阳在 2840 MHz 的流量密度(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

BEIJ 2840：北京天文台 2840 MHz 频率巡视时间

From To

PURP 2700：紫金山天文台 2700 MHz 频率巡视时间

From To

URUM 9375：新疆乌鲁木齐天文站频率为 9375 MHz 巡视时间

From To

YUNN 2840：云南天文台 2840 MHz 频率巡视时间

From To

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

Begining：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 Action 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

JANUARY 1995

		Relative-Numbers			Sunspot Areas					
					Drawing			Photographic		
Day	Gro.	N.H.	S.H.	Sum	N.H.	S.H.	Sum	N.H.	S.H.	Sum
1	1	8	0	8	3	0	3			
2	0	0	0	0	0	0	0			
3	2	0	24	24	0	54	54			
4	1	0	11	11	0	6	6			
5	2	17	0	17	15	0	15			
6	2	9	8	17	5	6	11			
7	2	8	8	16	4	5	9			
8	2	7	8	15	2	4	6			
9	1	0	8	8	0	4	4			
10	1	0	8	8	0	4	4			
11	1	0	8	8	0	4	4			
12	3	0	23	23	0	11	11			
13	1	0	8	8	0	16	16			
14	1	0	10	10	0	28	28			
15	1	0	10	10	0	90	90			
16	1	0	15	15	0	125	125			
17	2	7	16	23	2	198	200			
18	4	7	33	40	2	373	375			
19										
20	4	11	35	46	14	226	240			
21	5	24	38	62	51	213	264			
22	5	24	39	63	118	147	265			
23	4	28	36	64	181	66	247			
24	4	23	30	53	175	60	235			
25	4	27	27	54	185	61	246			
26	3	20	23	43	140	18	158			
27	2	16	16	32	133	12	145			
28	4	9	22	31	112	19	131			
29	3	8	15	23	123	29	152			
30	3	7	18	25	139	202	341			
31	3	0	32	32	0	90	90			
Mean		8.7	17.6	26.3	46.8	69.0	115.8			

DAILY SUNSPOT OBSERVATIONS

JANUARY 1995

Day	Group	CMP Mo-Day	Lat	L	CMD	Type	r/R	Sd	Corre. Whole	Area Max	See	Remarks
1.09	1	1- 4.6	12	302	46E	AXX	0.74	4	3	3	0	PLAT
2.12	0											
3.29	2	12-28.1	-13	40	78W	BXI	0.97	13	24	8	0	PLAT
	3	1- 9.3	-9	239	80E	CRO	0.98	13	30	20	0	PURP
4.03	3				73E	AXX	0.94	4	6	6	0	PURP
5.12	4	12-30.8	11	5	70W	AXX	0.94	4	6	6	0	PLAT
	5	1- 8.5	2	250	43E	BXO	0.69	13	9	3	0	
6.11	3				42E	AXX	0.68	8	6	3	0	
	5				30E	BXO	0.51	8	5	2	0	
7.04	3				31E	BXO	0.52	8	5	2	0	
	5				20E	AXX	0.34	8	4	2	0	
8.08	3				17E	BXO	0.30	8	4	2	0	
	6	1- 9.2	14	241	15E	AXX	0.40	4	2	2	0	
9.04	3				4E	AXX	0.11	8	4	2	0	
10.08	3				8W	AXX	0.17	8	4	2	0	
11.05	7	1-11.3	-7	214	3E	BXO	0.06	8	4	2	0	
12.06	3				32W	AXX	0.53	4	2	2	0	
	7				10W	AXX	0.18	8	4	2	0	
	8	1-10.1	-8	229	26W	AXX	0.44	8	5	2	0	PLAT
13.09	9	1-18.8	-8	115	78E	BXO	0.97	8	16	8	0	
14.06	9				65E	BXI	0.90	25	28	9	0	
15.17	9				50E	CAI	0.76	118	90	55	0	
16.06	9				36E	CAI	0.59	202	125	117	0	
17.05	9				23E	DAI	0.38	366	198	148	0	

DAILY SUNSPOT OBSERVATIONS

JANUARY 1995

Day	Group	CMP Mo-Day	Lat	L	CMD	Type	r/R	Sd	Corre. Area Whole	Max	See	Remarks
	10	1-18.3	2	121	16E	AXX	0.30	4	2	2	0	PLAT
18.04	9				10E	DKI	0.17	395	201	175	0	
	10				3E	AXX	0.13	4	2	2	0	PLAT
	11	1-17.2	-13	136	11W	BXO	0.23	8	4	2	0	
	12	1-24.1	-14	45	79E	DSO	0.98	71	168	118	0	
19.00		Not Available										
20.05	9				16W	CAI	0.28	189	98	90	0	
	12				53E	DSI	0.79	151	124	79	0	
	13	1-19.8	0	101	3W	BXO	0.09	8	4	2	0	
	14	1-24.2	10	43	62E	BXI	0.90	13	14	5	0	
21.07	9				29W	CAI	0.48	168	96	86	0	
	12				40E	DSI	0.64	168	110	69	0	
	13				16W	BXO	0.28	13	7	4	0	
	14				45E	DRI	0.72	67	49	18	0	
	15	1-21.3	11	82	3E	AXX	0.29	4	2	2	0	
22.08	9				42W	CSI	0.67	109	73	71	0	
	11				65W	AXX	0.90	4	5	5	0	
	12				26E	DSI	0.46	114	64	45	0	
	14				30E	DAI	0.55	198	118	73	0	
	16	1-26.8	-20	10	67E	AXX	0.92	4	5	5	0	
23.06	9				55W	CRI	0.82	38	33	22	0	
	12				13E	CRI	0.28	50	26	13	0	
	14				16E	DAI	0.37	336	181	104	0	
	16				52E	AXX	0.79	8	7	7	0	
24.12	9				69W	BXO	0.93	17	23	17	0	
	12				1W	CRI	0.16	63	32	21	0	
	14				2E	ESI	0.28	336	175	131	0	
	16				37E	AXX	0.61	8	5	5	0	
25.07	9				80W	AXX	0.98	17	39	30	0	
	12				7W	DRO	0.21	29	15	6	0	
	14				11W	ESI	0.33	349	185	156	0	
	16				24E	BXO	0.46	13	7	5	0	

DAILY SUNSPOT OBSERVATIONS

JANUARY 1995

Day	Group	CMP Mo-Day	Lat	L	CMD	Type	r/R	Sd	Corre. Area Whole	Max	See	Remarks
26.05	12				21W	BXO	0.38	25	14	2	0	
	14				24W	CSI	0.49	244	140	121	0	
	16				10E	AXX	0.29	8	4	2	0	
27.08	12				32W	BXI	0.52	21	12	2	0	
	14				38W	CSI	0.67	198	133	127	0	
28.15	12				56W	AXX	0.83	4	4	4	0	
	14				54W	HSX	0.83	126	112	109	0	
	16				18W	AXX	0.38	8	5	2	0	
	17	2- 3.3	-18	270	79E	AXX	0.98	4	10	10	0	
29.07	14				65W	HSX	0.92	97	123	118	0	
	16				30W	AXX	0.53	4	2	2	0	
	17				68E	CRO	0.92	21	27	21	0	
30.10	14				79W	HSX	0.99	42	139	139	0	
	17				57E	DRI	0.83	55	49	19	0	
	18	2- 5.2	-13	245	82E	HSX	0.99	46	153	139	0	
31.01	16				59W	CRO	0.83	17	15	11	0	PURP
	17				43E	BXO	0.69	8	6	3	0	PURP
	18				72E	CSO	0.94	46	69	63	0	PURP

PREDICTED SMOOTHED SUNSPOT NUMBERS

AUGUST 1994 — JULY 1995

Date	Aug 94	Sep 94	Oct 94	Nov 94	Dec 94	Jan 95
R′	26.6	25.6	24.7	24.2	23.3	22.1
E′	1.3	2.0	2.5	3.6	4.9	4.9
Date	Feb 95	Mar 95	Apr 95	May 95	Jun 95	Jul 95
R′	21.0	19.5	18.0	16.9	16.2	15.8
E′	4.6	5.1	6.5	6.4	6.8	6.2

R′: The predicted value of monthly smoothed sunspot numbers.
E′: The error of the predicted value.

H-ALPHA SOLAR FLARES

JANUARY 1995

Day	Sta	Time Start (UT)	Time Max (UT)	Time End (UT)	Lat	L	CMD	Area Measurement Cen Dist	Area Measurement Appar (Sd)	Area Measurement Corr (Sq)	Imp	Obs Type	A.R.	Rem
28	URUM	0230	0235	0244	S14	45	W53	.795	48	0.8	SF	C	12	E

INTERVALS OF H-ALPHA FLARE PATROL OBSERVATION

JANUARY 1995

Day	From	To	From	To	From	To	From	To	From	To	From	To	From	To
1														
2	337	502												
3	340	446	454	513	900	934								
4	352	735												
5	347	512												
6	347	431												
7	415	505	920	941										
8	405	515												
9	751	820												
10	344	420												
11														
12														
13														
14	915	926												
15	345	425												
16														
17	353	447	833	902										
18	433	518	935	951										
19	837	839												
20	344	424	455	530										
21														
22	400	459	944	1012										
23	248	347												
24	347	503	837	909										
25	332	420	427	435										
26	325	434	846	916										
27														
28	226	244												
29														
30														
31														

Combined reports from the observatories listed below:

YUNN

OBSERVATION OF MAGNETIC AND VELOCITY FIELDS OF SOLAR ACTIVE REGIONS

JANUARY 1995 HUAIROU ST. BEIJING OBS.

Day	L0	Huairou Region	Lat	L	Data
1	349.0	108	-15	57	S5 L5
3	322.7	1	(-13)	(40)	S5 L5
5	296.4	2	-2	250	S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
6	283.2	2			S5 L5
7	270.0	2			S5 L5
8	256.8	2			S5 L5
9	243.7	2			S5 L5
10	230.5	2			S5 L5
11	217.3	2			S5 L5
		3	-5	233	S5 L5
12	204.2	3			S5 L5
13	191.0	3			L5
14	177.8	3			L5
		4	-11	110	S5 L5
15	164.7	3			L5
		4			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
16	151.5	3			L5
		4			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
17	138.3	4			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
18	125.2	4			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
		5	-12	138	S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
		6	(-14)	(45)	S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
21	85.7	4			S5 L5

OBSERVATION OF MAGNETIC AND VELOCITY FIELDS OF SOLAR ACTIVE REGIONS

JANUARY 1995 HUAIROU ST. BEIJING OBS.

Day	L0	Huairou Region	Lat	L	Data
		5			S5 L5
		6			S5 L5
22	72.5	4			S5 L5 T5 Q5 U5
		5			S5 L5 T5 Q5 U5
		6			S5 L5 T5 Q5 U5
		7	(4)	42	S5 L5 T5 Q5 U5
23	59.3	4			S5 L5
		6			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
		7			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
		8	-22	(10)	S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
24	46.2	4			S5 L5
		6			S5 L5
		7			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
		8			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
25	33.0	4			S5 L5
		6			S5 L5
		7			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
		8			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
26	19.8	6			S5 L5
		7			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
		8			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
27	6.7	6			S5 L5
		7			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
		8			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
28	353.5	6			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
		7			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
		8			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
29	340.3	6			S5 L5
		7			S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5
		9	(-18)	265	S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5

OBSERVATION OF MAGNETIC AND VELOCITY FIELDS OF SOLAR ACTIVE REGIONS

JANUARY 1995 HUAIROU ST. BEIJING OBS.

Day	LO	Huairou Region	Lat	L	Data
30	327.2	7			S5 L5
		9			S5 L5
31	314.0	9			S5 L5
		10	-15	15	S5 L5
		11	(-13)	(245)	S5 L5

NPL: 0

SPL: 1 3 4 5 6 7 9 11 12 13 14 15 16 27 28

SOLAR RADIO EMISSION FLUX

JANUARY 1995

Day	BEIJ 2840	PURP 2700	URUM 9375	YUNN 2840
1	73	81		
2	73	79		
3	74	79		
4	73	74		
5	71	73		
6	71	73		
7	71	71		
8	71	72		
9	70	71		
10	71	72		
11	70	81		
12	71	72		
13	71	74		
14	76	75		
15	75	78		
16	77	77		
17	80	79		
18	79	88		
19	82	89		
20	81	96		
21	90	93		
22	93	103		
23	92	98		
24	93	98		
25	90	98		
26	86	93		
27	81	89		
28	80	88		
29	82	88		
30	84	89		
31	86	92		
Mean	78.6	83.3		

SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

JANUARY 1995

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak	Rel	Mean
19	2840	BEIJ	41 F	0353.0	0401.0	15.0	21.0	25.6	
19	2840	BEIJ	5 S	0540.0	0541.6	3.0	15.6	19.0	

INTERVALS OF SOLAR RADIO EMISSION PATROL OBSERVATION

JANUARY 1995

Day	BEIJ From To 2840	PURP From To 2700	URUM From To 9375	YUNN From To 2840
1	0042 0740	0113 0803		
2	0118 0812	0040 0805		
3	0000 0740	0107 0744		
4	0009 0828	0048 0110 0236 0740		
5	0010 0825	0040 0744		
6	0005 0810	0050 0742		
7	0013 0805	0048 0823		
8	0030 0811	0047 0802		
9	0011 0737	0145 0211 0258 0743		
10	0020 0826	0055 0735		
11	0024 0730 2356 2400	0040 0735		
12	0000 0813 2353 2400	0055 0735		
13	0000 0738 2354 2400	0032 0740		
14	0000 0847 2355 2400	0040 0737		
15	0000 0807 2357 2400	0040 0720		
16	0000 0851 2350 2400	0045 0735		
17	0000 0901 2352 2400	0051 0730		
18	0000 0845 2353 2400	0022 0740		
19	0000 0843 2348 2400	0040 0740		
20	0000 0832 2358 2400	0038 0345		

INTERVALS OF SOLAR RADIO EMISSION PATROL OBSERVATION

JANUARY 1995

Day	BEIJ From To 2840	PURP From To 2700	URUM From To 9375	YUNN From To 2840
21	0000 0844 2345 2400	0036 0745		
22	0000 0858 2357 2400	0037 0752		
23	0000 0852	0050 0740		
24	0000 0857 2348 2400	0045 0740		
25	0000 0900 2348 2400	0035 0740		
26	0000 0833	0035 0740		
27	0001 0621	0041 0348		
28	0140 0739	0032 0737		
29	0126 0800	0032 0800		
30	0000 0659	0028 0800		
31	0050 0708	0043 0745		

COSMIC RAY NEUTRON INTENSITY

Real Counts: 256 Times (Tabulated Counts Plus 1500)

JAN 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	N
1	511	511	509	507	513	510	506	507	516	514	506	503	492	484	505	501	507	497	501	504	506	510	513	513	506.1	24
2	510	514	513	499	506	508	505	509	509	507	498	506	500	505	507	505	509	512	516	519	512	515	521	516	509.2	24
3	528	532	537	516	530	520	517	512	521	515	508	518	512	509	516	510	521	524	529	526	524	530	539	545	522.5	24
4	539	529	538	536	525	520	523	510	508	508	505	512	510	511	512	502	507	509	518	527	526	525	516	528	518.5	24
5	530	530	525	526	518	517	513	501	499	498	502	511	500	508	499	495	510	530	513	515	514	514	522	526	513.2	24
6	512	500	513	503	505	498	498	488	492	499	489	497	498	501	497	505	508	513	512	519	517	517	513	507	504.2	24
7	511	505	501	516	509	508	507	511	509	510	499	504	501	506	502	506	507	510	510	514	522	521	513	511	508.9	24
8	511	521	510	521	506	501	521	517	500	497	498	492	511	516	529	538	540	542	540	533	546	533	529	520	519.7	24
9	529	511	521	516	520	512	527	516	510	514	495	493	516	510	516	524	530	537	547	536	529	525	530	531	520.6	24
10	535	530	528	522	522	528	520	510	522	519	505	506	520	524	522	518	529	535	539	538	531	540	541	538	525.9	24
11	528	531	517	501	503	500	506	502	504	508	511	504	508	503	509	524	526	516	523	519	524	527	512	524	513.8	24
12	530	537	527	530	526	516	520	509	515	517	519	518	511	518	506	512	520	532	532	538	534	534	529	536	523.6	24
13	539	521	521	525	520	516	508	510	511	504	504	504	514	508	515	521	525	519	524	536	532	539	532	538	520.3	24
14							504	505	508	509	509	502	505	508	521	515	514	522	527	533	522	525	544	532	516.9	18
15	534	530	536	532	531	524	536	541	535	528	528	518	515	516	520	527	521	524	520	543	526	541	531	541	529.1	24
16	543	541	527	522	516	513	525	521	510	506	515	525	518	521	524	529	529	531	549	541	544	538	541	540	527.9	24
17	534	533	521	512	523	518	516	524	519	519	525	529	518	511	529	512	520	507	513	520	519	531	531	537	521.7	24
18	527	521	526	539	547	547	546	526	522	535	532	515	534	522	518	525	518	526	532	537	528	541	549	545	531.6	24
19	549	542	537	528	535	539	533	526	526	522	524	517	524	521	528	529	530	527	535	543	543	542	546	546	533.0	24
20	538	526	524	526	529	518	521	521	518	524	528	533	534	538	524	535	540	537	538	539	537	541	545	542	531.5	24
21	547	548	529	536	544	537	543	539	542	550	541	537	550	543	544	543	546	546	533	536	534	538	532	543	540.9	24
22	550	556	548	541	539	548	539	550	553	552	548	544	549	552	550	557	562	566	547	551	540	543	545	547	549.0	24
23	548	548	550	548	550	536	530	521	521	525	526	527	521	532	528	534	530	538	542	539	541	542	539	547	536.0	24
24	540	548	544	542	530	534	530	515	518	523	524	526	523	517	527	530	551	540	540	523	533	543	549	546	533.2	24
25	532	541	530	530	526	530	532	537	535	528	538	529	527	527	529	529	532	537	533	537	533	544	550	558	534.3	24
26	548	533	535	531	533	526	529	525	515	522	516	519	515	526	526	525	526	526	532	526	524	543	540	538	528.3	24
27	541	522	527	521	522	517	509	506	510	510	503	509	513	507	515	519	516	523	519	526	520	534	524	529	518.4	24
28	524	519	522	519	523	523	520	530	518	524	516	519	516	518	514	523	523	525	521	530	525	523	529	527	522.1	24
29	523	527	529	536	542	530	539	536	533	530	534	532	537	529	528	529	542	525	538	539	540	548	547	553	535.3	24
30	555	556	557	549	549	543	546	547	538	537	543	527	523	527	532	529	523	536	541	538	550	549	541	552	541.2	24
31	550	558	557	561	548	550	552	539	535	537	530	531	529	523	544	530	527	540	536	541	547	544	537	541	541.1	24

MONTHLY MEAN=525.154

MONTHLY MEAN DAILY VARIATION FOR 30 COMPLETE DAYS DEVIATIONS FROM AVERAGE:525.360

(1-12)	7.84	5.34	3.27	1.01	0.97	-2.46	-1.46	-5.16	-6.56	-5.96	-8.36	-8.53
(13-24)	-7.39	-7.59	-4.86	-3.16	0.47	2.31	3.74	5.74	4.67	8.47	7.51	10.14

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

U.T.=(1 7.66 -2.54 8.07 22.78) (2 -0.20 -0.46 0.50 8.21) (3 0.73 0.05 0.73 0.09) (4 0.53 -0.30 0.60 5.51)

L.T.=(1 -1.63 7.90 8.07 6.78) (2 -0.30 0.40 0.50 4.22) (3 0.73 0.05 0.73 0.09) (4 -0.01 0.60 0.60 1.51)

COSMIC RAY MESON INTENSITY
VERTICAL COMPONENT
Real Counts: 128 Times (Tabulated Counts Plus 3000)

JAN 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	N
1	16	27	18	26	31	39	45	26	26	16	27	0	1	0	0	0	9	9	27	28	17	24	21	26	19.1	24
2	20	23	36	23	36	34	39	39	31	33	18	23	10	24	8	6	25	40	32	31	25	25	20	29	26.3	24
3	45	32	43	43	40	38	23	38	45	27	24	32	16	23	36	28	23	33	35	32	24	38	37	46	33.4	24
4	40	45	58	46	59	51	47	47	47	33	42	24	35	33	22	21	34	27	47	40	32	31	37	43	39.2	24
5	53	53	57	53	46	63	39	30	38	39	13	21	37	31	28	38	25	55	41	37	28	30	22	43	38.3	24
6	49	36	40	47	36	21	29	30	34	30	23	30	18	22	31	26	20	26	24	31	23	32	24	31	29.7	24
7	25	20	22	16	29	12	27	29	18	17	15	4	15	22	11	18	13	23	26	9	16	23	23	29	19.3	24
8	33	18	35	38	16	24	19	6	10	11	2	9	16	15	18	20	28	20	22	31	21	14	16	23	19.4	24
9	27	33	25	32	18	16	23	18	5	16	27	-2	14	11	21	8	20	22	18	30	23	10	16	7	18.3	24
10	13	29	18	27	24	31	28	23	32	26	15	15	17	21	16	21	26	20	16	8	9	5	21	4	19.4	24
11	31	21	16	15	16	8	16	4	23	6	15	23	23	20	7	15	14	9	19	8	20	16	21	11	15.7	24
12	29	29	18	15	20	26	32	15	35	31	26	29	15	13	28	16	31	12	26	14	35	27	33	35	24.6	24
13	31	32	28	21	42	18	18	18	29	18	9	20	7	23	8	4	24	24	25	20	28	37	27	26	22.4	24
14	21	27	26	36	21	23	17	17	29	17	24	17	4	29	26	35	17	21	41	25	18	16	25	28	23.3	24
15	16	31	33	19	45	32	21	18	13	7	14	16	9	19	14	10	20	13	4	20	21	25	9	18	18.6	24
16					34	32	25	29	18	12	26	33	36	25	8	27	17	24	26	21	21	16	12	17	23.0	20
17	13	15	14	10	8	29	18	13	26	13	2	16	9	20	0	19	17	13	19	14	-4	10	8	6	12.8	24
18	27	12	15	19	21	26	32	9	17	26	21	10	-6	-1	-12	1	13	-2	14	9	15	22	28	28	14.3	24
19	45	37	34	13	26	35	18	24	21	10	4	20	16	4	2	-5	16	23	16	21	22	25	21	33	20.0	24
20	30	39	31	33	34	30	21	17	28	29	34	28	21	7	25	21	21	34	19	24	34	25	14	12	25.5	24
21	22	31	19	38	35	23	18	34	15	17	8	21	24	5	24	36	23	13	10	31	21	8	15	14	21.0	24
22	11	23	11	22	21	17	21	20	16	-3	-13	-10	17	27	20	9	0	-7	-1	10	7	12	34	13	11.5	24
23	35	21	23	24	20	20	22	16	20	21	17	22	24	23	16	4	29	17	11	39	27	15	24	18	21.2	24
24	41	31	16	20	35	26	26	27	33	30	26	40	34	26	20	27	28	18	11	-8	34	24	21	37	26.0	24
25	23	25	17	23	38	13	12	11	30	25	20	25	15	21	23	26	8	21	21	28	30	28	28	11	21.8	24
26	14	19	20	12	19	36	22	22	7	25	17	8	28	33	10	-1	13	31	27	31	27	23	32	41	21.5	24
27	37	31	25	34	29	30	34	32	20	30	35	26	18	29	7	33	28	15	30	21	40	45	44	45	29.9	24
28	33	29	32	39	48	52	45	35	36	33	17	38	24	30	26	22	23	40	36	41	40	39	33	39	34.6	24
29	42	39	42	50	54	43	57	57	40	44	31	29	28	24	18	32	37	20	40	28	29	40	44	43	38.0	24
30	47	42	62	57	69	62	50	48	32	37	36	33	26	17	37	42	29	37	50	45	47	51	53	49	44.1	24
31	46	73	51	55	58	55	64	42	47	27	39	46	31	30	40	36	29	28	48	44	39	47	42	54	44.6	24

MONTHLY MEAN= 25.064

MONTHLY MEAN DAILY VARIATION FOR 30 COMPLETE DAYS DEVIATIONS FROM AVERAGE: 25.122

(1-12)	5.38	5.64	4.38	5.08	8.01	5.98	4.31	0.38	1.64	-2.09	-5.52	-4.69
(13-24)	-6.92	-5.09	-7.46	-6.19	-3.69	-3.29	0.01	-0.39	-0.19	0.44	1.31	2.94

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

U.T.=(1 4.83 3.59 6.02 2.44) (2 -1.41 0.18 1.42 5.75) (3 -0.09 0.14 0.17 2.72) (4 0.58 0.16 0.61 0.25)

L.T.=(1 -5.53 2.39 6.02 10.44) (2 0.86 1.13 1.42 1.75) (3 -0.09 0.14 0.17 2.72) (4 -0.43 0.43 0.61 2.25)

COSMIC RAY MESON INTENSITY

Real Relative Intensity: 0.1% Times (Tabulated Value Plus 1000)

JAN 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	N
1	48	47	47	43	45	44	46	48	49	45	47	46	44	46	42	42	43	46	44	47	43	46	44	42	45.2	24
2	47	46	47	45	47	44	45	50	46	46	46	51	47	47	43	43	45	46	46	48	46	49	50	47	46.5	24
3	52	52	52	48	48	51	51	47	49	43	47	48	47	47	51	44	50	53	53	53	49	48	50	50	49.3	24
4	51	53	53	48	47	45	46	48	48	45	43	42	47	43	40	40	41	49	46	47	46	41	45	44	45.8	24
5	48	48	42	40	41	41	41	45	43	43	42	42	36	41	37	38	36	40	42	42	39	40	38	37	40.9	24
6	40	41	38	37	36	36	34	36	37	38	34	34	34	35	35	36	37	38	39	36	36	37	38	37	36.6	24
7	39	41	38	34	36	37	37	35	39	38	36	37	36	40	37	36	37	37	39	38	41	40	39	37	37.7	24
8	37	35	38	40	35	36	37	36	38	39	40	39	42	43	41	40	45	48	50	50	53	50	51	50	42.2	24
9	52	52	51	49	49	49	48	50	48	48	47	46	47	48	48	49	52	49	52	52	51	51	53	52	49.7	24
10	51	53	50	49	49	51	48	49	54	49	49	49	51	51	48	50	49	51	52	50	50	52	49	50	50.2	24
11	52	53	49	47	47	46	46	48	47	48	47	48	49	49	47	49	49	48	51	49	50	48	51	52	48.8	24
12	51	50	51	52	48	45	51	48	50	49	49	51	48	48	47	48	46	48	50	50	51	48	48	50	49.0	24
13	53	51	52	49	47	47	48	46	46	47	46	46	45	46	47	49	48	50	49	48	48	49	48	48	48.0	24
14	47	47	44	47	45	41	47	47	42	45	42	44	45	45	44	41	42	45	48	44	45	45	46	46	44.8	24
15	47	47	47	50	46	46	48	50	45	47	46	44	44	45	44	43	45	45	46	48	46	48	47	44	46.2	24
16	47	52	47	50	45	43	48	47	47	47	46	46	45	45	45	46	46	47	49	49	48	46	46	44	46.7	24
17	46	49	46	45	43	45	46	47	48	45	43	43	45	46	45	47	48	46	49	52	47	50	47	49	46.5	24
18	51	51	51	54	51	51	51	51	50	48	50	49	46	48	48	45	49	47	49	50	48	49	48	48	49.3	24
19	51	50	50	53	53	50	47	51	50	50	50	47	49	50	48	50	50	49	50	49	46	49	47	49	49.5	24
20	52	51	50	49	52	53	48	50	53	50	49	51	49	53	50	47	49	51	50	53	49	50	48	48	50.2	24
21	49	51	51	48	50	50	49	51	51	51	52	48	54	50	53	49	51	53	51	52	51	51	52	53	50.9	24
22	56	56	58	56	56	58	56	56	58	57	55	54	57	54	55	53	54	58	59	60	59	61	60	59	56.9	24
23	64	62	61	59	62	57	58	59	60	58	56	57	56	52	51	52	56	52	56	56	58	55	61	62	57.5	24
24	58	57	58	57	55	53	56	54	54	51	52	54	51	52	53	51	52	51	53	52	51	55	57	54	53.8	24
25	53	56	54	56	54	54	54	57	56	55	54	54	57	56	55	54	56	57	59	57	58	56	56	55	55.5	24
26	55	58	56	55	53	56	54	51	53	52	50	51	51	51	51	52	53	55	52	54	54	53	53	54	53.2	24
27	55	54	52	52	50	53	53	53	53	48	48	48	49	49	46	46	48	47	51	53	51	50	50	50	50.4	24
28	54	52	53	49	47	49	48	48	52	50	48	49	49	49	45	44	45	49	49	54	53	52	50	53	49.6	24
29	54	54	52	51	55	49	52	54	54	54	54	50	51	50	49	46	48	51	52	55	54	56	55	56	52.3	24
30	56	56	58	56	61	59	57	55	54	54	52	50	53	52	51	49	50	50	52	56	58	59	58	57	54.7	24
31	60	61	59	56	56	58	55	58	57	57	57	54	55	54	53	53	51	56	59	60	59	59	58	56	56.7	24

MONTHLY MEAN= 48.858

MONTHLY MEAN DAILY VARIATION FOR 31 COMPLETE DAYS DEVIATIONS FROM AVERAGE: 48.858

(1-12) 1.98 2.30 1.30 0.30 -0.18 -0.57 -0.31 0.34 0.53 -0.57 -1.21 -1.37

(13-24) -1.15 -0.95 -2.12 -2.66 -1.41 -0.08 1.05 1.59 0.76 0.92 0.92 0.59

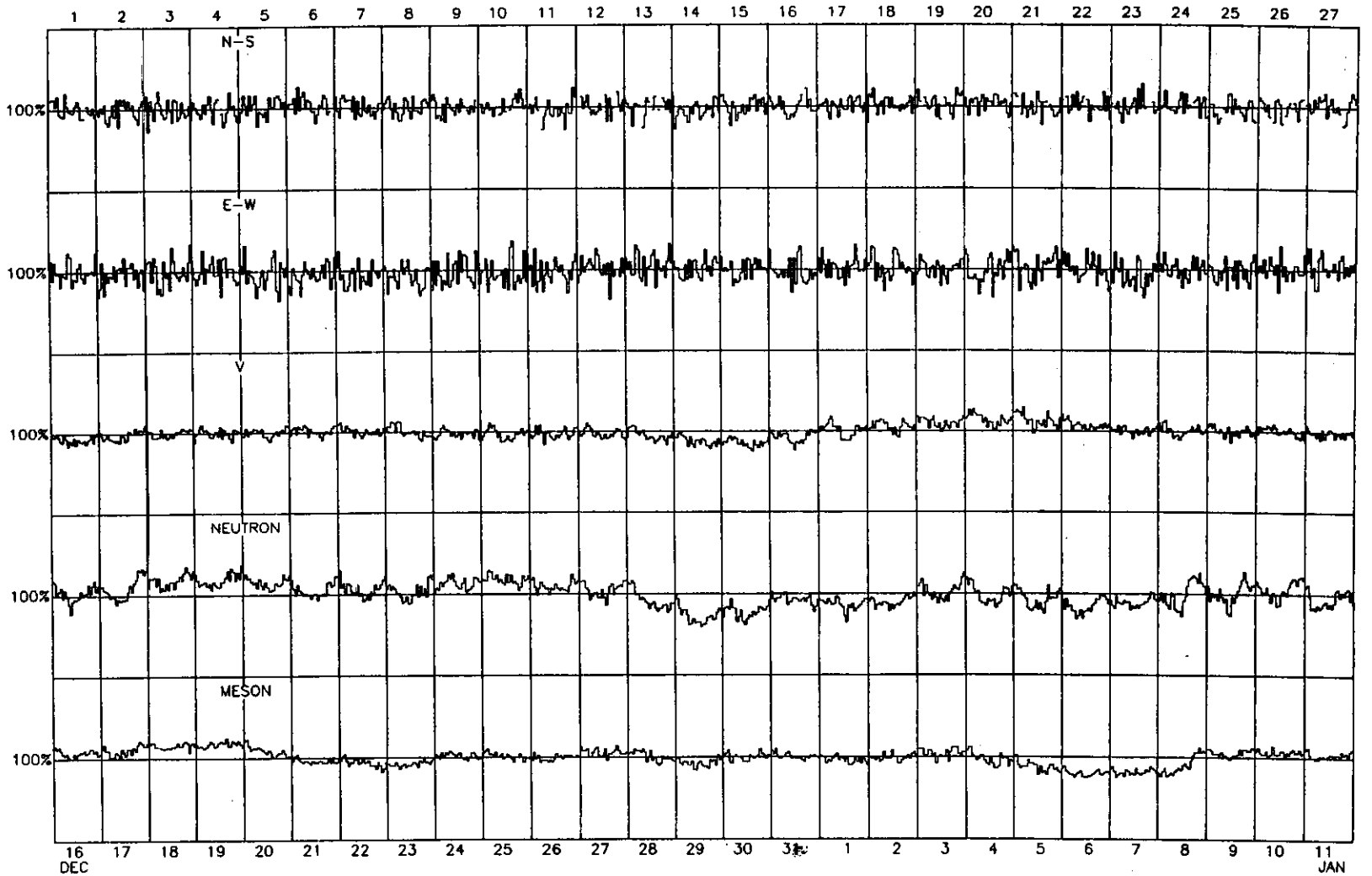
HARMONIC COMPONENTS (ORDER, COS, SIN, AMPLITUDE, MAX.-HR)

U.T.=(1 1.41 0.17 1.42 0.47) (2 0.05 -0.49 0.50 9.20) (3 -0.06 0.50 0.51 2.14) (4 0.12 0.66 0.67 1.33)

L.T.=(1 -0.86 1.13 1.42 8.47) (2 -0.45 0.20 0.50 5.20) (3 -0.06 0.50 0.51 2.14) (4 -0.63 -0.22 0.67 3.33)

COSMIC RAY INDICES

Bartels Rotation 2204 (DEC 1994–JAN 1995)



SUDDEN IONOSPHERIC DISTURBANCES (D REGION)

JANUARY 1995

Day	Sta	Start (UT)	Max (UT)	End (UT)	Imp	SPA LF	SPA VLF	SFA LF
03	LINT	0240	0248	0315	1-	- 0.5		- 1.1
03	LINT	0359	0403	0500	1	- 1.8		- 2.9
26	LINT	0208	0220	0300	1	- 1.4		- 2.9
26	LINT	0648	0655	0720	1-	- 0.6		+ 0.7
30	LINT	0111	0121	0155U	3	- 7.3		- 3.3,+ 5.7
31	LINT	0215	0231	0325	1+	- 2.8		- 4.6

GEOMAGNETIC ACTIVITY INDICES K AND A_K

JANUARY 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	2	1	1	3	2	1	3	2	15	8
2	2	2	3	3	3	4	4	3	24	16
3	4	3	5	4	3	5	3	3	30	26
4	3	3	3	3	5	3	3	2	25	18
5	2	2	3	4	3	5	3	3	25	19
6	2	2	2	3	4	2	3	3	21	13
7	2	2	3	3	3	3	1	2	19	11
8	3	2	2	2	3	2	3	1	18	10
9	2	1	2	1	1	1	2	1	11	5
10	1	1	2	3	4	1	3	3	18	11
11	3	3	2	4	5	2	2	2	23	17
12	2	2	3	2	2	2	1	2	16	8
13	2	3	3	1	3	1	1	2	16	9
14	1	1	2	1	0	2	1	2	10	4
15	1	1	1	1	2	1	0	1	8	3
16	1	2	3	5	4	3	4	3	25	20
17	2	2	3	5	5	5	5	5	32	34
18	4	3	4	3	2	3	2	2	23	15
19	2	1	1	2	2	1	1	2	12	5
20	2	2	1	1	2	2	4	2	16	9
21	2	2	1	2	1	3	3	2	16	8
22	2	1	1	3	3	3	2	2	17	9
23	2	2	2	2	2	1	2	2	15	7
24	2	2	1	3	2	1	1	1	13	6
25	1	2	2	3	2	1	2	1	14	7
26	1	0	1	2	2	1	1	1	9	4
27	1	1	1	2	3	2	1	0	11	5
28	1	1	0	1	1	1	2	2	9	4
29	2	4	3	5	5	6	5	5	35	40
30	3	3	3	4	4	4	5	2	28	23
31	4	3	2	2	4	3	3	2	23	15
									Sum	389
									Mean	12.5

MAGNETIC STORMS

JANUARY 1995 BGMO

Time of Magnetic						Sudden Com. Amplitude			Deg. of	Maximum Acti. on K-scale			Maximum Range		
Begining			Ending								3hour	k			
Day	h	m	Day	h	Type	D'	HnT	ZnT	Acti.	Day	Int.	Index	D'	HnT	ZnT
28	18	47	31	23	SC	0.1	8	0	ms	29	6	6	10.9	115	21

Data of quiet and disturbed days are not available.