

# 目 录

1997 年 9 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 $\alpha$ 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(Sd 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      | $10^{-6}$ ; Sq 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

|                           |                                                         |                    |                |
|---------------------------|---------------------------------------------------------|--------------------|----------------|
| Group:                    | 在日面上的黑子群号                                               | Imp:               | 耀斑资料类型         |
| CMP                       | 黑子群过日面中心经圈日期,用月一日表示。                                    | Obs                |                |
| Mo—Day:                   |                                                         | Type:              |                |
| Lat:                      | 黑子群在日面上的纬度                                              | A. R.:             | 耀斑所在活动区的黑子群号   |
| L:                        | 黑子群在日面上的卡林顿经度                                           | Rem:               | 备注(记录耀斑发生时的形态) |
| CMD:                      | 黑子群在日面上的中经距                                             |                    |                |
| Type:                     | 黑子群的 McIntosh 类型                                        | H $\alpha$ 耀斑巡视时间表 |                |
| r/R:                      | 黑子群在日面上的日心距(以太阳半径为 1)                                   | From:              | 耀斑照相巡视开始时间     |
|                           |                                                         | To:                | 耀斑照相巡视的结束时间    |
| 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。) | 太阳活动区磁场和速度场的观测表    |                |
| See:                      | 观测时大气视宁静度                                               | L $_0$ :           | 每天的日面中心经度      |
| 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。)  | Huairou            | 北京天文台怀柔观测站的    |
|                           |                                                         | Region:            | 活动区编号          |
|                           |                                                         | Data:              | 取得的磁场资料类型      |

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

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

BEIJ 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“ $\mu$  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“ $\mu$  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 最大幅度  
Range  
D' HnT ZnT:

# DAILY RELATIVE SUNSPOT NUMBERS AND SUNSPOT AREAS

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| Day  | Gro. | Relative-Numbers |      |      | Sunspot Areas |       |              |     |  |
|------|------|------------------|------|------|---------------|-------|--------------|-----|--|
|      |      | N.H.             | S.H. | Sum  | Drawing       |       | Photographic |     |  |
|      |      |                  |      |      | N.H.          | S.H.  |              | Sum |  |
|      |      |                  |      |      |               |       |              |     |  |
| 1    | 4    | 68               | 0    | 68   | 277           | 0     | 277          |     |  |
| 2    | 5    | 68               | 0    | 68   | 309           | 0     | 309          |     |  |
| 3    | 5    | 63               | 0    | 63   | 258           | 0     | 258          |     |  |
| 4    | 4    | 27               | 10   | 37   | 152           | 268   | 420          |     |  |
| 5    | 3    | 18               | 14   | 32   | 131           | 378   | 509          |     |  |
| 6    | 4    | 30               | 13   | 43   | 32            | 409   | 441          |     |  |
| 7    | 5    | 32               | 24   | 56   | 75            | 706   | 781          |     |  |
| 8    | 5    | 36               | 32   | 68   | 35            | 1033  | 1068         |     |  |
| 9    | 4    | 33               | 48   | 81   | 142           | 1237  | 1379         |     |  |
| 10   | 4    | 35               | 50   | 85   | 191           | 1422  | 1613         |     |  |
| 11   | 5    | 40               | 46   | 86   | 207           | 1224  | 1431         |     |  |
| 12   | 4    | 38               | 47   | 85   | 239           | 968   | 1207         |     |  |
| 13   | 4    | 26               | 38   | 64   | 276           | 902   | 1178         |     |  |
| 14   | 4    | 23               | 28   | 51   | 343           | 637   | 980          |     |  |
| 15   | 3    | 29               | 15   | 44   | 431           | 366   | 797          |     |  |
| 16   | 3    | 48               | 15   | 63   | 379           | 309   | 688          |     |  |
| 17   | 3    | 32               | 10   | 42   | 340           | 291   | 631          |     |  |
| 18   | 3    | 21               | 17   | 38   | 143           | 384   | 527          |     |  |
| 19   | 1    | 15               | 0    | 15   | 112           | 0     | 112          |     |  |
| 20   | 1    | 14               | 0    | 14   | 101           | 0     | 101          |     |  |
| 21   | 1    | 14               | 0    | 14   | 84            | 0     | 84           |     |  |
| 22   | 3    | 8                | 19   | 27   | 56            | 90    | 146          |     |  |
| 23   | 2    | 0                | 27   | 27   | 0             | 174   | 174          |     |  |
| 24   | 2    | 0                | 36   | 36   | 0             | 243   | 243          |     |  |
| 25   | 4    | 10               | 53   | 63   | 2             | 384   | 386          |     |  |
| 26   | 3    | 0                | 53   | 53   | 0             | 286   | 286          |     |  |
| 27   | 2    | 0                | 33   | 33   | 0             | 251   | 251          |     |  |
| 28   | 1    | 0                | 16   | 16   | 0             | 193   | 193          |     |  |
| 29   | 3    | 9                | 18   | 27   | 5             | 171   | 176          |     |  |
| 30   | 1    | 0                | 8    | 8    | 0             | 166   | 166          |     |  |
| Mean |      | 24.6             | 22.3 | 46.9 | 144.0         | 416.4 | 560.4        |     |  |

# DAILY SUNSPOT OBSERVATIONS

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| Day  | Group | CMP    |     | L   | CMD | Type | r/R  | Sd  | Corre. Area |     | Remarks |
|------|-------|--------|-----|-----|-----|------|------|-----|-------------|-----|---------|
|      |       | Mo-Day | Lat |     |     |      |      |     | Whole       | Max |         |
| 1.03 | 85    | 8-30.6 | 28  | 111 | 20W | FAI  | 0.45 | 442 | 247         | 169 | 0       |
|      | 90    | 8-30.5 | 21  | 112 | 20W | BXI  | 0.40 | 13  | 7           | 2   | 0       |
|      | 91    | 8-28.7 | 18  | 135 | 44W | BXD  | 0.69 | 13  | 9           | 6   | 0       |
|      | 92    | 9- 6.8 | 33  | 16  | 75E | AXX  | 0.95 | 8   | 14          | 7   | 0       |
| 2.10 | 85    |        |     |     | 34W | FAI  | 0.62 | 400 | 255         | 174 | 0       |
|      | 90    |        |     |     | 34W | BXI  | 0.57 | 17  | 10          | 3   | 0       |
|      | 91    |        |     |     | 59W | AXX  | 0.86 | 8   | 8           | 4   | 0       |
|      | 92    |        |     |     | 61E | HRX  | 0.87 | 29  | 30          | 26  | 0       |
|      | 93    | 9- 7.5 | 20  | 6   | 71E | AXX  | 0.93 | 4   | 6           | 6   | 0       |
| 3.06 | 85    |        |     |     | 47W | FAI  | 0.75 | 286 | 215         | 152 | 0       |
|      | 90    |        |     |     | 46W | BXI  | 0.71 | 13  | 9           | 3   | 0       |
|      | 91    |        |     |     | 72W | AXX  | 0.93 | 4   | 6           | 6   | 0       |
|      | 92    |        |     |     | 49E | HRX  | 0.79 | 29  | 24          | 21  | 0       |
|      | 93    |        |     |     | 58E | AXX  | 0.84 | 4   | 4           | 4   | 0       |
| 4.34 | 85    |        |     |     | 63W | CSI  | 0.87 | 139 | 143         | 134 | 0       |
|      | 92    |        |     |     | 39E | AXX  | 0.69 | 4   | 3           | 3   | 0       |
|      | 93    |        |     |     | 42E | AXX  | 0.66 | 8   | 6           | 3   | 0       |
|      | 94    | 9- 8.1 | -27 | 358 | 51E | DAI  | 0.87 | 261 | 268         | 156 | 0       |
| 5.08 | 85    |        |     |     | 76W | CSI  | 0.95 | 76  | 126         | 119 | 0       |
|      | 93    |        |     |     | 33E | BXI  | 0.57 | 8   | 5           | 3   | 0       |
|      | 94    |        |     |     | 41E | DAI  | 0.78 | 471 | 378         | 192 | 0       |
| 6.05 | 93    |        |     |     | 20E | BXI  | 0.40 | 38  | 21          | 7   | 0       |
|      | 94    |        |     |     | 27E | DAI  | 0.68 | 601 | 409         | 223 | 0       |
|      | 95    | 9- 7.2 | 33  | 10  | 16E | AXX  | 0.49 | 4   | 2           | 2   | 0       |
|      | 96    | 9-10.8 | 21  | 323 | 63E | AXX  | 0.89 | 8   | 9           | 9   | 0       |
| 7.08 | 93    |        |     |     | 6E  | DRI  | 0.25 | 118 | 61          | 28  | 0       |
|      | 94    |        |     |     | 13E | DKI  | 0.60 | 807 | 504         | 294 | 0       |
|      | 95    |        |     |     | 2E  | BXD  | 0.44 | 8   | 5           | 2   | 0       |
|      | 96    |        |     |     | 48E | BXD  | 0.74 | 13  | 9           | 6   | 0       |
|      | 97    | 9-12.6 | -25 | 299 | 73E | DAI  | 0.97 | 105 | 202         | 105 | 0       |
| 8.04 | 93    |        |     |     | 6W  | CRI  | 0.25 | 38  | 20          | 9   | 0       |
|      | 94    |        |     |     | 1E  | DKC  | 0.56 | 841 | 509         | 280 | 0       |

PURP

# DAILY SUNSPOT OBSERVATIONS

SEPTEMBER 1997

| Day   | Group | CMP    |  | Lat | L   | CMD | Type | r/R  | Sd   | Corre. Area |     | See. | Remarks |
|-------|-------|--------|--|-----|-----|-----|------|------|------|-------------|-----|------|---------|
|       |       | Mo-Day |  |     |     |     |      |      |      | Whole       | Max |      |         |
| 95    |       |        |  |     |     | 9W  | AXX  | 0.49 | 4    | 2           | 2   | 0    |         |
| 96    |       |        |  |     |     | 36E | BXI  | 0.61 | 21   | 13          | 5   | 0    |         |
| 97    |       |        |  |     |     | 61E | EKI  | 0.92 | 412  | 524         | 428 | 0    |         |
| 9.05  | 93    |        |  |     |     | 20W | BXO  | 0.38 | 13   | 7           | 2   | 0    |         |
|       | 94    |        |  |     |     | 12W | DKC  | 0.59 | 955  | 589         | 306 | 0    |         |
|       | 96    |        |  |     |     | 23E | DAI  | 0.43 | 244  | 135         | 84  | 0    |         |
|       | 97    |        |  |     |     | 48E | FKI  | 0.82 | 749  | 648         | 437 | 0    |         |
| 10.04 | 93    |        |  |     |     | 31W | BXO  | 0.54 | 8    | 5           | 2   | 0    |         |
|       | 94    |        |  |     |     | 24W | DKC  | 0.66 | 1135 | 751         | 395 | 0    |         |
|       | 96    |        |  |     |     | 10E | EAI  | 0.28 | 357  | 186         | 103 | 0    |         |
|       | 97    |        |  |     |     | 34E | FKI  | 0.72 | 925  | 671         | 494 | 0    |         |
| 11.06 | 93    |        |  |     |     | 42W | AXX  | 0.67 | 8    | 6           | 3   | 0    |         |
|       | 94    |        |  |     |     | 37W | DKI  | 0.76 | 883  | 678         | 387 | 0    |         |
|       | 95    |        |  |     |     | 51W | AXX  | 0.79 | 4    | 3           | 3   | 0    |         |
|       | 96    |        |  |     |     | 4W  | CAI  | 0.25 | 383  | 198         | 174 | 0    |         |
|       | 97    |        |  |     |     | 20E | FKI  | 0.61 | 866  | 546         | 390 | 0    |         |
| 12.11 | 94    |        |  |     |     | 51W | DHI  | 0.86 | 509  | 502         | 303 | 0    |         |
|       | 96    |        |  |     |     | 18W | EAI  | 0.38 | 429  | 232         | 182 | 0    |         |
|       | 97    |        |  |     |     | 6E  | FKI  | 0.53 | 791  | 466         | 372 | 0    |         |
|       | 98    | 9-17.8 |  | 26  | 230 | 78E | AXX  | 0.95 | 4    | 7           | 7   | 0    | PURP    |
| 13.11 | 94    |        |  |     |     | 62W | DHI  | 0.93 | 315  | 432         | 230 | 0    |         |
|       | 96    |        |  |     |     | 30W | ESI  | 0.54 | 450  | 267         | 200 | 0    |         |
|       | 97    |        |  |     |     | 6W  | FKI  | 0.54 | 791  | 470         | 375 | 0    |         |
|       | 98    |        |  |     |     | 62E | BXO  | 0.87 | 8    | 9           | 4   | 0    |         |
| 14.11 | 94    |        |  |     |     | 75W | DHO  | 0.98 | 76   | 178         | 99  | 0    |         |
|       | 96    |        |  |     |     | 42W | ESI  | 0.68 | 366  | 249         | 172 | 0    |         |
|       | 97    |        |  |     |     | 19W | EHI  | 0.60 | 736  | 459         | 380 | 0    |         |
|       | 98    |        |  |     |     | 48E | CSO  | 0.76 | 122  | 94          | 90  | 0    |         |
| 15.17 | 96    |        |  |     |     | 56W | EAI  | 0.82 | 311  | 269         | 156 | 0    |         |
|       | 97    |        |  |     |     | 33W | FHI  | 0.69 | 530  | 366         | 328 | 0    |         |
|       | 98    |        |  |     |     | 34E | DSI  | 0.61 | 257  | 162         | 106 | 0    |         |
| 16.04 | 96    |        |  |     |     | 65W | DAI  | 0.89 | 160  | 172         | 63  | 0    | PURP    |

# DAILY SUNSPOT OBSERVATIONS

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| Day Group | CMP | Mo-Day | Lat | L | CMD | Type | r/R | Sd | Whole | Max | Corre. Area | See. Remarks |
|-----------|-----|--------|-----|---|-----|------|-----|----|-------|-----|-------------|--------------|
|-----------|-----|--------|-----|---|-----|------|-----|----|-------|-----|-------------|--------------|

|     |        |     |      |      |     |     |     |      |     |     |      |     |     |     |   |      |
|-----|--------|-----|------|------|-----|-----|-----|------|-----|-----|------|-----|-----|-----|---|------|
| 97  | 44W    | EKO | 0.82 | 357  | 309 | 306 | 0   | PURP | 25E | DAI | 0.51 | 357 | 207 | 137 | 0 | PURP |
| 98  | 25E    | DAI | 0.51 | 357  | 309 | 306 | 0   | PURP | 79W | DRD | 0.97 | 76  | 145 | 65  | 0 |      |
| 96  | 17.22  | 79W | DRD  | 0.97 | 76  | 145 | 65  | 0    | 60W | CHI | 0.91 | 244 | 291 | 286 | 0 |      |
| 97  |        | 8E  | EAI  | 0.34 | 366 | 195 | 134 | 0    | 73W | HXX | 0.97 | 198 | 380 | 372 | 0 |      |
| 98  |        | 4W  | EAI  | 0.33 | 269 | 143 | 116 | 0    | 5E  | AXX | 0.20 | 8   | 4   | 2   | 0 |      |
| 99  | 9-18.5 | -3  | 221  |      |     |     |     |      | 18W | CAO | 0.43 | 202 | 112 | 102 | 0 |      |
| 98  | 20.33  | 98  |      |      |     |     |     |      | 33W | CAO | 0.59 | 164 | 101 | 91  | 0 |      |
| 98  | 21.08  | 98  |      |      |     |     |     |      | 43W | CAO | 0.69 | 122 | 84  | 73  | 0 |      |
| 98  | 22.13  | 98  |      |      |     |     |     |      | 56W | HAX | 0.83 | 63  | 56  | 56  | 0 |      |
| 100 | 9-25.6 | -28 | 127  |      |     |     |     |      | 48E | BXI | 0.85 | 21  | 20  | 8   | 0 |      |
| 101 | 9-27.2 | -22 | 106  |      |     |     |     |      | 69E | CSO | 0.95 | 42  | 70  | 63  | 0 |      |
| 100 | 23.19  | 100 |      |      |     |     |     |      | 31E | DAI | 0.72 | 177 | 128 | 98  | 0 |      |
| 101 |        |     |      |      |     |     |     |      | 54E | HRX | 0.86 | 46  | 46  | 46  | 0 |      |
| 100 | 24.09  | 100 |      |      |     |     |     |      | 20E | ESI | 0.64 | 328 | 214 | 159 | 0 |      |
| 101 |        |     |      |      |     |     |     |      | 42E | HRX | 0.76 | 38  | 29  | 29  | 0 |      |
| 100 | 25.05  | 100 |      |      |     |     |     |      | 7E  | DAI | 0.61 | 585 | 369 | 239 | 0 | PURP |
| 101 |        |     |      |      |     |     |     |      | 29E | HRX | 0.66 | 17  | 11  | 6   | 0 | PURP |
| 102 | 9-27.1 | 22  | 108  |      |     |     |     |      | 26E | AXX | 0.48 | 4   | 2   | 2   | 0 | PLAT |
| 103 | 9-28.0 | -23 | 95   |      |     |     |     |      | 43E | AXX | 0.81 | 4   | 4   | 4   | 0 | PURP |
| 100 | 26.03  | 100 |      |      |     |     |     |      | 5W  | DAO | 0.61 | 442 | 278 | 217 | 0 | PURP |
| 101 |        |     |      |      |     |     |     |      | 17E | AXX | 0.54 | 4   | 2   | 2   | 0 | PURP |
| 103 |        |     |      |      |     |     |     |      | 28E | BXO | 0.68 | 8   | 6   | 3   | 0 | PURP |
| 100 | 27.14  | 100 |      |      |     |     |     |      | 20W | DAI | 0.67 | 370 | 249 | 180 | 0 | PURP |
| 103 |        |     |      |      |     |     |     |      | 15E | AXX | 0.56 | 4   | 2   | 2   | 0 | PLAT |
| 100 | 28.02  | 100 |      |      |     |     |     |      | 32W | DAO | 0.75 | 256 | 193 | 168 | 0 | PURP |

# DAILY SUNSPOT OBSERVATIONS

SEPTEMBER 1997

| Day   | Group | CMP    |     | L   | CMD Type | r/R  | Sd  | Corre. Area |     | See. | Remarks |
|-------|-------|--------|-----|-----|----------|------|-----|-------------|-----|------|---------|
|       |       | Mo-Day | Lat |     |          |      |     | Whole       | Max |      |         |
| 29.28 | 100   |        |     |     | 47W DAO  | 0.84 | 181 | 166         | 158 | 0    |         |
|       | 103   |        |     |     | 11W BXO  | 0.54 | 8   | 5           | 2   | 0    | PLAT    |
|       | 104   | 9-27.2 | 24  | 106 | 24W BXO  | 0.47 | 8   | 5           | 2   | 0    | PURP    |
| 30.04 | 100   |        |     |     | 57W CAO  | 0.91 | 139 | 166         | 161 | 0    |         |

## PREDICTED SMOOTHED SUNSPOT NUMBERS

APRIL 1997 — MARCH 1998

| Date | Apr 97 | May 97 | Jun 97 | Jul 97 | Aug 97 | Sep 97 |
|------|--------|--------|--------|--------|--------|--------|
| R'   | 17.4   | 20.3   | 22.7   | 24.3   | 25.7   | 27.1   |
| E'   | 0.9    | 1.6    | 2.3    | 3.6    | 5.4    | 6.0    |
| Date | Oct 97 | Nov 97 | Dec 97 | Jan 98 | Feb 98 | Mar 98 |
| R'   | 28.2   | 29.8   | 31.3   | 32.2   | 33.7   | 35.4   |
| E'   | 6.2    | 8.0    | 11.0   | 12.5   | 13.2   | 13.5   |

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

E': The error of the predicted value.

### Correction of Errors

In page 4, Issue No.273, 1996 a wrong table of predicted sunspot numbers was given. That table should be as follows:

## PREDICTED SMOOTHED SUNSPOT NUMBERS

JUNE 1996 — MAY 1997

| Date | Jun 96 | Jul 96 | Aug 96 | Sep 96 | Oct 96 | Nov 96 |
|------|--------|--------|--------|--------|--------|--------|
| R'   | 8.4    | 8.4    | 8.6    | 9.0    | 9.5    | 9.9    |
| E'   | 0.4    | 0.7    | 0.9    | 1.4    | 2.0    | 2.2    |
| Date | Dec 96 | Jan 97 | Feb 97 | Mar 97 | Apr 97 | May 97 |
| R'   | 10.4   | 10.8   | 11.4   | 12.1   | 13.3   | 14.5   |
| E'   | 2.3    | 2.8    | 4.1    | 4.6    | 5.6    | 5.6    |

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

E': The error of the predicted value.

# H-ALPHA SOLAR FLARES

SEPTEMBER 1997

| Day | Sta  | T i m e       |             |             | Lat | L   | CMD | Area Measurement |               |              |    | Obs | Type | A.R. | Rem |
|-----|------|---------------|-------------|-------------|-----|-----|-----|------------------|---------------|--------------|----|-----|------|------|-----|
|     |      | Start<br>(UT) | Max<br>(UT) | End<br>(UT) |     |     |     | Cen<br>Dist      | Appar<br>(Sd) | Corr<br>(Sq) |    |     |      |      |     |
|     |      |               |             |             |     |     |     |                  |               |              |    |     |      |      |     |
| 23  | URUM | 0418          | 0426        | 0437        | S27 | 126 | E33 | .726             | 48            | 0.7          | SN | P   | 100  | D    |     |
| 23  | URUM | 0447          | 0457        | 0513        | S27 | 126 | E32 | .724             | 32            | 0.5          | SN | P   | 100  | D    |     |
| 24  | URUM | 0530          | 0538        | 0544        | S28 | 123 | E21 | .653             | 48            | 0.7          | SB | P   | 100  | E    |     |
| 24  | URUM | 0702E         | 0703        | 0715        | S28 | 123 | E21 | .644             | 145           | 2.0          | SB | P   | 100  | D    |     |
| 24  | URUM | 1101          | 1104        | 1113        | S27 | 123 | E18 | .618             | 289           | 3.8          | 1B | P   | 100  | E    |     |
| 25  | URUM | 0322          | 0330        | 0342        | S29 | 123 | E10 | .601             | 113           | 1.5          | SB | P   | 100  | E    |     |
| 26  | URUM | 0317          | 0319        | 0337        | S29 | 128 | W 8 | .593             | 225           | 2.9          | 1B | P   | 100  | E    |     |

# INTERVALS OF H-ALPHA FLARE PATROL OBSERVATION

## SEPTEMBER 1997

| Day | From | To  | From | To   | From | To   | From | To   | From | To | From | To |
|-----|------|-----|------|------|------|------|------|------|------|----|------|----|
| 1   |      |     |      |      |      |      |      |      |      |    |      |    |
| 2   | 308  | 330 | 1107 | 1141 |      |      |      |      |      |    |      |    |
| 3   | 59   | 152 | 457  | 530  |      |      |      |      |      |    |      |    |
| 4   | 144  | 352 | 451  | 530  |      |      |      |      |      |    |      |    |
| 5   |      |     |      |      |      |      |      |      |      |    |      |    |
| 6   |      |     |      |      |      |      |      |      |      |    |      |    |
| 7   |      |     |      |      |      |      |      |      |      |    |      |    |
| 8   |      |     |      |      |      |      |      |      |      |    |      |    |
| 9   |      |     |      |      |      |      |      |      |      |    |      |    |
| 10  |      |     |      |      |      |      |      |      |      |    |      |    |
| 11  |      |     |      |      |      |      |      |      |      |    |      |    |
| 12  |      |     |      |      |      |      |      |      |      |    |      |    |
| 13  |      |     |      |      |      |      |      |      |      |    |      |    |
| 14  |      |     |      |      |      |      |      |      |      |    |      |    |
| 15  |      |     |      |      |      |      |      |      |      |    |      |    |
| 16  |      |     |      |      |      |      |      |      |      |    |      |    |
| 17  |      |     |      |      |      |      |      |      |      |    |      |    |
| 18  |      |     |      |      |      |      |      |      |      |    |      |    |
| 19  |      |     |      |      |      |      |      |      |      |    |      |    |
| 20  |      |     |      |      |      |      |      |      |      |    |      |    |
| 21  |      |     |      |      |      |      |      |      |      |    |      |    |
| 22  | 636  | 726 |      |      |      |      |      |      |      |    |      |    |
| 23  | 347  | 555 | 849  | 910  | 922  | 937  |      |      |      |    |      |    |
| 24  | 314  | 544 | 632  | 730  | 1020 | 1116 |      |      |      |    |      |    |
| 25  | 240  | 305 | 315  | 440  | 523  | 545  | 901  | 1108 |      |    |      |    |
| 26  | 244  | 337 | 400  | 600  |      |      |      |      |      |    |      |    |
| 27  |      |     |      |      |      |      |      |      |      |    |      |    |
| 28  |      |     |      |      |      |      |      |      |      |    |      |    |
| 29  |      |     |      |      |      |      |      |      |      |    |      |    |
| 30  |      |     |      |      |      |      |      |      |      |    |      |    |

Combined reports from the observatories listed below:

URUM

# OBSERVATION OF MAGNETIC AND VELOCITY FIELDS OF SOLAR ACTIVE REGIONS

SEPTEMBER 1997

HUAIROU ST. BEIJING OBS.

| Day | L0    | Huairou<br>Region | Lat | L   | Data                             |
|-----|-------|-------------------|-----|-----|----------------------------------|
| 1   | 92.1  | 57                | 19  | 138 | S5 L5                            |
|     |       | 58                | 28  | 112 | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 59                | 33  | 13  | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 2   | 78.8  | 57                |     |     | S5 L5                            |
|     |       | 58                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 59                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 60                | 22  | 6   | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 3   | 65.6  | 58                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 59                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 60                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 4   | 52.4  | 58                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 59                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 60                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 61                | -29 | 359 | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 5   | 39.2  | 58                |     |     | S5 L5                            |
|     |       | 60                |     |     | S5 L5                            |
|     |       | 61                |     |     | S5 L5 T5 Q5 U5                   |
| 6   | 26.0  | 60                |     |     | S5 L5                            |
|     |       | 61                |     |     | S4 D4 V4 S5 L5 D5 V5 T5 Q5 U5    |
|     |       | 59                |     |     | S4 D4 V4 S5 L5 D5 V5 T5 Q5 U5    |
| 8   | 359.6 | 60                |     |     | S5 L5                            |
|     |       | 61                |     |     | S5 L5                            |
|     |       | 59                |     |     | S5 L5                            |
| 11  | 341.7 | 60                |     |     | L5                               |
|     |       | 61                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 62                | 22  | 321 | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 63                | -28 | 294 | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 13  | 293.5 | 61                |     |     | D4 V4 S5 L5 D5 V5                |
|     |       | 62                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 63                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 64                | 27  | 229 | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |

# OBSERVATION OF MAGNETIC AND VELOCITY FIELDS OF SOLAR ACTIVE REGIONS

SEPTEMBER 1997

HUAIROU ST. BEIJING OBS.

| Day | LO    | Huairou<br>Region | Lat | L   | Data                             |
|-----|-------|-------------------|-----|-----|----------------------------------|
| 14  | 280.4 | 61                |     |     | S5 L5                            |
|     |       | 62                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 64                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 16  | 253.9 | 62                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 64                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 63                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 17  | 240.7 | 62                |     |     | S5 L5                            |
|     |       | 64                |     |     | S5 L5                            |
|     |       | 63                |     |     | S5 L5                            |
| 18  | 227.5 | 64                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 63                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 19  | 214.3 | 64                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 20  | 201.1 | 64                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 21  | 187.9 | 64                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 22  | 174.7 | 64                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 65                | -30 | 124 | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 66                | -23 | 108 | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 23  | 161.5 | 64                |     |     | S5 L5                            |
|     |       | 65                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 66                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 25  | 135.1 | 65                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 66                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 26  | 121.9 | 65                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 66                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 27  | 108.8 | 65                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
|     |       | 66                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 28  | 95.6  | 65                |     |     | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |

# OBSERVATION OF MAGNETIC AND VELOCITY FIELDS OF SOLAR ACTIVE REGIONS

SEPTEMBER 1997

HUAIROU ST. BEIJING OBS.

| Day                                | LO   | Huairou<br>Region | Lat | L | Data                             |
|------------------------------------|------|-------------------|-----|---|----------------------------------|
|                                    |      | 66                |     |   | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 29                                 | 82.3 | 65                |     |   | S4 L4 D4 V4 S5 L5 D5 V5 T5 Q5 U5 |
| 30                                 | 69.2 | 65                |     |   | S5 L5                            |
| NPL: 13 14 16 17 19 21 22 27 28 29 |      |                   |     |   |                                  |

# SOLAR RADIO EMISSION FLUX

SEPTEMBER 1997

| Day  | BEIJ<br>2840 | PURP<br>2700 | URUM<br>9375 | YUNN<br>2840 |
|------|--------------|--------------|--------------|--------------|
| 1    | 96           | 89           |              |              |
| 2    | 94           | 89           |              |              |
| 3    | 99           | 94           |              |              |
| 4    | 95           | 91           |              |              |
| 5    | 96           | 94           |              |              |
| 6    | 94           | 94           |              |              |
| 7    | 96           | 98           |              |              |
| 8    | 97           | 96           |              |              |
| 9    | 102          | 110          |              |              |
| 10   | 116          | 113          |              |              |
| 11   | 116          |              |              |              |
| 12   | 112          |              |              |              |
| 13   | 112          | 101          |              |              |
| 14   | 104          | 105          |              |              |
| 15   | 103          | 102          |              |              |
| 16   | 99           | 91           |              |              |
| 17   | 89           | 87           |              |              |
| 18   | 91           | 83           |              |              |
| 19   | 88           | 83           |              |              |
| 20   | 89           | 83           |              |              |
| 21   | 86           | 83           |              |              |
| 22   | 84           | 82           |              |              |
| 23   | 90           | 81           |              |              |
| 24   | 92           | 84           |              |              |
| 25   | 92           | 90           |              |              |
| 26   | 89           | 88           |              |              |
| 27   | 88           | 84           |              |              |
| 28   | 88           | 84           |              |              |
| 29   | 89           | 82           |              |              |
| 30   | 87           | 83           |              |              |
| Mean | 95.8         | 90.9         |              |              |

# SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

SEPTEMBER 1997

| Day | Freq | Sta | Type | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Peak<br>Flux | Rel<br>Density | Mean |
|-----|------|-----|------|---------------|----------------------------|-------------------|--------------|----------------|------|
|-----|------|-----|------|---------------|----------------------------|-------------------|--------------|----------------|------|

|    |      |      |        |        |        |      |       |       |  |
|----|------|------|--------|--------|--------|------|-------|-------|--|
| 02 | 2840 | BEIJ | 1 S    | 0656.0 | 0658.5 | 3.0  | 3.3   | 3.6   |  |
| 02 | 2840 | BEIJ | 4 S/F  | 2356.0 | 2359.0 | 5.0  | 67.4  | 68.1  |  |
| 03 | 2840 | BEIJ | 20 GRF | 0205.0 | 0208.0 | 14.0 | 10.2  | 10.3  |  |
| 10 | 2840 | BEIJ | 5 S    | 0022.0 | 0026.5 | 8.0  | 12.0  | 10.3  |  |
| 10 | 2840 | BEIJ | 20 GRF | 0515.0 | 0519.0 | 13.0 | 2.6   | 2.2   |  |
| 15 | 2840 | BEIJ | 5 S    | 0148.0 | 0211.0 | 30.0 | 7.2   | 7.0   |  |
| 22 | 2840 | BEIJ | 3 S    | 0044.0 | 0048.0 | 8.0  | 42.1  | 50.0  |  |
| 22 | 2700 | PURP | 1 S    | 0047.6 | 0049.0 | 2.0  | 23.0  |       |  |
| 24 | 2840 | BEIJ | 47 GB  | 0237.0 | 0248.0 | 33.0 | 513.0 | 518.0 |  |
| 24 | 2700 | PURP | 47 GB  | 0242.9 | 0248.0 | 20.1 | 495.0 |       |  |
| 24 | 2840 | BEIJ | 5 S    | 0530.0 | 0534.0 | 9.0  | 55.3  | 60.0  |  |
| 25 | 2700 | PURP | 4 S/F  | 0319.3 | 0321.3 | 9.7  | 10.0  |       |  |
| 26 | 2840 | BEIJ | 5 S    | 0313.0 | 0316.0 | 14.0 | 55.5  | 62.0  |  |
| 26 | 2700 | PURP | 20 GRF | 0314.4 | 0316.3 | 10.6 | 8.0   |       |  |

# INTERVALS OF SOLAR RADIO EMISSION PATROL OBSERVATION

SEPTEMBER 1997

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

13

|    |           |           |
|----|-----------|-----------|
| 1  | 0000 1001 | 0023 0808 |
| 2  | 2307 2400 | 0119 0805 |
|    | 0000 1026 |           |
|    | 2258 2400 |           |
| 3  | 0000 1025 | 0040 0809 |
|    | 2254 2400 |           |
| 4  | 0000 1009 | 0043 0810 |
|    | 2246 2400 |           |
| 5  | 0000 1005 | 0058 0808 |
|    | 2322 2400 |           |
| 6  | 0000 1004 | 0035 0805 |
|    | 2247 2400 |           |
| 7  | 0000 1002 | 0035 0807 |
|    | 2301 2400 |           |
| 8  | 0000 1008 | 0042 0810 |
|    | 2309 2400 |           |
| 9  | 0000 1014 | 0048 0800 |
|    | 2239 2400 |           |
| 10 | 0000 1018 | 0037 0803 |
|    | 2251 2400 |           |
| 11 | 0000 1013 | 0044 0106 |
|    | 2306 2400 | 0216 0806 |
| 12 | 0000 1010 | 0027 0805 |
|    | 2250 2400 |           |
| 13 | 0000 1003 | 0049 0807 |
|    | 2310 2400 |           |
| 14 | 0000 1011 | 0025 0806 |
|    | 2250 2400 |           |
| 15 | 0000 1017 | 0059 0800 |
|    | 2246 2400 |           |
| 16 | 0000 0952 | 0100 0605 |
|    | 2246 2400 |           |
| 17 | 0000 0745 | 0350 0740 |
|    | 2310 2400 |           |
| 18 | 0000 1000 | 0026 0800 |
|    | 2257 2400 |           |
| 19 | 0000 1001 | 0039 0810 |
|    | 2245 2400 |           |
| 20 | 0000 1002 | 0048 0805 |
|    | 2256 2400 |           |

# INTERVALS OF SOLAR RADIO EMISSION PATROL OBSERVATION

SEPTEMBER 1997

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

|    |           |           |
|----|-----------|-----------|
| 21 | 0000 1005 | 0045 0805 |
| 22 | 2323 2400 | 0030 0800 |
|    | 0000 0952 |           |
|    | 2258 2400 |           |
| 23 | 0000 0944 | 0020 0807 |
|    | 2305 2400 |           |
| 24 | 0000 0957 | 0033 0807 |
|    | 2326 2400 |           |
| 25 | 0000 0948 | 0057 0809 |
|    | 2234 2400 |           |
| 26 | 0000 0720 | 0021 0807 |
|    | 2332 2400 |           |
| 27 | 0000 1003 | 0033 0805 |
|    | 2239 2400 |           |
| 28 | 0000 0941 | 0032 0803 |
|    | 2328 2400 |           |
| 29 | 0000 0942 | 0030 0807 |
|    | 2319 2400 |           |
| 30 | 0000 0934 | 0043 0810 |
|    | 2305 2400 |           |