

# 目 录

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1988, 8 - 9

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DAILY RELATIVE SUNSPOT NUMBERS AND SUNSPOT AREAS

AUGUST 1988

| Relative-Numbers |  |  |  |  |  |      |  |  |  |  |  | Sunspot Areas |  |  |  |  |  |     |  |  |  |  |  |
|------------------|--|--|--|--|--|------|--|--|--|--|--|---------------|--|--|--|--|--|-----|--|--|--|--|--|
| Day Gro.         |  |  |  |  |  | N.H. |  |  |  |  |  | S.H.          |  |  |  |  |  | Sum |  |  |  |  |  |
| N.H.             |  |  |  |  |  | S.H. |  |  |  |  |  | Sum           |  |  |  |  |  | Sum |  |  |  |  |  |
| N.H.             |  |  |  |  |  | S.H. |  |  |  |  |  | Sum           |  |  |  |  |  | Sum |  |  |  |  |  |
| N.H.             |  |  |  |  |  | S.H. |  |  |  |  |  | Sum           |  |  |  |  |  | Sum |  |  |  |  |  |
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# DAILY RELATIVE SUNSPOT NUMBERS AND SUNSPOT AREAS

SEPTEMBER 1988

| Day  | Gro. | Relative-Numbers |      |       | N.H.  | Drawing |       | Sunspot Areas |      |      |
|------|------|------------------|------|-------|-------|---------|-------|---------------|------|------|
|      |      | N.H.             | S.H. | Sum   |       | S.H.    | Sum   | N.H.          | S.H. | Sum  |
| 1    | 8    | 70               | 79   | 149   | 270   | 1822    | 2092  |               |      |      |
| 2    | 8    | 63               | 61   | 124   | 173   | 1472    | 1645  |               |      |      |
| 3    | 8    | 67               | 64   | 131   | 173   | 1464    | 1637  |               |      |      |
| 4    | 9    | 68               | 78   | 146   | 131   | 1258    | 1389  |               |      |      |
| 5    | 9    | 68               | 77   | 145   | 106   | 1366    | 1472  |               |      |      |
|      |      |                  |      |       |       |         |       |               |      |      |
| 6    | 8    | 26               | 58   | 84    | 25    | 1218    | 1243  |               |      |      |
| 7    | 10   | 53               | 50   | 103   | 80    | 1024    | 1104  | 59            | 1084 | 1143 |
| 8    | 9    | 40               | 38   | 78    | 117   | 964     | 1081  | 34            | 1272 | 1306 |
| 9    | 8    | 42               | 30   | 72    | 144   | 379     | 523   |               |      |      |
| 10   | 7    | 41               | 33   | 74    | 150   | 102     | 252   | 168           | 84   | 252  |
|      |      |                  |      |       |       |         |       |               |      |      |
| 11   | 8    | 35               | 35   | 70    | 172   | 317     | 489   | 89            | 47   | 136  |
| 12   | 8    | 30               | 49   | 79    | 89    | 273     | 362   | 155           | 602  | 757  |
| 13   | 10   | 57               | 49   | 106   | 179   | 428     | 607   | 174           | 572  | 746  |
| 14   | 7    | 47               | 44   | 91    | 279   | 379     | 658   |               |      |      |
| 15   | 8    | 43               | 34   | 77    | 275   | 291     | 566   |               |      |      |
|      |      |                  |      |       |       |         |       |               |      |      |
| 16   | 8    | 49               | 34   | 83    | 240   | 249     | 489   |               |      |      |
| 17   | 10   | 48               | 53   | 101   | 96    | 360     | 456   |               |      |      |
| 18   | 9    | 43               | 63   | 106   | 89    | 461     | 550   |               |      |      |
| 19   | 11   | 40               | 75   | 115   | 111   | 663     | 774   |               |      |      |
| 20   | 14   | 74               | 78   | 152   | 240   | 727     | 967   |               |      |      |
|      |      |                  |      |       |       |         |       |               |      |      |
| 21   | 11   | 99               | 82   | 181   | 151   | 669     | 820   |               |      |      |
| 22   | 15   | 96               | 83   | 179   | 224   | 768     | 992   |               |      |      |
| 23   | 16   | 122              | 99   | 221   | 234   | 533     | 767   |               |      |      |
| 24   | 15   | 131              | 73   | 204   | 581   | 351     | 932   |               |      |      |
| 25   | 10   | 123              | 55   | 178   | 798   | 304     | 1102  |               |      |      |
|      |      |                  |      |       |       |         |       |               |      |      |
| 26   | 9    | 130              | 41   | 171   | 756   | 286     | 1042  |               |      |      |
| 27   | 10   | 113              | 67   | 180   | 651   | 1143    | 1794  |               |      |      |
| 28   | 8    | 117              | 26   | 143   | 491   | 841     | 1332  |               |      |      |
| 29   | 4    | 57               | 31   | 88    | 317   | 421     | 738   |               |      |      |
| 30   | 10   | 92               | 48   | 140   | 366   | 556     | 922   |               |      |      |
|      |      |                  |      |       |       |         |       |               |      |      |
| Mean |      | 69.5             | 56.2 | 125.7 | 256.9 | 703.0   | 959.9 |               |      |      |

## DAILY SUNSPOT OBSERVATIONS

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| Day Group | CMP<br>Mo-Day | Lat    | L   | CMD Type | r/R | Sd       | Corre.<br>Whole | Area<br>Max | See | Remarks |
|-----------|---------------|--------|-----|----------|-----|----------|-----------------|-------------|-----|---------|
| 1.01      | 190           | 7-28.6 | 12  | 12       | 46W | CSO 0.71 | 294             | 201         | 210 | 4       |
|           | 193           | 7-29.5 | -21 | 360      | 32W | DKC 0.66 | 723             | 479         | 340 | 4       |
|           | 195           | 7-29.8 | 15  | 355      | 31W | DKC 0.52 | 807             | 472         | 295 | 4       |
|           | 197           | 8- 2.7 | 28  | 303      | 20E | FKI 0.48 | 1581            | 903         | 336 | 4       |
|           | 200           | 8- 1.0 | 26  | 326      | 0W  | BXO 0.33 | 17              | 9           | 4   | 4       |
|           | 201           | 8- 4.0 | -24 | 287      | 38E | BXO 0.75 | 8               | 6           | 3   | 4       |
| 2.03      | 190           |        |     |          | 59W | HSX 0.85 | 240             | 228         | 228 | 4       |
|           | 193           |        |     |          | 46W | DKC 0.79 | 433             | 356         | 231 | 4       |
|           | 195           |        |     |          | 44W | DKC 0.69 | 656             | 453         | 290 | 4       |
|           | 197           |        |     |          | 8E  | FKI 0.38 | 1543            | 834         | 273 | 4       |
|           | 199           | 8- 3.7 | 35  | 290      | 19E | BXI 0.56 | 8               | 5           | 3   | 4       |
|           | 200           |        |     |          | 19W | CRI 0.43 | 97              | 53          | 35  | 4       |
|           | 201           |        |     |          | 23E | BXI 0.62 | 13              | 8           | 3   | 4       |
| 3.04      | 190           |        |     |          | 73W | HSX 0.95 | 101             | 168         | 168 | 3       |
|           | 193           |        |     |          | 58W | DKC 0.90 | 278             | 313         | 223 | 3       |
|           | 195           |        |     |          | 57W | DAC 0.84 | 463             | 425         | 170 | 3       |
|           | 197           |        |     |          | 4W  | FKI 0.37 | 1463            | 787         | 271 | 3       |
|           | 200           |        |     |          | 34W | CRI 0.60 | 151             | 94          | 87  | 3       |
|           | 201           |        |     |          | 12E | BXO 0.53 | 13              | 7           | 5   | 3       |
| 4.06      | 190           |        |     |          | 86W | HSX 0.99 | 34              | 111         | 111 | 3       |
|           | 193           |        |     |          | 72W | HAX 0.97 | 135             | 258         | 178 | 3       |
|           | 195           |        |     |          | 73W | DSC 0.95 | 147             | 246         | 77  | 3       |
|           | 197           |        |     |          | 15W | FAI 0.44 | 1114            | 619         | 129 | 3       |
|           | 199           |        |     |          | 5W  | AXX 0.49 | 4               | 2           | 2   | 3       |
|           | 200           |        |     |          | 48W | CRI 0.76 | 93              | 71          | 55  | 3       |
|           | 201           |        |     |          | 1W  | AXX 0.51 | 8               | 5           | 2   | 3       |
|           | 202           | 8- 1.6 | -17 | 319      | 33W | BXO 0.64 | 8               | 5           | 3   | 3       |
|           | 203           | 8-10.1 | 23  | 206      | 76E | HSX 0.97 | 34              | 65          | 65  | 3       |
|           | 204           | 8-10.3 | 29  | 203      | 80E | CSO 0.98 | 63              | 148         | 138 | 3       |
| 5.41      | 195           |        |     |          | 86W | HSX 0.99 | 13              | 42          | 42  | 2       |
|           | 197           |        |     |          | 30W | FKI 0.56 | 1135            | 687         | 229 | 2       |
|           | 200           |        |     |          | 67W | CRI 0.92 | 50              | 64          | 54  | 2       |
|           | 203           |        |     |          | 58E | HSX 0.85 | 84              | 80          | 80  | 2       |
|           | 204           |        |     |          | 63E | DSI 0.90 | 160             | 180         | 114 | 2       |
|           | 205           | 8- 6.1 | -14 | 259      | 10E | BXO 0.38 | 21              | 11          | 5   | 2       |
| 6.26      | 197           |        |     |          | 39W | FAI 0.68 | 892             | 607         | 183 | 2       |
|           | 200           |        |     |          | 77W | CRO 0.97 | 17              | 32          | 24  | 2       |
|           | 201           |        |     |          | 29W | AXX 0.67 | 8               | 6           | 3   | 2       |
|           | 203           |        |     |          | 47E | CSO 0.74 | 76              | 56          | 53  | 2       |
|           | 204           |        |     |          | 52E | DSI 0.82 | 126             | 109         | 87  | 2       |
|           | 205           |        |     |          | 2W  | CRI 0.33 | 63              | 33          | 9   | 2       |
|           | 206           | 8-12.5 | -19 | 175      | 82E | HSX 0.99 | 17              | 56          | 56  | 2       |
| 7.33      | 197           |        |     |          | 54W | FAC 0.83 | 904             | 805         | 195 | 2       |
|           | 203           |        |     |          | 34E | CRI 0.57 | 59              | 36          | 21  | 2       |
|           | 204           |        |     |          | 38E | DRI 0.68 | 105             | 72          | 49  | 2       |
|           | 205           |        |     |          | 20W | DAI 0.46 | 547             | 308         | 166 | 2       |

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| Day   | Group | CMP<br>Mo-Day | Lat | L   | CMD | Type | r/R  | Sd   | Corre.<br>Whole | Area<br>Max | See | Remarks |
|-------|-------|---------------|-----|-----|-----|------|------|------|-----------------|-------------|-----|---------|
| 206   |       |               |     |     | 67E | CSO  | 0.94 | 76   | 113             | 107         | 2   |         |
| 207   |       | 8-13.4        | 16  | 162 | 80E | HSX  | 0.98 | 55   | 128             | 128         | 2   |         |
| 208   |       | 8-13.8        | 22  | 157 | 82E | HSX  | 0.99 | 46   | 153             | 153         | 2   |         |
| 8.03  | 197   |               |     |     | 63W | FAC  | 0.89 | 551  | 592             | 185         | 4   |         |
|       | 203   |               |     |     | 24E | DRI  | 0.48 | 59   | 34              | 7           | 4   |         |
|       | 204   |               |     |     | 28E | CRI  | 0.57 | 55   | 33              | 15          | 4   |         |
|       | 205   |               |     |     | 30W | DAI  | 0.57 | 521  | 319             | 172         | 4   |         |
|       | 206   |               |     |     | 59E | CAO  | 0.89 | 97   | 104             | 99          | 4   |         |
|       | 207   |               |     |     | 70E | CAO  | 0.93 | 88   | 121             | 115         | 4   |         |
|       | 208   |               |     |     | 73E | DSO  | 0.95 | 84   | 140             | 119         | 4   |         |
|       | 209   | 8-14.2        | -21 | 151 | 82E | HHX  | 0.99 | 34   | 111             | 111         | 4   |         |
| 9.05  | 197   |               |     |     | 76W | EAC  | 0.97 | 328  | 630             | 137         | 3   |         |
|       | 203   |               |     |     | 12E | DSI  | 0.33 | 618  | 328             | 174         | 3   |         |
|       | 204   |               |     |     | 16E | BXI  | 0.46 | 42   | 24              | 5           | 3   |         |
|       | 205   |               |     |     | 42W | EKI  | 0.72 | 1026 | 744             | 427         | 3   |         |
|       | 206   |               |     |     | 45E | CSO  | 0.78 | 97   | 78              | 74          | 3   |         |
|       | 207   |               |     |     | 57E | DAI  | 0.83 | 286  | 255             | 157         | 3   |         |
|       | 208   |               |     |     | 60E | DSI  | 0.87 | 324  | 333             | 225         | 3   |         |
|       | 209   |               |     |     | 68E | HHX  | 0.95 | 240  | 400             | 400         | 3   |         |
|       | 210   | 8-13.3        | 33  | 164 | 50E | AXX  | 0.79 | 8    | 7               | 3           | 3   |         |
| 10.02 | 197   |               |     |     | 85W | DAC  | 0.99 | 80   | 264             | 125         | 4   |         |
|       | 203   |               |     |     | 1E  | DKI  | 0.26 | 1009 | 523             | 277         | 4   |         |
|       | 204   |               |     |     | 4E  | BXI  | 0.39 | 59   | 32              | 2           | 4   |         |
|       | 205   |               |     |     | 56W | EKI  | 0.85 | 925  | 880             | 520         | 4   |         |
|       | 206   |               |     |     | 32E | HSX  | 0.64 | 114  | 74              | 71          | 4   |         |
|       | 207   |               |     |     | 44E | DKI  | 0.69 | 656  | 453             | 334         | 4   |         |
|       | 208   |               |     |     | 48E | DSI  | 0.76 | 484  | 371             | 203         | 4   |         |
|       | 209   |               |     |     | 55E | CHO  | 0.87 | 421  | 432             | 423         | 4   |         |
|       | 210   |               |     |     | 38E | AXX  | 0.69 | 8    | 6               | 3           | 4   |         |
| 11.03 | 203   |               |     |     | 13W | DKI  | 0.33 | 1388 | 736             | 442         | 3   |         |
|       | 204   |               |     |     | 5W  | BXO  | 0.41 | 21   | 12              | 2           | 3   |         |
|       | 205   |               |     |     | 69W | EKI  | 0.95 | 505  | 842             | 435         | 3   |         |
|       | 206   |               |     |     | 19E | HSX  | 0.52 | 97   | 57              | 54          | 3   |         |
|       | 207   |               |     |     | 31E | EKI  | 0.52 | 1220 | 713             | 455         | 3   |         |
|       | 208   |               |     |     | 35E | DAC  | 0.61 | 786  | 496             | 199         | 3   |         |
|       | 209   |               |     |     | 42E | CHI  | 0.76 | 530  | 407             | 397         | 3   |         |
| 12.12 | 203   |               |     |     | 27W | DKI  | 0.51 | 1035 | 600             | 366         | 3   |         |
|       | 205   |               |     |     | 83W | HAX  | 0.99 | 42   | 139             | 139         | 3   |         |
|       | 206   |               |     |     | 5E  | CRO  | 0.43 | 59   | 33              | 30          | 3   |         |
|       | 207   |               |     |     | 17E | EKI  | 0.32 | 1211 | 640             | 429         | 3   |         |
|       | 208   |               |     |     | 22E | DKI  | 0.44 | 698  | 388             | 259         | 3   |         |
|       | 209   |               |     |     | 28E | CHO  | 0.62 | 589  | 375             | 370         | 3   |         |
| 13.16 | 203   |               |     |     | 40W | DKI  | 0.67 | 685  | 460             | 209         | 4   |         |
|       | 204   |               |     |     | 33W | AXX  | 0.62 | 4    | 3               | 3           | 4   |         |
|       | 206   |               |     |     | 10W | CRI  | 0.45 | 59   | 33              | 31          | 4   |         |
|       | 207   |               |     |     | 4E  | EKI  | 0.17 | 1051 | 534             | 356         | 4   |         |
|       | 208   |               |     |     | 8E  | DKI  | 0.30 | 631  | 331             | 139         | 4   |         |

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| Day   | Group | CMP<br>Mo-Day | Lat | L   | CMD | Type | r/R  | Sd  | Corre.<br>Whole | Area<br>Max | See | Remarks |
|-------|-------|---------------|-----|-----|-----|------|------|-----|-----------------|-------------|-----|---------|
|       | 209   |               |     |     | 14E | CHO  | 0.51 | 597 | 346             | 344         | 4   |         |
|       | 211   | 8-13.1        | -10 | 166 | 1W  | AXX  | 0.28 | 8   | 4               | 2           | 4   |         |
|       | 212   | 8-13.8        | -19 | 157 | 8E  | BXO  | 0.44 | 8   | 5               | 2           | 4   |         |
|       | 213   | 8-19.1        | 25  | 87  | 74E | DSO  | 0.95 | 25  | 42              | 21          | 4   |         |
| 14.13 | 203   |               |     |     | 53W | DKO  | 0.80 | 500 | 421             | 262         | 4   |         |
|       | 206   |               |     |     | 22W | CRO  | 0.54 | 46  | 27              | 25          | 4   |         |
|       | 207   |               |     |     | 10W | EKI  | 0.24 | 925 | 477             | 381         | 4   |         |
|       | 208   |               |     |     | 5W  | EAI  | 0.29 | 492 | 257             | 156         | 4   |         |
|       | 209   |               |     |     | 2E  | CHI  | 0.46 | 580 | 327             | 320         | 4   |         |
|       | 210   |               |     |     | 11W | BXO  | 0.47 | 8   | 5               | 2           | 4   |         |
|       | 211   |               |     |     | 14W | AXX  | 0.36 | 8   | 5               | 2           | 4   |         |
|       | 213   |               |     |     | 61E | CAO  | 0.86 | 25  | 25              | 17          | 4   |         |
| 15.03 | 203   |               |     |     | 65W | DKO  | 0.90 | 282 | 318             | 233         | 4   |         |
|       | 206   |               |     |     | 34W | CRI  | 0.67 | 38  | 25              | 23          | 4   |         |
|       | 207   |               |     |     | 23W | EKI  | 0.41 | 770 | 423             | 370         | 4   |         |
|       | 208   |               |     |     | 17W | EAI  | 0.39 | 378 | 206             | 130         | 4   |         |
|       | 209   |               |     |     | 11W | CHI  | 0.48 | 580 | 331             | 327         | 4   |         |
|       | 210   |               |     |     | 22W | BXO  | 0.55 | 8   | 5               | 3           | 4   |         |
|       | 213   |               |     |     | 49E | CAI  | 0.76 | 50  | 39              | 29          | 4   |         |
|       | 214   | 8-15.2        | 5   | 139 | 2E  | AXX  | 0.03 | 4   | 2               | 2           | 4   |         |
|       | 215   | 8-15.3        | -20 | 138 | 3E  | BXI  | 0.46 | 21  | 12              | 2           | 4   |         |
| 16.24 | 203   |               |     |     | 81W | DAO  | 0.98 | 76  | 178             | 108         | 4   |         |
|       | 206   |               |     |     | 40W | AXX  | 0.83 | 8   | 7               | 4           | 4   |         |
|       | 207   |               |     |     | 39W | EKI  | 0.62 | 648 | 413             | 319         | 4   |         |
|       | 208   |               |     |     | 33W | EAI  | 0.57 | 286 | 175             | 126         | 4   |         |
|       | 209   |               |     |     | 26W | HHX  | 0.61 | 421 | 265             | 249         | 4   |         |
|       | 213   |               |     |     | 33E | BXO  | 0.57 | 25  | 15              | 5           | 4   |         |
|       | 214   |               |     |     | 12W | AXX  | 0.21 | 4   | 2               | 2           | 4   |         |
|       | 215   |               |     |     | 15W | BXI  | 0.47 | 13  | 7               | 2           | 4   |         |
| 17.26 | 207   |               |     |     | 53W | CHI  | 0.78 | 404 | 324             | 310         | 3   |         |
|       | 208   |               |     |     | 46W | EAI  | 0.72 | 219 | 159             | 128         | 3   |         |
|       | 209   |               |     |     | 40W | CHO  | 0.74 | 357 | 264             | 242         | 3   |         |
|       | 213   |               |     |     | 20E | BXO  | 0.43 | 13  | 7               | 2           | 3   |         |
|       | 215   |               |     |     | 23W | BXO  | 0.56 | 13  | 8               | 3           | 3   |         |
| 18.33 | 207   |               |     |     | 67W | HHX  | 0.91 | 240 | 286             | 286         | 4   |         |
|       | 208   |               |     |     | 61W | CSI  | 0.87 | 118 | 121             | 112         | 4   |         |
|       | 209   |               |     |     | 54W | CHI  | 0.86 | 214 | 212             | 207         | 4   |         |
|       | 213   |               |     |     | 10E | BXI  | 0.36 | 13  | 7               | 2           | 4   |         |
|       | 216   | 8-20.8        | -20 | 64  | 33E | BXO  | 0.67 | 8   | 6               | 3           | 4   |         |
| 19.29 | 207   |               |     |     | 80W | HHX  | 0.98 | 80  | 187             | 187         | 3   |         |
|       | 208   |               |     |     | 75W | CSO  | 0.95 | 80  | 133             | 126         | 3   |         |
|       | 209   |               |     |     | 68W | HHX  | 0.94 | 172 | 258             | 258         | 3   |         |
|       | 217   | 8-17.4        | 31  | 109 | 25W | AXX  | 0.55 | 4   | 3               | 3           | 3   |         |
|       | 218   | 8-23.6        | 20  | 27  | 58E | BXO  | 0.84 | 8   | 8               | 4           | 3   |         |
|       | 219   | 8-24.9        | 13  | 10  | 74E | CSO  | 0.95 | 42  | 70              | 63          | 3   |         |
| 20.06 | 208   |               |     |     |     | CSO  | 0.99 | 29  | 97              | 83          | 3   | PLAT    |

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| Day   | Group | CMP<br>Mo-Day | Lat | L   | CMD | Type | r/R  | Sd  | Corre.<br>Whole | Area<br>Max | See | Remarks |
|-------|-------|---------------|-----|-----|-----|------|------|-----|-----------------|-------------|-----|---------|
|       | 209   |               |     |     | 79W | HAX  | 0.99 | 67  | 223             | 223         | 3   | PLAT    |
|       | 216   |               |     |     | 4E  | CRO  | 0.52 | 25  | 15              | 10          | 3   | PLAT    |
|       | 219   |               |     |     | 63E | CSO  | 0.89 | 130 | 140             | 131         | 3   | PLAT    |
|       | 220   | 8-21.3        | -23 | 59  | 15E | BXO  | 0.55 | 8   | 5               | 3           | 3   | PLAT    |
|       | 221   | 8-24.4        | -18 | 17  | 57E | AXX  | 0.87 | 4   | 4               | 4           | 3   | PLAT    |
| 21.00 | 216   |               |     |     | 8W  | AXX  | 0.54 | 4   | 2               | 2           | 3   | PLAT    |
|       | 219   |               |     |     | 50E | CSO  | 0.76 | 193 | 148             | 142         | 3   | PLAT    |
|       | 220   |               |     |     | 3E  | BXO  | 0.49 | 4   | 2               | 2           | 3   | PLAT    |
| 22.04 | 213   |               |     |     | 45W | AXX  | 0.72 | 4   | 3               | 3           | 4   | PLAT    |
|       | 219   |               |     |     | 36E | CSO  | 0.59 | 236 | 145             | 138         | 4   | PLAT    |
|       | 220   |               |     |     | 8W  | AXX  | 0.51 | 4   | 2               | 2           | 4   | PLAT    |
| 23.03 | 219   |               |     |     | 24E | CAI  | 0.40 | 265 | 145             | 140         | 4   | PLAT    |
|       | 222   | 8-28.8        | 21  | 319 | 78E | BXO  | 0.97 | 8   | 16              | 8           | 4   | PLAT    |
| 24.03 | 218   |               |     |     | 7W  | BXO  | 0.24 | 21  | 11              | 2           | 3   | PLAT    |
|       | 219   |               |     |     | 11E | CAI  | 0.21 | 265 | 135             | 125         | 3   | PLAT    |
|       | 222   |               |     |     | 63E | BXO  | 0.89 | 8   | 9               | 5           | 3   | PLAT    |
|       | 223   | 8-25.6        | -36 | 1   | 21E | BXO  | 0.74 | 8   | 6               | 3           | 3   | PLAT    |
| 25.35 | 218   |               |     |     | 23W | DAI  | 0.43 | 421 | 232             | 116         | 2   |         |
|       | 219   |               |     |     | 6W  | CSO  | 0.14 | 240 | 121             | 119         | 2   |         |
|       | 222   |               |     |     | 46E | BXO  | 0.72 | 17  | 12              | 3           | 2   |         |
|       | 224   | 8-29.5        | 23  | 309 | 57E | AXX  | 0.84 | 8   | 8               | 4           | 2   |         |
|       | 225   | 8-30.9        | -21 | 291 | 73E | DKO  | 0.98 | 244 | 572             | 562         | 2   |         |
| 26.33 | 218   |               |     |     | 35W | DAI  | 0.60 | 564 | 351             | 176         | 3   |         |
|       | 219   |               |     |     | 19W | CSO  | 0.33 | 227 | 120             | 118         | 3   |         |
|       | 222   |               |     |     | 31E | BXI  | 0.54 | 29  | 17              | 2           | 3   |         |
|       | 224   |               |     |     | 44E | AXX  | 0.70 | 8   | 6               | 3           | 3   |         |
|       | 225   |               |     |     | 60E | EKO  | 0.91 | 463 | 552             | 477         | 3   |         |
|       | 226   | 9- 1.0        | 21  | 277 | 69E | HRX  | 0.92 | 13  | 16              | 16          | 3   |         |
| 27.31 | 218   |               |     |     | 50W | FAC  | 0.77 | 463 | 363             | 158         | 3   |         |
|       | 219   |               |     |     | 33W | HSX  | 0.54 | 202 | 120             | 120         | 3   |         |
|       | 222   |               |     |     | 19E | BXI  | 0.39 | 29  | 16              | 2           | 3   |         |
|       | 224   |               |     |     | 29E | BXO  | 0.53 | 8   | 5               | 2           | 3   |         |
|       | 225   |               |     |     | 47E | EKO  | 0.80 | 711 | 598             | 506         | 3   |         |
|       | 226   |               |     |     | 55E | CSI  | 0.82 | 76  | 65              | 58          | 3   |         |
|       | 227   | 8-26.4        | 21  | 350 | 12W | AXX  | 0.31 | 4   | 2               | 2           | 3   |         |
|       | 228   | 8-27.8        | -20 | 332 | 7E  | AXX  | 0.46 | 4   | 2               | 2           | 3   |         |
|       | 229   | 8-28.8        | 14  | 319 | 20E | BXI  | 0.34 | 34  | 18              | 4           | 3   |         |
|       | 230   | 9- 1.6        | -13 | 268 | 71E | DSO  | 0.95 | 88  | 147             | 126         | 3   |         |
|       | 231   | 9- 2.6        | -20 | 256 | 79E | DAI  | 0.99 | 219 | 723             | 376         | 3   |         |
| 28.33 | 218   |               |     |     | 64W | EAC  | 0.90 | 261 | 294             | 109         | 2   |         |
|       | 219   |               |     |     | 47W | DSI  | 0.72 | 168 | 122             | 98          | 2   |         |
|       | 222   |               |     |     | 6E  | BXO  | 0.26 | 8   | 4               | 2           | 2   |         |
|       | 224   |               |     |     | 16E | BXO  | 0.38 | 8   | 5               | 2           | 2   |         |
|       | 225   |               |     |     | 34E | EKO  | 0.69 | 862 | 595             | 528         | 2   |         |
|       | 226   |               |     |     | 42E | CRI  | 0.67 | 55  | 37              | 25          | 2   |         |

## DAILY SUNSPOT OBSERVATIONS

AUGUST 1988

| Day   | Group         | CMP<br>Mo-Day | Lat | L   | CMD | Type | r/R  | Sd   | Corre.<br>Whole | Area<br>Max | See | Remarks |
|-------|---------------|---------------|-----|-----|-----|------|------|------|-----------------|-------------|-----|---------|
|       | 227           |               |     |     | 26W | AXX  | 0.48 | 4    | 2               | 2           | 2   |         |
|       | 229           |               |     |     | 6E  | BXI  | 0.16 | 13   | 6               | 2           | 2   |         |
|       | 230           |               |     |     | 58E | DSO  | 0.87 | 105  | 108             | 56          | 2   |         |
|       | 231           |               |     |     | 69E | EKI  | 0.94 | 530  | 793             | 315         | 2   |         |
| 29.03 | 218           |               |     |     | 71W | DAI  | 0.93 | 126  | 173             | 75          | 3   |         |
|       | 219           |               |     |     | 57W | DAI  | 0.83 | 219  | 195             | 94          | 3   |         |
|       | 222           |               |     |     | 4W  | BXO  | 0.24 | 13   | 7               | 2           | 3   |         |
|       | 224           |               |     |     | 7E  | AXX  | 0.31 | 8    | 4               | 2           | 3   |         |
|       | 225           |               |     |     | 24E | EKO  | 0.59 | 841  | 519             | 480         | 3   |         |
|       | 226           |               |     |     | 34E | DAI  | 0.57 | 93   | 57              | 21          | 3   |         |
|       | 229           |               |     |     | 2W  | BXO  | 0.13 | 8    | 4               | 2           | 3   |         |
|       | 230           |               |     |     | 48E | DAO  | 0.78 | 105  | 84              | 64          | 3   |         |
|       | 231           |               |     |     | 60E | EKC  | 0.90 | 976  | 1101            | 432         | 3   |         |
| 30.24 | 218           |               |     |     | 87W | AXX  | 0.99 | 4    | 14              | 14          | 2   |         |
|       | 219           |               |     |     | 75W | DSI  | 0.95 | 71   | 119             | 42          | 2   |         |
|       | 222           |               |     |     | 19W | BXO  | 0.40 | 8    | 5               | 2           | 2   |         |
|       | 225           |               |     |     | 9E  | EAO  | 0.49 | 664  | 382             | 242         | 2   |         |
|       | 226           |               |     |     | 22E | CAI  | 0.43 | 193  | 107             | 70          | 2   |         |
|       | 229           |               |     |     | 19W | BXI  | 0.34 | 8    | 4               | 2           | 2   |         |
|       | 230           |               |     |     | 33E | DSO  | 0.62 | 88   | 56              | 38          | 2   |         |
|       | 231           |               |     |     | 43E | EKC  | 0.76 | 1581 | 1213            | 555         | 2   |         |
|       | 232           | 9- 4.2        | 34  | 234 | 66E | AXX  | 0.91 | 4    | 5               | 5           | 2   |         |
| 31.00 | Not Available |               |     |     |     |      |      |      |                 |             |     |         |

## DAILY SUNSPOT OBSERVATIONS

SEPTEMBER 1988

| Day  | Group | CMP<br>Mo-Day | Lat | L   | CMD | Type | r/R  | Sd   | Corre.<br>Whole | Area<br>Max | See | Remarks |
|------|-------|---------------|-----|-----|-----|------|------|------|-----------------|-------------|-----|---------|
| 1.03 | 225   | 8-30.9        | -21 | 291 | 14W | CKI  | 0.52 | 660  | 386             | 359         | 3   |         |
|      | 226   | 9- 1.0        | 21  | 277 | 1W  | EAI  | 0.25 | 475  | 246             | 148         | 3   |         |
|      | 230   | 9- 1.6        | -13 | 268 | 8E  | CRO  | 0.37 | 46   | 25              | 16          | 3   |         |
|      | 231   | 9- 2.6        | -20 | 256 | 20E | EKC  | 0.67 | 2103 | 1411            | 432         | 3   |         |
|      | 233   | 8-29.9        | 26  | 304 | 28W | BXO  | 0.54 | 8    | 5               | 2           | 3   |         |
|      | 234   | 8-31.9        | 31  | 278 | 2W  | BXO  | 0.40 | 13   | 7               | 2           | 3   |         |
|      | 235   | 9- 6.5        | 27  | 204 | 72E | AXX  | 0.94 | 4    | 6               | 6           | 3   |         |
|      | 236   | 9- 6.4        | 23  | 205 | 73E | AXX  | 0.94 | 4    | 6               | 6           | 3   |         |
| 2.33 | 225   |               |     |     | 31W | CKO  | 0.66 | 454  | 301             | 289         | 1   |         |
|      | 226   |               |     |     | 17W | EAI  | 0.37 | 286  | 154             | 90          | 1   |         |
|      | 230   |               |     |     | 9W  | CRO  | 0.38 | 38   | 20              | 16          | 1   |         |
|      | 231   |               |     |     | 3E  | EKI  | 0.46 | 2044 | 1151            | 455         | 1   |         |
|      | 233   |               |     |     | 42W | BXI  | 0.70 | 8    | 6               | 3           | 1   |         |
|      | 235   |               |     |     | 54E | AXX  | 0.82 | 8    | 7               | 7           | 1   |         |
|      | 236   |               |     |     | 54E | AXX  | 0.82 | 4    | 4               | 4           | 1   |         |
|      | 237   | 9- 2.9        | 22  | 252 | 7E  | AXX  | 0.29 | 4    | 2               | 2           | 1   |         |
| 3.31 | 225   |               |     |     | 44W | CKO  | 0.78 | 374  | 300             | 249         | 3   |         |
|      | 226   |               |     |     | 29W | EAI  | 0.51 | 227  | 132             | 76          | 3   |         |
|      | 230   |               |     |     | 22W | CRO  | 0.49 | 17   | 10              | 7           | 3   |         |
|      | 231   |               |     |     | 10W | EKI  | 0.49 | 2006 | 1154            | 474         | 3   |         |
|      | 235   |               |     |     | 41E | AXX  | 0.69 | 8    | 6               | 6           | 3   |         |
|      | 236   |               |     |     | 41E | AXX  | 0.68 | 4    | 3               | 3           | 3   |         |
|      | 237   |               |     |     | 6W  | BXI  | 0.30 | 8    | 4               | 2           | 3   |         |
|      | 238   | 9-10.0        | 31  | 158 | 86E | HRX  | 0.99 | 8    | 28              | 28          | 3   |         |
| 4.19 | 225   |               |     |     | 56W | CAI  | 0.87 | 236  | 242             | 207         | 4   |         |
|      | 226   |               |     |     | 44W | ERI  | 0.69 | 93   | 64              | 12          | 4   |         |
|      | 230   |               |     |     | 34W | CRO  | 0.63 | 17   | 11              | 8           | 4   |         |
|      | 231   |               |     |     | 22W | EKI  | 0.56 | 1661 | 1005            | 545         | 4   |         |
|      | 235   |               |     |     | 30E | AXX  | 0.57 | 4    | 3               | 3           | 4   |         |
|      | 237   |               |     |     | 14W | BXI  | 0.38 | 8    | 5               | 2           | 4   |         |
|      | 238   |               |     |     | 76E | CSO  | 0.97 | 25   | 48              | 40          | 4   |         |
|      | 239   | 9- 4.5        | 19  | 231 | 4E  | BXO  | 0.22 | 13   | 6               | 2           | 4   |         |
|      | 240   | 9- 9.3        | 12  | 166 | 68E | AXX  | 0.92 | 4    | 5               | 5           | 4   |         |
| 5.01 | 225   |               |     |     | 66W | HAX  | 0.93 | 130  | 179             | 173         | 4   | PLAT    |
|      | 226   |               |     |     | 54W | BXO  | 0.80 | 21   | 18              | 4           | 4   | PLAT    |
|      | 230   |               |     |     | 43W | AXX  | 0.74 | 8    | 6               | 6           | 4   | PLAT    |
|      | 231   |               |     |     | 31W | EKC  | 0.64 | 1430 | 934             | 310         | 4   | PLAT    |
|      | 238   |               |     |     | 65E | CAO  | 0.91 | 34   | 40              | 35          | 4   | PLAT    |
|      | 239   |               |     |     | 7W  | BXO  | 0.23 | 42   | 22              | 13          | 4   | PLAT    |
|      | 241   | 9-11.0        | -20 | 144 | 77E | HAX  | 0.98 | 105  | 247             | 247         | 4   | PLAT    |
|      | 242   | 9- 2.9        | 17  | 251 | 28W | BXO  | 0.45 | 21   | 12              | 9           | 4   | PLAT    |
|      | 243   | 9-10.8        | 22  | 147 | 76E | AXO  | 0.95 | 8    | 14              | 7           | 4   | PLAT    |
| 6.25 | 225   |               |     |     | 82W | HAX  | 0.99 | 42   | 139             | 139         | 2   |         |
|      | 226   |               |     |     | 72W | AXX  | 0.94 | 4    | 6               | 6           | 2   |         |
|      | 230   |               |     |     | 62W | AXX  | 0.90 | 4    | 5               | 5           | 2   |         |
|      | 231   |               |     |     | 49W | EKI  | 0.84 | 1051 | 966             | 673         | 2   |         |
|      | 238   |               |     |     | 48E | BXO  | 0.78 | 8    | 7               | 3           | 2   |         |

## DAILY SUNSPOT OBSERVATIONS

SEPTEMBER 1988

| Day   | Group | CMP<br>Mo-Day | Lat | L   | CMD | Type | r/R  | Sd  | Corre.<br>Whole | Area<br>Max | See | Remarks |
|-------|-------|---------------|-----|-----|-----|------|------|-----|-----------------|-------------|-----|---------|
|       | 239   |               |     |     | 25W | BXO  | 0.46 | 21  | 12              | 7           | 2   |         |
|       | 241   |               |     |     | 60E | HAX  | 0.91 | 88  | 105             | 105         | 2   |         |
|       | 244   | 9- 5.4        | -26 | 218 | 11W | AXX  | 0.56 | 4   | 3               | 3           | 2   |         |
| 7.19  | 230   |               |     |     | 73W | AXX  | 0.97 | 4   | 8               | 8           | 4   |         |
|       | 231   |               |     |     | 62W | FKI  | 0.92 | 715 | 910             | 401         | 4   |         |
|       | 238   |               |     |     | 38E | BXO  | 0.68 | 13  | 9               | 6           | 4   |         |
|       | 239   |               |     |     | 36W | BXI  | 0.60 | 25  | 16              | 5           | 4   |         |
|       | 241   |               |     |     | 48E | HAX  | 0.82 | 114 | 98              | 98          | 4   |         |
|       | 244   |               |     |     | 26W | AXX  | 0.64 | 4   | 3               | 3           | 4   |         |
|       | 245   | 9- 2.8        | 16  | 253 | 58W | BXO  | 0.84 | 25  | 23              | 12          | 4   |         |
|       | 246   | 9- 6.1        | 19  | 209 | 14W | BXI  | 0.31 | 34  | 18              | 4           | 4   |         |
|       | 247   | 9-11.2        | -13 | 141 | 60E | AXX  | 0.90 | 4   | 5               | 5           | 4   |         |
|       | 248   | 9-13.9        | 31  | 106 | 87E | AXX  | 0.99 | 4   | 14              | 14          | 4   |         |
| 8.16  | 231   |               |     |     | 74W | FSI  | 0.98 | 366 | 858             | 424         | 3   |         |
|       | 238   |               |     |     | 23E | AXX  | 0.54 | 4   | 2               | 2           | 3   |         |
|       | 239   |               |     |     | 52W | AXX  | 0.78 | 4   | 3               | 3           | 3   |         |
|       | 241   |               |     |     | 36E | HSX  | 0.70 | 139 | 97              | 56          | 3   |         |
|       | 244   |               |     |     | 37W | AXX  | 0.75 | 4   | 3               | 3           | 3   |         |
|       | 245   |               |     |     | 69W | CRO  | 0.92 | 29  | 37              | 32          | 3   |         |
|       | 246   |               |     |     | 29W | CRO  | 0.51 | 34  | 19              | 17          | 3   |         |
|       | 247   |               |     |     | 44E | BXO  | 0.75 | 8   | 6               | 3           | 3   |         |
|       | 248   |               |     |     | 74E | HRX  | 0.95 | 34  | 56              | 28          | 3   |         |
| 9.09  | 231   |               |     |     | 79W | HSX  | 0.99 | 84  | 278             | 278         | 3   |         |
|       | 238   |               |     |     | 12E | AXX  | 0.45 | 4   | 2               | 2           | 3   |         |
|       | 241   |               |     |     | 24E | HSX  | 0.59 | 147 | 91              | 57          | 3   |         |
|       | 245   |               |     |     | 81W | AXX  | 0.98 | 8   | 20              | 10          | 3   |         |
|       | 246   |               |     |     | 43W | HRX  | 0.68 | 25  | 17              | 17          | 3   |         |
|       | 247   |               |     |     | 29E | BXI  | 0.57 | 17  | 10              | 3           | 3   |         |
|       | 248   |               |     |     | 63E | CSO  | 0.90 | 76  | 85              | 76          | 3   |         |
|       | 249   | 9-14.5        | 13  | 98  | 79E | BXO  | 0.98 | 8   | 20              | 10          | 3   |         |
| 10.11 | 241   |               |     |     | 11E | HSX  | 0.48 | 139 | 79              | 55          | 3   |         |
|       | 244   |               |     |     | 55W | BXO  | 0.89 | 13  | 14              | 5           | 3   |         |
|       | 246   |               |     |     | 57W | AXX  | 0.83 | 8   | 7               | 7           | 3   |         |
|       | 247   |               |     |     | 15E | BXI  | 0.43 | 17  | 9               | 2           | 3   |         |
|       | 248   |               |     |     | 49E | CSO  | 0.78 | 135 | 108             | 105         | 3   |         |
|       | 249   |               |     |     | 62E | CRO  | 0.87 | 21  | 22              | 17          | 3   |         |
|       | 250   | 9-11.5        | 17  | 137 | 19E | BXI  | 0.34 | 25  | 13              | 4           | 3   |         |
| 11.40 | 241   |               |     |     | 5W  | HSX  | 0.46 | 114 | 64              | 47          | 3   |         |
|       | 246   |               |     |     | 76W | AXX  | 0.97 | 4   | 8               | 8           | 3   |         |
|       | 247   |               |     |     | 2W  | BXI  | 0.34 | 8   | 4               | 2           | 3   |         |
|       | 248   |               |     |     | 33E | CSO  | 0.62 | 210 | 134             | 131         | 3   |         |
|       | 249   |               |     |     | 44E | CRO  | 0.69 | 38  | 26              | 20          | 3   |         |
|       | 250   |               |     |     | 2E  | BXO  | 0.17 | 8   | 4               | 2           | 3   |         |
|       | 251   | 9- 8.4        | -25 | 178 | 39W | BXO  | 0.76 | 17  | 13              | 6           | 3   |         |
|       | 252   | 9-17.2        | -10 | 62  | 78E | DSO  | 0.99 | 71  | 236             | 181         | 3   |         |
| 12.09 | 241   |               |     |     | 14W | CSO  | 0.49 | 63  | 36              | 29          | 4   |         |
|       | 247   |               |     |     | 10W | BXO  | 0.39 | 13  | 7               | 2           | 4   |         |

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| Day Group | CMP    | Mo-Day | Lat  | L   | CMD | Type | r/r | Sd | Corre. Area | Max | See | Remarks |
|-----------|--------|--------|------|-----|-----|------|-----|----|-------------|-----|-----|---------|
| 248       | 23E    | HAX    | 0.53 | 130 | 77  | 74   | 4   | 4  | 4           | 4   | 4   |         |
| 249       | 34E    | BXI    | 0.55 | 13  | 13  | 8    | 3   | 4  | 4           | 4   | 4   |         |
| 250       | 9W     | BXI    | 0.22 | 8   | 4   | 2    | 4   | 4  | 4           | 4   | 4   |         |
| 251       | 49W    | BXO    | 0.84 | 13  | 12  | 8    | 4   | 4  | 4           | 4   | 4   |         |
| 252       | 68E    | DSO    | 0.93 | 156 | 213 | 173  | 4   | 4  | 4           | 4   | 4   |         |
| 253       | 1E     | BXI    | 0.46 | 8   | 5   | 2    | 4   | 4  | 4           | 4   | 4   |         |
| 254       | 21W    | BXO    | 0.43 | 8   | 5   | 2    | 4   | 4  | 4           | 4   | 4   |         |
| 255       | 9-11.6 | -7     | 136  | 17  | 160 | 13   | 12  | 12 | 12          | 12  | 12  |         |
| 256       | 9-13.3 | 13     | 114  | 1E  | BXI | 0.11 | 8   | 4  | 2           | 4   | 4   |         |
| 241       | 29W    | CSD    | 0.62 | 55  | 35  | 32   | 4   | 4  | 4           | 4   | 4   |         |
| 247       | 24W    | BXI    | 0.52 | 8   | 5   | 2    | 4   | 4  | 4           | 4   | 4   |         |
| 248       | 9E     | CAO    | 0.43 | 269 | 149 | 144  | 4   | 4  | 4           | 4   | 4   |         |
| 249       | 21E    | BXI    | 0.36 | 17  | 9   | 2    | 4   | 4  | 4           | 4   | 4   |         |
| 250       | 23W    | BXI    | 0.41 | 8   | 5   | 2    | 4   | 4  | 4           | 4   | 4   |         |
| 252       | 55E    | DSO    | 0.84 | 404 | 371 | 209  | 4   | 4  | 4           | 4   | 4   |         |
| 253       | 13W    | BXO    | 0.49 | 21  | 12  | 5    | 4   | 4  | 4           | 4   | 4   |         |
| 254       | 45W    | BXI    | 0.70 | 17  | 12  | 3    | 4   | 4  | 4           | 4   | 4   |         |
| 255       | 9-11.6 | -7     | 136  | 21W | BXO | 0.43 | 8   | 5  | 2           | 4   | 4   |         |
| 256       | 9-13.3 | 13     | 114  | 1E  | BXI | 0.11 | 8   | 4  | 2           | 4   | 4   |         |
| 241       | 42W    | HXS    | 0.75 | 50  | 38  | 35   | 4   | 4  | 4           | 4   | 4   |         |
| 248       | 5W     | CSD    | 0.40 | 278 | 152 | 149  | 4   | 4  | 4           | 4   | 4   |         |
| 249       | 2E     | AXX    | 0.10 | 4   | 2   | 2    | 4   | 4  | 4           | 4   | 4   |         |
| 252       | 38E    | DHO    | 0.66 | 500 | 331 | 220  | 4   | 4  | 4           | 4   | 4   |         |
| 253       | 27W    | BXI    | 0.60 | 17  | 10  | 3    | 4   | 4  | 4           | 4   | 4   |         |
| 254       | 61W    | DAO    | 0.86 | 122 | 120 | 75   | 4   | 4  | 4           | 4   | 4   |         |
| 257       | 39W    | AXX    | 0.62 | 8   | 5   | 5    | 4   | 4  | 4           | 4   | 4   |         |
| 241       | 53W    | HRX    | 0.85 | 34  | 32  | 28   | 3   | 3  | 3           | 3   | 3   |         |
| 248       | 15W    | HXX    | 0.46 | 307 | 173 | 170  | 3   | 3  | 3           | 3   | 3   |         |
| 249       | 7W     | AXX    | 0.16 | 4   | 2   | 2    | 3   | 3  | 3           | 3   | 3   |         |
| 250       | 47W    | AXX    | 0.72 | 4   | 3   | 3    | 3   | 3  | 3           | 3   | 3   |         |
| 252       | 29E    | DSO    | 0.55 | 416 | 250 | 202  | 3   | 3  | 3           | 3   | 3   |         |
| 253       | 38W    | BXI    | 0.71 | 13  | 9   | 3    | 3   | 3  | 3           | 3   | 3   |         |
| 254       | 72W    | DSI    | 0.94 | 63  | 94  | 44   | 3   | 3  | 3           | 3   | 3   |         |
| 258       | 48E    | AXX    | 0.78 | 4   | 3   | 3    | 3   | 3  | 3           | 3   | 3   |         |
| 241       | 66W    | BXO    | 0.93 | 8   | 12  | 6    | 4   | 4  | 4           | 4   | 4   |         |
| 248       | 27W    | HXX    | 0.57 | 198 | 121 | 110  | 4   | 4  | 4           | 4   | 4   |         |
| 249       | 16W    | BXI    | 0.30 | 8   | 4   | 2    | 4   | 4  | 4           | 4   | 4   |         |
| 252       | 16E    | DSI    | 0.40 | 421 | 230 | 188  | 4   | 4  | 4           | 4   | 4   |         |
| 253       | 50W    | BXI    | 0.82 | 8   | 7   | 4    | 4   | 4  | 4           | 4   | 4   |         |
| 254       | 84W    | HXS    | 0.99 | 29  | 97  | 70   | 4   | 4  | 4           | 4   | 4   |         |
| 258       | 35E    | BXO    | 0.67 | 17  | 11  | 3    | 4   | 4  | 4           | 4   | 4   |         |
| 259       | 29E    | BXO    | 0.53 | 13  | 7   | 5    | 4   | 4  | 4           | 4   | 4   |         |
| 241       | 80W    | AXX    | 0.99 | 4   | 14  | 14   | 4   | 4  | 4           | 4   | 4   |         |
| 248       | 40W    | HAX    | 0.70 | 109 | 77  | 41   | 4   | 4  | 4           | 4   | 4   |         |
| 252       | 3E     | CSI    | 0.30 | 421 | 220 | 203  | 4   | 4  | 4           | 4   | 4   |         |
| 253       | 65W    | BXO    | 0.93 | 17  | 23  | 12   | 4   | 4  | 4           | 4   | 4   |         |
| 258       | 21E    | AXX    | 0.51 | 8   | 5   | 2    | 4   | 4  | 4           | 4   | 4   |         |
| 259       | 17E    | BXI    | 0.38 | 8   | 5   | 2    | 4   | 4  | 4           | 4   | 4   |         |
| 260       | 7W     | BXI    | 0.18 | 8   | 4   | 2    | 4   | 4  | 4           | 4   | 4   |         |
| 261       | 1W     | BXI    | 0.41 | 8   | 5   | 2    | 4   | 4  | 4           | 4   | 4   |         |
| 262       | 35E    | BXO    | 0.59 | 8   | 5   | 3    | 4   | 4  | 4           | 4   | 4   |         |

## DAILY SUNSPOT OBSERVATIONS

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| Day   | Group | CMP<br>Mo-Day | Lat | L   | CMD | Type | r/R  | Sd  | Corre.<br>Whole | Area<br>Max | See | Remarks |
|-------|-------|---------------|-----|-----|-----|------|------|-----|-----------------|-------------|-----|---------|
|       | 263   | 9-22.4        | -16 | 354 | 71E | DAO  | 0.95 | 59  | 98              | 70          | 4   |         |
| 18.06 | 248   |               |     |     | 52W | CRI  | 0.82 | 84  | 73              | 22          | 4   |         |
|       | 252   |               |     |     | 11W | CSI  | 0.34 | 421 | 224             | 213         | 4   |         |
|       | 253   |               |     |     | 75W | AXX  | 0.98 | 4   | 10              | 10          | 4   |         |
|       | 258   |               |     |     | 8E  | BXO  | 0.44 | 8   | 5               | 2           | 4   |         |
|       | 262   |               |     |     | 20E | BXI  | 0.38 | 21  | 11              | 2           | 4   |         |
|       | 263   |               |     |     | 58E | DAO  | 0.87 | 114 | 117             | 78          | 4   |         |
|       | 264   | 9-13.9        | -29 | 106 | 55W | AXX  | 0.90 | 4   | 5               | 5           | 4   |         |
|       | 265   | 9-22.9        | -36 | 347 | 65E | HAX  | 0.95 | 46  | 77              | 77          | 4   |         |
|       | 266   | 9-23.8        | -37 | 336 | 78E | BXO  | 0.99 | 8   | 28              | 14          | 4   |         |
| 19.17 | 248   |               |     |     | 63W | ERI  | 0.89 | 76  | 81              | 32          | 3   |         |
|       | 252   |               |     |     | 25W | CSI  | 0.51 | 408 | 236             | 232         | 3   |         |
|       | 262   |               |     |     | 5E  | BXO  | 0.23 | 17  | 9               | 2           | 3   |         |
|       | 263   |               |     |     | 43E | DAI  | 0.75 | 223 | 168             | 149         | 3   |         |
|       | 264   |               |     |     | 68W | AXX  | 0.97 | 4   | 8               | 8           | 3   |         |
|       | 265   |               |     |     | 49E | HAX  | 0.90 | 160 | 180             | 176         | 3   |         |
|       | 266   |               |     |     | 63E | BXI  | 0.95 | 13  | 21              | 7           | 3   |         |
|       | 267   | 9-21.4        | -18 | 7   | 29E | BXO  | 0.62 | 8   | 5               | 3           | 3   |         |
|       | 268   | 9-23.1        | -20 | 345 | 52E | AXX  | 0.85 | 8   | 8               | 4           | 3   |         |
|       | 269   | 9-25.2        | -38 | 317 | 75E | BXO  | 0.99 | 8   | 28              | 14          | 3   |         |
|       | 270   | 9-25.1        | 27  | 318 | 81E | HRX  | 0.98 | 13  | 30              | 20          | 3   |         |
| 20.23 | 248   |               |     |     | 76W | ERI  | 0.95 | 67  | 112             | 21          | 3   |         |
|       | 252   |               |     |     | 40W | CSO  | 0.69 | 315 | 218             | 215         | 3   |         |
|       | 261   |               |     |     | 43W | BXO  | 0.76 | 17  | 13              | 6           | 3   |         |
|       | 262   |               |     |     | 11W | BXI  | 0.28 | 17  | 9               | 4           | 3   |         |
|       | 263   |               |     |     | 29E | DAI  | 0.60 | 265 | 165             | 147         | 3   |         |
|       | 265   |               |     |     | 35E | HAX  | 0.82 | 244 | 211             | 207         | 3   |         |
|       | 266   |               |     |     | 45E | DRI  | 0.87 | 88  | 91              | 22          | 3   |         |
|       | 268   |               |     |     | 37E | AXX  | 0.70 | 8   | 6               | 3           | 3   |         |
|       | 269   |               |     |     | 61E | BXO  | 0.95 | 8   | 14              | 7           | 3   |         |
|       | 270   |               |     |     | 66E | DRI  | 0.90 | 55  | 62              | 28          | 3   |         |
|       | 271   | 9-22.6        | 32  | 351 | 29E | BXI  | 0.60 | 21  | 13              | 5           | 3   |         |
|       | 272   | 9-25.5        | 22  | 313 | 67E | CRO  | 0.91 | 21  | 25              | 20          | 3   |         |
|       | 273   | 9-26.1        | 16  | 305 | 78E | AXX  | 0.97 | 4   | 8               | 8           | 3   |         |
|       | 274   | 9-26.2        | 21  | 303 | 79E | AXX  | 0.98 | 8   | 20              | 10          | 3   |         |
| 21.02 | 248   |               |     |     |     | BXO  | 0.99 | 17  | 56              | 14          | 4   | PLAT    |
|       | 252   |               |     |     | 50W | CSO  | 0.79 | 282 | 231             | 217         | 4   | PLAT    |
|       | 262   |               |     |     | 22W | AXX  | 0.40 | 4   | 2               | 2           | 4   | PLAT    |
|       | 263   |               |     |     | 18E | CKI  | 0.47 | 299 | 169             | 143         | 4   | PLAT    |
|       | 265   |               |     |     | 28E | CAI  | 0.77 | 320 | 251             | 194         | 4   | PLAT    |
|       | 269   |               |     |     | 53E | AXX  | 0.92 | 13  | 16              | 5           | 4   | PLAT    |
|       | 270   |               |     |     | 55E | BXO  | 0.82 | 25  | 22              | 4           | 4   | PLAT    |
|       | 271   |               |     |     | 20E | BXO  | 0.52 | 34  | 20              | 2           | 4   | PLAT    |
|       | 272   |               |     |     | 55E | BXO  | 0.82 | 17  | 15              | 4           | 4   | PLAT    |
|       | 274   |               |     |     | 71E | BXO  | 0.94 | 21  | 31              | 6           | 4   | PLAT    |
|       | 275   | 9-20.4        | 19  | 20  | 8W  | AXO  | 0.24 | 13  | 7               | 2           | 4   | PLAT    |
| 22.13 | 252   |               |     |     | 65W | HSX  | 0.92 | 156 | 198             | 198         | 3   |         |
|       | 261   |               |     |     | 70W | BXO  | 0.95 | 8   | 14              | 7           | 3   |         |

## DAILY SUNSPOT OBSERVATIONS

SEPTEMBER 1988

| Day   | Group | CMP<br>Mo-Day | Lat | L   | CMD | Type | r/R  | Sd  | Corre.<br>Whole | Area<br>Max | See | Remarks |
|-------|-------|---------------|-----|-----|-----|------|------|-----|-----------------|-------------|-----|---------|
| 263   |       |               |     |     | 3E  | DAI  | 0.40 | 526 | 287             | 230         | 3   |         |
| 265   |       |               |     |     | 10E | HSX  | 0.70 | 320 | 224             | 224         | 3   |         |
| 266   |       |               |     |     | 22E | CRI  | 0.75 | 42  | 32              | 9           | 3   |         |
| 269   |       |               |     |     | 40E | AXX  | 0.85 | 8   | 8               | 4           | 3   |         |
| 270   |       |               |     |     | 40E | DAI  | 0.68 | 202 | 137             | 86          | 3   |         |
| 271   |       |               |     |     | 6E  | BXO  | 0.44 | 13  | 7               | 2           | 3   |         |
| 272   |       |               |     |     | 40E | BXO  | 0.64 | 8   | 5               | 3           | 3   |         |
| 273   |       |               |     |     | 51E | AXX  | 0.77 | 4   | 3               | 3           | 3   |         |
| 274   |       |               |     |     | 55E | CRO  | 0.82 | 42  | 36              | 15          | 3   |         |
| 275   |       |               |     |     | 23W | BXO  | 0.43 | 17  | 9               | 2           | 3   |         |
| 276   |       | 9-20.7        | -17 | 16  | 19W | AXX  | 0.49 | 8   | 5               | 2           | 3   |         |
| 277   |       | 9-21.1        | 19  | 11  | 14W | BXI  | 0.31 | 42  | 22              | 4           | 3   |         |
| 278   |       | 9-24.4        | 19  | 328 | 30E | AXX  | 0.52 | 8   | 5               | 2           | 3   |         |
| 23.04 | 252   |               |     |     | 79W | HSX  | 0.98 | 42  | 99              | 99          | 4   |         |
| 263   |       |               |     |     | 9W  | CKI  | 0.41 | 366 | 201             | 178         | 4   |         |
| 265   |       |               |     |     | 2W  | HKX  | 0.68 | 273 | 186             | 183         | 4   |         |
| 266   |       |               |     |     | 10E | CRI  | 0.70 | 38  | 27              | 9           | 4   |         |
| 268   |       |               |     |     | 1E  | BXO  | 0.45 | 8   | 5               | 2           | 4   |         |
| 269   |       |               |     |     | 28E | AXX  | 0.79 | 4   | 3               | 3           | 4   |         |
| 270   |       |               |     |     | 28E | DAI  | 0.54 | 269 | 160             | 100         | 4   |         |
| 271   |       |               |     |     | 6W  | BXO  | 0.44 | 8   | 5               | 2           | 4   |         |
| 272   |       |               |     |     | 27E | BXI  | 0.51 | 13  | 7               | 2           | 4   |         |
| 273   |       |               |     |     | 41E | BXO  | 0.64 | 8   | 5               | 3           | 4   |         |
| 274   |       |               |     |     | 44E | BXI  | 0.69 | 38  | 26              | 6           | 4   |         |
| 275   |       |               |     |     | 35W | BXI  | 0.59 | 13  | 8               | 3           | 4   |         |
| 276   |       |               |     |     | 37W | BXO  | 0.70 | 17  | 12              | 6           | 4   |         |
| 277   |       |               |     |     | 26W | BXI  | 0.47 | 21  | 12              | 2           | 4   |         |
| 278   |       |               |     |     | 19E | BXI  | 0.37 | 13  | 7               | 2           | 4   |         |
| 279   |       | 9-22.5        | 19  | 353 | 8W  | AXX  | 0.24 | 8   | 4               | 2           | 4   |         |
| 24.12 | 258   |               |     |     | 69W | AXX  | 0.92 | 4   | 5               | 5           | 3   |         |
| 263   |       |               |     |     | 24W | CAI  | 0.55 | 177 | 106             | 86          | 3   |         |
| 265   |       |               |     |     | 15W | HKX  | 0.71 | 265 | 189             | 189         | 3   |         |
| 266   |       |               |     |     | 5W  | BXO  | 0.70 | 17  | 12              | 3           | 3   |         |
| 268   |       |               |     |     | 15W | BXI  | 0.51 | 13  | 7               | 2           | 3   |         |
| 270   |       |               |     |     | 13E | DAI  | 0.40 | 404 | 220             | 138         | 3   |         |
| 271   |       |               |     |     | 20W | BXO  | 0.53 | 8   | 5               | 2           | 3   |         |
| 272   |       |               |     |     | 19E | CRI  | 0.40 | 29  | 16              | 11          | 3   |         |
| 274   |       |               |     |     | 28E | CRI  | 0.51 | 29  | 17              | 10          | 3   |         |
| 275   |       |               |     |     | 50W | BXI  | 0.76 | 8   | 6               | 3           | 3   |         |
| 276   |       |               |     |     | 51W | BXO  | 0.83 | 8   | 7               | 4           | 3   |         |
| 277   |       |               |     |     | 41W | BXO  | 0.66 | 17  | 11              | 3           | 3   |         |
| 278   |       |               |     |     | 4E  | DAI  | 0.22 | 135 | 69              | 32          | 3   |         |
| 280   |       | 9-29.7        | 18  | 257 | 74E | DAO  | 0.95 | 139 | 232             | 119         | 3   |         |
| 281   |       | 9-30.3        | -18 | 249 | 75E | BXI  | 0.98 | 13  | 30              | 10          | 3   |         |
| 25.09 | 263   |               |     |     | 38W | CSI  | 0.68 | 160 | 109             | 66          | 3   | PLAT    |
| 265   |       |               |     |     | 26W | HAX  | 0.75 | 214 | 161             | 161         | 3   | PLAT    |
| 270   |       |               |     |     | 2E  | ESI  | 0.36 | 458 | 245             | 135         | 3   | PLAT    |
| 272   |       |               |     |     | 5E  | CAI  | 0.29 | 97  | 50              | 26          | 3   | PLAT    |
| 274   |       |               |     |     | 18E | BXI  | 0.38 | 55  | 30              | 2           | 3   | PLAT    |
| 275   |       |               |     |     | 53W | AXX  | 0.79 | 4   | 3               | 3           | 3   | PLAT    |

DAILY SUNSPOT OBSERVATIONS

SEPTEMBER 1988

| Day Group | CMP | Mo-Day | Lat  | L   | CMD | Type | r/R | Sd   | Whole | Corre. Area | Max | See | Remarks |
|-----------|-----|--------|------|-----|-----|------|-----|------|-------|-------------|-----|-----|---------|
| 278       | 8W  | DAO    | 0.24 | 189 | 98  | 50   | 3   | PLAT |       |             |     |     |         |
| 280       | 62E | DAI    | 0.87 | 362 | 372 | 225  | 3   | PLAT |       |             |     |     |         |
| 281       | 60E | BXI    | 0.92 | 25  | 32  | 5    | 3   | PLAT |       |             |     |     |         |
| 282       | 22E | AXX    | 0.39 | 4   | 2   | 2    | 3   | PLAT |       |             |     |     |         |
| 263       | 52W | CAI    | 0.83 | 101 | 90  | 67   | 4   | PLAT |       |             |     |     |         |
| 265       | 38W | HAX    | 0.82 | 210 | 182 | 182  | 4   | PLAT |       |             |     |     |         |
| 270       | 10W | EKI    | 0.39 | 463 | 251 | 160  | 4   | PLAT |       |             |     |     |         |
| 272       | 7W  | CAI    | 0.29 | 126 | 66  | 48   | 4   | PLAT |       |             |     |     |         |
| 274       | 4E  | BXI    | 0.26 | 59  | 31  | 2    | 4   | PLAT |       |             |     |     |         |
| 275       | 79W | AXO    | 0.97 | 13  | 24  | 8    | 4   | PLAT |       |             |     |     |         |
| 278       | 20W | DAI    | 0.39 | 202 | 110 | 46   | 4   | PLAT |       |             |     |     |         |
| 280       | 48E | DAI    | 0.76 | 357 | 274 | 113  | 4   | PLAT |       |             |     |     |         |
| 281       | 48E | AXO    | 0.80 | 17  | 14  | 4    | 4   | PLAT |       |             |     |     |         |
| 263       | 69W | CAI    | 0.93 | 101 | 138 | 109  | 3   | PLAT |       |             |     |     |         |
| 265       | 51W | HAX    | 0.90 | 147 | 166 | 166  | 3   | PLAT |       |             |     |     |         |
| 270       | 26W | CKI    | 0.53 | 400 | 235 | 186  | 3   | PLAT |       |             |     |     |         |
| 272       | 21W | CRO    | 0.44 | 88  | 49  | 35   | 3   | PLAT |       |             |     |     |         |
| 274       | 9W  | BXO    | 0.30 | 13  | 7   | 2    | 3   | PLAT |       |             |     |     |         |
| 278       | 34W | DAI    | 0.57 | 139 | 85  | 39   | 3   | PLAT |       |             |     |     |         |
| 280       | 34E | ESI    | 0.57 | 450 | 275 | 128  | 3   | PLAT |       |             |     |     |         |
| 281       | 34E | AXX    | 0.67 | 8   | 6   | 3    | 3   | PLAT |       |             |     |     |         |
| 283       | 46W | BXO    | 0.79 | 17  | 14  | 3    | 3   | PLAT |       |             |     |     |         |
| 284       | 72E | HXX    | 0.98 | 349 | 819 | 789  | 3   | PLAT |       |             |     |     |         |
| 265       | 65W | HXS    | 0.95 | 126 | 210 | 210  | 3   | PLAT |       |             |     |     |         |
| 270       | 38W | CSI    | 0.67 | 311 | 209 | 141  | 3   | PLAT |       |             |     |     |         |
| 272       | 32W | DSO    | 0.57 | 88  | 54  | 23   | 3   | PLAT |       |             |     |     |         |
| 274       | 22W | AXO    | 0.43 | 8   | 5   | 2    | 3   | PLAT |       |             |     |     |         |
| 278       | 50W | AXO    | 0.76 | 8   | 6   | 3    | 3   | PLAT |       |             |     |     |         |
| 280       | 22E | DAI    | 0.41 | 391 | 215 | 92   | 3   | PLAT |       |             |     |     |         |
| 284       | 56E | HKI    | 0.90 | 559 | 631 | 465  | 3   | PLAT |       |             |     |     |         |
| 285       | 7E  | AXX    | 0.38 | 4   | 2   | 2    | 3   | PLAT |       |             |     |     |         |
| 270       | 53W | CSO    | 0.82 | 118 | 102 | 98   | 2   | PURP |       |             |     |     |         |
| 272       | 49W | BXO    | 0.77 | 4   | 3   | 3    | 2   | PURP |       |             |     |     |         |
| 280       | 7E  | DSI    | 0.24 | 412 | 212 | 152  | 2   | PURP |       |             |     |     |         |
| 284       | 46E | DKI    | 0.80 | 500 | 421 | 361  | 2   | PURP |       |             |     |     |         |
| 270       | 68W | CSO    | 0.92 | 84  | 107 | 102  | 4   |      |       |             |     |     |         |
| 272       | 66W | BXI    | 0.91 | 8   | 10  | 5    | 4   |      |       |             |     |     |         |
| 274       | 45W | BXI    | 0.71 | 13  | 9   | 3    | 4   |      |       |             |     |     |         |
| 280       | 8W  | FAI    | 0.25 | 454 | 235 | 126  | 4   |      |       |             |     |     |         |
| 281       | 0W  | BXI    | 0.41 | 13  | 7   | 2    | 4   |      |       |             |     |     |         |
| 284       | 27E | EKI    | 0.67 | 803 | 539 | 499  | 4   |      |       |             |     |     |         |
| 286       | 40W | AXX    | 0.68 | 4   | 3   | 3    | 4   |      |       |             |     |     |         |
| 287       | 22W | AXX    | 0.54 | 8   | 5   | 2    | 4   |      |       |             |     |     |         |
| 288       | 21W | BXO    | 0.62 | 8   | 5   | 3    | 4   |      |       |             |     |     |         |
| 289       | 6W  | AXX    | 0.37 | 4   | 2   | 2    | 4   |      |       |             |     |     |         |

## S U N S P O T G R O U P S

AUGUST 1988

| CMP Group |   | Date | Lat | L   | CMD | Type | r/R  | Sd   | Corre. Area |     | Photo | Remarks |
|-----------|---|------|-----|-----|-----|------|------|------|-------------|-----|-------|---------|
| Mo-Day    |   |      |     |     |     |      |      |      | Whole       | Max |       |         |
| 202       | 8 | 4    | -17 | 319 | 33W | BXO  | 0.64 | 8    | 5           | 3   |       |         |
| 8-        |   | 1.6  |     |     |     |      |      |      |             |     |       |         |
| 203       | 8 | 4    | 23  | 206 | 76E | HSX  | 0.97 | 34   | 65          | 65  | 81    |         |
| 8-        |   | 10.1 |     |     | 58E | HSX  | 0.85 | 84   | 80          | 80  |       |         |
|           |   | 5    |     |     | 47E | CSO  | 0.74 | 76   | 56          | 53  |       |         |
|           |   | 6    |     |     | 34E | CRI  | 0.57 | 59   | 36          | 21  |       |         |
|           |   | 7    |     |     | 24E | DRI  | 0.48 | 59   | 34          | 7   | 95    |         |
|           |   | 8    |     |     | 12E | DSI  | 0.33 | 618  | 328         | 174 | 357   |         |
|           |   | 9    |     |     | 1E  | DKI  | 0.26 | 1009 | 523         | 277 |       |         |
|           |   | 10   |     |     | 13W | DKI  | 0.33 | 1388 | 736         | 442 | 941   |         |
|           |   | 11   |     |     | 27W | DKI  | 0.51 | 1035 | 600         | 366 |       |         |
|           |   | 12   |     |     | 40W | DKI  | 0.67 | 685  | 460         | 209 |       |         |
|           |   | 13   |     |     | 53W | DKO  | 0.80 | 500  | 421         | 262 |       |         |
|           |   | 14   |     |     | 65W | DKO  | 0.90 | 282  | 318         | 233 |       |         |
|           |   | 15   |     |     | 81W | DAO  | 0.98 | 76   | 178         | 108 |       |         |
|           |   | 16   |     |     |     |      |      |      |             |     |       |         |
| 204       | 8 | 4    | 29  | 203 | 80E | CSO  | 0.98 | 63   | 148         | 138 | 99    |         |
| 8-        |   | 10.3 |     |     | 63E | DSI  | 0.90 | 160  | 180         | 114 |       |         |
|           |   | 5    |     |     | 52E | DSI  | 0.82 | 126  | 109         | 87  |       |         |
|           |   | 6    |     |     | 38E | DRI  | 0.68 | 105  | 72          | 49  |       |         |
|           |   | 7    |     |     | 28E | CRI  | 0.57 | 55   | 33          | 15  | 50    |         |
|           |   | 8    |     |     | 16E | BXI  | 0.46 | 42   | 24          | 5   | 71    |         |
|           |   | 9    |     |     | 4E  | BXI  | 0.39 | 59   | 32          | 2   |       |         |
|           |   | 10   |     |     | 5W  | BXO  | 0.41 | 21   | 12          | 2   |       |         |
|           |   | 11   |     |     | 33W | AXX  | 0.62 | 4    | 3           | 3   |       |         |
|           |   | 13   |     |     |     |      |      |      |             |     |       |         |
| 205       | 8 | 5    | -14 | 259 | 10E | BXO  | 0.38 | 21   | 11          | 5   |       |         |
| 8-        |   | 6.1  |     |     | 2W  | CRI  | 0.33 | 63   | 33          | 9   |       |         |
|           |   | 6    |     |     | 20W | DAI  | 0.46 | 547  | 308         | 166 |       |         |
|           |   | 7    |     |     | 30W | DAI  | 0.57 | 521  | 319         | 172 | 583   |         |
|           |   | 8    |     |     | 42W | EKI  | 0.72 | 1026 | 744         | 427 | 1085  |         |
|           |   | 9    |     |     | 56W | EKI  | 0.85 | 925  | 880         | 520 |       |         |
|           |   | 10   |     |     | 69W | EKI  | 0.95 | 505  | 842         | 435 | 702   |         |
|           |   | 11   |     |     | 83W | HAX  | 0.99 | 42   | 139         | 139 |       |         |
|           |   | 12   |     |     |     |      |      |      |             |     |       |         |
| 206       | 8 | 6    | -19 | 175 | 82E | HSX  | 0.99 | 17   | 56          | 56  |       |         |
| 8-        |   | 12.5 |     |     | 67E | CSO  | 0.94 | 76   | 113         | 107 |       |         |
|           |   | 7    |     |     | 59E | CAO  | 0.89 | 97   | 104         | 99  | 62    |         |
|           |   | 8    |     |     | 45E | CSO  | 0.78 | 97   | 78          | 74  | 132   |         |
|           |   | 9    |     |     | 32E | HSX  | 0.64 | 114  | 74          | 71  |       |         |
|           |   | 10   |     |     | 19E | HSX  | 0.52 | 97   | 57          | 54  | 73    |         |
|           |   | 11   |     |     | 5E  | CRO  | 0.43 | 59   | 33          | 30  |       |         |
|           |   | 12   |     |     | 10W | CRI  | 0.45 | 59   | 33          | 31  |       |         |
|           |   | 13   |     |     | 22W | CRO  | 0.54 | 46   | 27          | 25  |       |         |
|           |   | 14   |     |     | 34W | CRI  | 0.67 | 38   | 25          | 23  |       |         |
|           |   | 15   |     |     | 40W | AXX  | 0.83 | 8    | 7           | 4   |       |         |
|           |   | 16   |     |     |     |      |      |      |             |     |       |         |
| 207       | 8 | 7    | 16  | 162 | 80E | HSX  | 0.98 | 55   | 128         | 128 |       |         |
| 8-        |   | 13.4 |     |     | 70E | CAO  | 0.93 | 88   | 121         | 115 | 151   |         |
|           |   | 8    |     |     | 57E | DAI  | 0.83 | 286  | 255         | 157 | 291   |         |
|           |   | 9    |     |     |     |      |      |      |             |     |       |         |

## S U N S P O T   G R O U P S

AUGUST 1988

| CMP Group<br>Mo-Day | Date | Lat | L   | CMD | Type | r/R  | Sd   | Corre.<br>Whole | Area<br>Max | Photo | Remarks  |
|---------------------|------|-----|-----|-----|------|------|------|-----------------|-------------|-------|----------|
|                     | 10   |     |     | 44E | DKI  | 0.69 | 656  | 453             | 334         |       |          |
|                     | 11   |     |     | 31E | EKI  | 0.52 | 1220 | 713             | 455         | 951   |          |
|                     | 12   |     |     | 17E | EKI  | 0.32 | 1211 | 640             | 429         |       |          |
|                     | 13   |     |     | 4E  | EKI  | 0.17 | 1051 | 534             | 356         |       |          |
|                     | 14   |     |     | 10W | EKI  | 0.24 | 925  | 477             | 381         |       |          |
|                     | 15   |     |     | 23W | EKI  | 0.41 | 770  | 423             | 370         |       |          |
|                     | 16   |     |     | 39W | EKI  | 0.62 | 648  | 413             | 319         |       |          |
|                     | 17   |     |     | 53W | CHI  | 0.78 | 404  | 324             | 310         | 438   |          |
|                     | 18   |     |     | 67W | HHX  | 0.91 | 240  | 286             | 286         | 337   |          |
|                     | 19   |     |     | 80W | HHX  | 0.98 | 80   | 187             | 187         | 690   |          |
| 208<br>8-13.8       | 8    | 7   | 22  | 157 | 82E  | HSX  | 0.99 | 46              | 153         | 153   |          |
|                     |      | 8   |     |     | 73E  | DSO  | 0.95 | 84              | 140         | 119   | 230      |
|                     |      | 9   |     |     | 60E  | DSI  | 0.87 | 324             | 333         | 225   | 360      |
|                     |      | 10  |     |     | 48E  | DSI  | 0.76 | 484             | 371         | 203   |          |
|                     |      | 11  |     |     | 35E  | DAC  | 0.61 | 786             | 496         | 199   | 572      |
|                     |      | 12  |     |     | 22E  | DKI  | 0.44 | 698             | 388         | 259   |          |
|                     |      | 13  |     |     | 8E   | DKI  | 0.30 | 631             | 331         | 139   |          |
|                     |      | 14  |     |     | 5W   | EAI  | 0.29 | 492             | 257         | 156   |          |
|                     |      | 15  |     |     | 17W  | EAI  | 0.39 | 378             | 206         | 130   |          |
|                     |      | 16  |     |     | 33W  | EAI  | 0.57 | 286             | 175         | 126   |          |
|                     |      | 17  |     |     | 46W  | EAI  | 0.72 | 219             | 159         | 128   | 186      |
|                     |      | 18  |     |     | 61W  | CSI  | 0.87 | 118             | 121         | 112   | 252      |
|                     |      | 19  |     |     | 75W  | CSO  | 0.95 | 80              | 133         | 126   | 242      |
|                     |      | 20  |     |     |      | CSO  | 0.99 | 29              | 97          | 83    | 278 PLAT |
| 209<br>8-14.2       | 8    | 8   | -21 | 151 | 82E  | HHX  | 0.99 | 34              | 111         | 111   | 209      |
|                     |      | 9   |     |     | 68E  | HHX  | 0.95 | 240             | 400         | 400   | 503      |
|                     |      | 10  |     |     | 55E  | CHO  | 0.87 | 421             | 432         | 423   |          |
|                     |      | 11  |     |     | 42E  | CHI  | 0.76 | 530             | 407         | 397   | 506      |
|                     |      | 12  |     |     | 28E  | CHO  | 0.62 | 589             | 375         | 370   |          |
|                     |      | 13  |     |     | 14E  | CHO  | 0.51 | 597             | 346         | 344   |          |
|                     |      | 14  |     |     | 2E   | CHI  | 0.46 | 580             | 327         | 320   |          |
|                     |      | 15  |     |     | 11W  | CHI  | 0.48 | 580             | 331         | 327   |          |
|                     |      | 16  |     |     | 26W  | HHX  | 0.61 | 421             | 265         | 249   |          |
|                     |      | 17  |     |     | 40W  | CHO  | 0.74 | 357             | 264         | 242   | 372      |
|                     |      | 18  |     |     | 54W  | CHI  | 0.86 | 214             | 212         | 207   | 395      |
|                     |      | 19  |     |     | 68W  | HHX  | 0.94 | 172             | 258         | 258   | 503      |
|                     |      | 20  |     |     | 79W  | HAX  | 0.99 | 67              | 223         | 223   | 348 PLAT |
| 210<br>8-13.3       | 8    | 9   | 33  | 164 | 50E  | AXX  | 0.79 | 8               | 7           | 3     |          |
|                     |      | 10  |     |     | 38E  | AXX  | 0.69 | 8               | 6           | 3     |          |
|                     |      | 14  |     |     | 11W  | BXO  | 0.47 | 8               | 5           | 2     |          |
|                     |      | 15  |     |     | 22W  | BXO  | 0.55 | 8               | 5           | 3     |          |
| 211<br>8-13.1       | 8    | 13  | -10 | 166 | 1W   | AXX  | 0.28 | 8               | 4           | 2     |          |
|                     |      | 14  |     |     | 14W  | AXX  | 0.36 | 8               | 5           | 2     |          |
| 212<br>8-13.8       | 8    | 13  | -19 | 157 | 8E   | BXO  | 0.44 | 8               | 5           | 2     |          |
| 213<br>8-19.1       | 8    | 13  | 25  | 87  | 74E  | DSO  | 0.95 | 25              | 42          | 21    |          |
|                     |      | 14  |     |     | 61E  | CAO  | 0.86 | 25              | 25          | 17    |          |

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| CMP Group |   | Date | Lat | L   | CMD | Type | r/R  | Sd  | Corre. Area |     | Photo | Remarks |
|-----------|---|------|-----|-----|-----|------|------|-----|-------------|-----|-------|---------|
| Mo-Day    |   |      |     |     |     |      |      |     | Whole       | Max |       |         |
|           |   | 15   |     |     | 49E | CAI  | 0.76 | 50  | 39          | 29  |       |         |
|           |   | 16   |     |     | 33E | BXO  | 0.57 | 25  | 15          | 5   |       |         |
|           |   | 17   |     |     | 20E | BXO  | 0.43 | 13  | 7           | 2   |       |         |
|           |   | 18   |     |     | 10E | BXI  | 0.36 | 13  | 7           | 2   |       |         |
|           |   | 22   |     |     | 45W | AXX  | 0.72 | 4   | 3           | 3   |       | PLAT    |
| 214       | 8 | 15   | 5   | 139 | 2E  | AXX  | 0.03 | 4   | 2           | 2   |       |         |
| 8-15.2    |   | 16   |     |     | 12W | AXX  | 0.21 | 4   | 2           | 2   |       |         |
| 215       | 8 | 15   | -20 | 138 | 3E  | BXI  | 0.46 | 21  | 12          | 2   |       |         |
| 8-15.3    |   | 16   |     |     | 15W | BXI  | 0.47 | 13  | 7           | 2   |       |         |
|           |   | 17   |     |     | 23W | BXO  | 0.56 | 13  | 8           | 3   |       |         |
| 216       | 8 | 18   | -20 | 64  | 33E | BXO  | 0.67 | 8   | 6           | 3   |       |         |
| 8-20.8    |   | 20   |     |     | 4E  | CRO  | 0.52 | 25  | 15          | 10  |       | PLAT    |
|           |   | 21   |     |     | 8W  | AXX  | 0.54 | 4   | 2           | 2   |       | PLAT    |
| 217       | 8 | 19   | 31  | 109 | 25W | AXX  | 0.55 | 4   | 3           | 3   |       |         |
| 8-17.4    |   |      |     |     |     |      |      |     |             |     |       |         |
| 218       | 8 | 19   | 20  | 27  | 58E | BXO  | 0.84 | 8   | 8           | 4   |       |         |
| 8-23.6    |   | 24   |     |     | 7W  | BXO  | 0.24 | 21  | 11          | 2   | 9     | PLAT    |
|           |   | 25   |     |     | 23W | DAI  | 0.43 | 421 | 232         | 116 | 91    |         |
|           |   | 26   |     |     | 35W | DAI  | 0.60 | 564 | 351         | 176 | 400   |         |
|           |   | 27   |     |     | 50W | FAC  | 0.77 | 463 | 363         | 158 | 464   |         |
|           |   | 28   |     |     | 64W | EAC  | 0.90 | 261 | 294         | 109 | 395   |         |
|           |   | 29   |     |     | 71W | DAI  | 0.93 | 126 | 173         | 75  | 202   |         |
|           |   | 30   |     |     | 87W | AXX  | 0.99 | 4   | 14          | 14  |       |         |
| 219       | 8 | 19   | 13  | 10  | 74E | CSO  | 0.95 | 42  | 70          | 63  | 246   |         |
| 8-24.9    |   | 20   |     |     | 63E | CSO  | 0.89 | 130 | 140         | 131 | 95    | PLAT    |
|           |   | 21   |     |     | 50E | CSO  | 0.76 | 193 | 148         | 142 | 213   | PLAT    |
|           |   | 22   |     |     | 36E | CSO  | 0.59 | 236 | 145         | 138 | 214   | PLAT    |
|           |   | 23   |     |     | 24E | CAI  | 0.40 | 265 | 145         | 140 | 197   | PLAT    |
|           |   | 24   |     |     | 11E | CAI  | 0.21 | 265 | 135         | 125 | 158   | PLAT    |
|           |   | 25   |     |     | 6W  | CSO  | 0.14 | 240 | 121         | 119 | 152   |         |
|           |   | 26   |     |     | 19W | CSO  | 0.33 | 227 | 120         | 118 | 176   |         |
|           |   | 27   |     |     | 33W | HSX  | 0.54 | 202 | 120         | 120 | 97    |         |
|           |   | 28   |     |     | 47W | DSI  | 0.72 | 168 | 122         | 98  | 127   |         |
|           |   | 29   |     |     | 57W | DAI  | 0.83 | 219 | 195         | 94  | 290   |         |
|           |   | 30   |     |     | 75W | DSI  | 0.95 | 71  | 119         | 42  | 252   |         |
| 220       | 8 | 20   | -23 | 59  | 15E | BXO  | 0.55 | 8   | 5           | 3   |       | PLAT    |
| 8-21.3    |   | 21   |     |     | 3E  | BXO  | 0.49 | 4   | 2           | 2   |       | PLAT    |
|           |   | 22   |     |     | 8W  | AXX  | 0.51 | 4   | 2           | 2   |       | PLAT    |
| 221       | 8 | 20   | -18 | 17  | 57E | AXX  | 0.87 | 4   | 4           | 4   |       | PLAT    |
| 8-24.4    |   |      |     |     |     |      |      |     |             |     |       |         |
| 222       | 8 | 23   | 21  | 319 | 78E | BXO  | 0.97 | 8   | 16          | 8   |       | PLAT    |
| 8-28.8    |   | 24   |     |     | 63E | BXO  | 0.89 | 8   | 9           | 5   |       | PLAT    |
|           |   | 25   |     |     | 46E | BXO  | 0.72 | 17  | 12          | 3   | 7     |         |

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| CMP Group |   | Date | Lat | L   | CMD | Type | r/R  | Sd  | Corre. Area |     | Photo | Remarks |
|-----------|---|------|-----|-----|-----|------|------|-----|-------------|-----|-------|---------|
| Mo-Day    |   |      |     |     |     |      |      |     | Whole       | Max |       |         |
|           |   | 26   |     |     | 31E | BXI  | 0.54 | 29  | 17          | 2   |       |         |
|           |   | 27   |     |     | 19E | BXI  | 0.39 | 29  | 16          | 2   | 7     |         |
|           |   | 28   |     |     | 6E  | BXO  | 0.26 | 8   | 4           | 2   |       |         |
|           |   | 29   |     |     | 4W  | BXO  | 0.24 | 13  | 7           | 2   |       |         |
|           |   | 30   |     |     | 19W | BXO  | 0.40 | 8   | 5           | 2   |       |         |
| 223       | 8 | 24   | -36 | 1   | 21E | BXO  | 0.74 | 8   | 6           | 3   |       | PLAT    |
| 8-25.6    |   |      |     |     |     |      |      |     |             |     |       |         |
| 224       | 8 | 25   | 23  | 309 | 57E | AXX  | 0.84 | 8   | 8           | 4   |       |         |
| 8-29.5    |   | 26   |     |     | 44E | AXX  | 0.70 | 8   | 6           | 3   |       |         |
|           |   | 27   |     |     | 29E | BXO  | 0.53 | 8   | 5           | 2   |       |         |
|           |   | 28   |     |     | 16E | BXO  | 0.38 | 8   | 5           | 2   |       |         |
|           |   | 29   |     |     | 7E  | AXX  | 0.31 | 8   | 4           | 2   |       |         |
| 225       | 8 | 25   | -21 | 291 | 73E | DKO  | 0.98 | 244 | 572         | 562 | 626   |         |
| 8-30.9    |   | 26   |     |     | 60E | EKO  | 0.91 | 463 | 552         | 477 | 589   |         |
|           |   | 27   |     |     | 47E | EKO  | 0.80 | 711 | 598         | 506 | 604   |         |
|           |   | 28   |     |     | 34E | EKO  | 0.69 | 862 | 595         | 528 | 679   |         |
|           |   | 29   |     |     | 24E | EKO  | 0.59 | 841 | 519         | 480 | 656   |         |
|           |   | 30   |     |     | 9E  | EAO  | 0.49 | 664 | 382         | 242 | 507   |         |
|           | 9 | 1    |     |     | 14W | CKI  | 0.52 | 660 | 386         | 359 |       |         |
|           |   | 2    |     |     | 31W | CKO  | 0.66 | 454 | 301         | 289 |       |         |
|           |   | 3    |     |     | 44W | CKO  | 0.78 | 374 | 300         | 249 |       |         |
|           |   | 4    |     |     | 56W | CAI  | 0.87 | 236 | 242         | 207 |       |         |
|           |   | 5    |     |     | 66W | HAX  | 0.93 | 130 | 179         | 173 |       | PLAT    |
|           |   | 6    |     |     | 82W | HAX  | 0.99 | 42  | 139         | 139 |       |         |
| 226       | 8 | 26   | 21  | 277 | 69E | HRX  | 0.92 | 13  | 16          | 16  |       |         |
| 9- 1.0    |   | 27   |     |     | 55E | CSI  | 0.82 | 76  | 65          | 58  | 20    |         |
|           |   | 28   |     |     | 42E | CRI  | 0.67 | 55  | 37          | 25  | 62    |         |
|           |   | 29   |     |     | 34E | DAI  | 0.57 | 93  | 57          | 21  | 182   |         |
|           |   | 30   |     |     | 22E | CAI  | 0.43 | 193 | 107         | 70  | 234   |         |
|           | 9 | 1    |     |     | 1W  | EAI  | 0.25 | 475 | 246         | 148 |       |         |
|           |   | 2    |     |     | 17W | EAI  | 0.37 | 286 | 154         | 90  |       |         |
|           |   | 3    |     |     | 29W | EAI  | 0.51 | 227 | 132         | 76  |       |         |
|           |   | 4    |     |     | 44W | ERI  | 0.69 | 93  | 64          | 12  |       |         |
|           |   | 5    |     |     | 54W | BXO  | 0.80 | 21  | 18          | 4   |       | PLAT    |
|           |   | 6    |     |     | 72W | AXX  | 0.94 | 4   | 6           | 6   |       |         |
| 227       | 8 | 27   | 21  | 350 | 12W | AXX  | 0.31 | 4   | 2           | 2   |       |         |
| 8-26.4    |   | 28   |     |     | 26W | AXX  | 0.48 | 4   | 2           | 2   |       |         |
| 228       | 8 | 27   | -20 | 332 | 7E  | AXX  | 0.46 | 4   | 2           | 2   |       |         |
| 8-27.8    |   |      |     |     |     |      |      |     |             |     |       |         |
| 229       | 8 | 27   | 14  | 319 | 20E | BXI  | 0.34 | 34  | 18          | 4   | 28    |         |
| 8-28.8    |   | 28   |     |     | 6E  | BXI  | 0.16 | 13  | 6           | 2   | 21    |         |
|           |   | 29   |     |     | 2W  | BXO  | 0.13 | 8   | 4           | 2   |       |         |
|           |   | 30   |     |     | 19W | BXI  | 0.34 | 8   | 4           | 2   |       |         |

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| CMP Group |   | Date | Lat | L   | CMD | Type | r/R  | Sd   | Corre. Area |     | Photo | Remarks |
|-----------|---|------|-----|-----|-----|------|------|------|-------------|-----|-------|---------|
| Mo-Day    |   |      |     |     |     |      |      |      | Whole       | Max |       |         |
| 230       | 8 | 27   | -13 | 268 | 71E | DSO  | 0.95 | 88   | 147         | 126 | 197   |         |
| 9- 1.6    |   | 28   |     |     | 58E | DSO  | 0.87 | 105  | 108         | 56  | 110   |         |
|           |   | 29   |     |     | 48E | DAO  | 0.78 | 105  | 84          | 64  | 118   |         |
|           |   | 30   |     |     | 33E | DSO  | 0.62 | 88   | 56          | 38  | 82    |         |
|           | 9 | 1    |     |     | 8E  | CRO  | 0.37 | 46   | 25          | 16  |       |         |
|           |   | 2    |     |     | 9W  | CRO  | 0.38 | 38   | 20          | 16  |       |         |
|           |   | 3    |     |     | 22W | CRO  | 0.49 | 17   | 10          | 7   |       |         |
|           |   | 4    |     |     | 34W | CRO  | 0.63 | 17   | 11          | 8   |       |         |
|           |   | 5    |     |     | 43W | AXX  | 0.74 | 8    | 6           | 6   |       | PLAT    |
|           |   | 6    |     |     | 62W | AXX  | 0.90 | 4    | 5           | 5   |       |         |
|           |   | 7    |     |     | 73W | AXX  | 0.97 | 4    | 8           | 8   |       |         |
| 231       | 8 | 27   | -20 | 256 | 79E | DAI  | 0.99 | 219  | 723         | 376 | 209   |         |
| 9- 2.6    |   | 28   |     |     | 69E | EKI  | 0.94 | 530  | 793         | 315 | 727   |         |
|           |   | 29   |     |     | 60E | EKC  | 0.90 | 976  | 1101        | 432 | 1356  |         |
|           |   | 30   |     |     | 43E | EKC  | 0.76 | 1581 | 1213        | 555 | 1483  |         |
|           | 9 | 1    |     |     | 20E | EKC  | 0.67 | 2103 | 1411        | 432 |       |         |
|           |   | 2    |     |     | 3E  | EKI  | 0.46 | 2044 | 1151        | 455 |       |         |
|           |   | 3    |     |     | 10W | EKI  | 0.49 | 2006 | 1154        | 474 |       |         |
|           |   | 4    |     |     | 22W | EKI  | 0.56 | 1661 | 1005        | 545 |       |         |
|           |   | 5    |     |     | 31W | EKC  | 0.64 | 1430 | 934         | 310 |       | PLAT    |
|           |   | 6    |     |     | 49W | EKI  | 0.84 | 1051 | 966         | 673 |       |         |
|           |   | 7    |     |     | 62W | FKI  | 0.92 | 715  | 910         | 401 | 1004  |         |
|           |   | 8    |     |     | 74W | FSI  | 0.98 | 366  | 858         | 424 | 1212  |         |
|           |   | 9    |     |     | 79W | HSX  | 0.99 | 84   | 278         | 278 |       |         |
| 232       | 8 | 30   | 34  | 234 | 66E | AXX  | 0.91 | 4    | 5           | 5   |       |         |
| 9- 4.2    |   |      |     |     |     |      |      |      |             |     |       |         |

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SEPTEMBER 1988

| CMP Group |   | Date | Lat | L   | CMD | Type | r/R  | Sd  | Corre. Area |     | Photo | Remarks |
|-----------|---|------|-----|-----|-----|------|------|-----|-------------|-----|-------|---------|
| Mo-Day    |   |      |     |     |     |      |      |     | Whole       | Max |       |         |
| 233       | 9 | 1    | 26  | 304 | 28W | BXO  | 0.54 | 8   | 5           | 2   |       |         |
| 8-29.9    |   | 2    |     |     | 42W | BXI  | 0.70 | 8   | 6           | 3   |       |         |
| 234       | 9 | 1    | 31  | 278 | 2W  | BXO  | 0.40 | 13  | 7           | 2   |       |         |
| 8-31.9    |   |      |     |     |     |      |      |     |             |     |       |         |
| 235       | 9 | 1    | 27  | 204 | 72E | AXX  | 0.94 | 4   | 6           | 6   |       |         |
| 9- 6.5    |   | 2    |     |     | 54E | AXX  | 0.82 | 8   | 7           | 7   |       |         |
|           |   | 3    |     |     | 41E | AXX  | 0.69 | 8   | 6           | 6   |       |         |
|           |   | 4    |     |     | 30E | AXX  | 0.57 | 4   | 3           | 3   |       |         |
| 236       | 9 | 1    | 23  | 205 | 73E | AXX  | 0.94 | 4   | 6           | 6   |       |         |
| 9- 6.4    |   | 2    |     |     | 54E | AXX  | 0.82 | 4   | 4           | 4   |       |         |
|           |   | 3    |     |     | 41E | AXX  | 0.68 | 4   | 3           | 3   |       |         |
| 237       | 9 | 2    | 22  | 252 | 7E  | AXX  | 0.29 | 4   | 2           | 2   |       |         |
| 9- 2.9    |   | 3    |     |     | 6W  | BXI  | 0.30 | 8   | 4           | 2   |       |         |
|           |   | 4    |     |     | 14W | BXI  | 0.38 | 8   | 5           | 2   |       |         |
| 238       | 9 | 3    | 31  | 158 | 86E | HRX  | 0.99 | 8   | 28          | 28  |       |         |
| 9-10.0    |   | 4    |     |     | 76E | CSO  | 0.97 | 25  | 48          | 40  |       |         |
|           |   | 5    |     |     | 65E | CAO  | 0.91 | 34  | 40          | 35  |       | PLAT    |
|           |   | 6    |     |     | 48E | BXO  | 0.78 | 8   | 7           | 3   |       |         |
|           |   | 7    |     |     | 38E | BXO  | 0.68 | 13  | 9           | 6   |       |         |
|           |   | 8    |     |     | 23E | AXX  | 0.54 | 4   | 2           | 2   |       |         |
|           |   | 9    |     |     | 12E | AXX  | 0.45 | 4   | 2           | 2   |       |         |
| 239       | 9 | 4    | 19  | 231 | 4E  | BXO  | 0.22 | 13  | 6           | 2   |       |         |
| 9- 4.5    |   | 5    |     |     | 7W  | BXO  | 0.23 | 42  | 22          | 13  |       | PLAT    |
|           |   | 6    |     |     | 25W | BXO  | 0.46 | 21  | 12          | 7   |       |         |
|           |   | 7    |     |     | 36W | BXI  | 0.60 | 25  | 16          | 5   | 26    |         |
|           |   | 8    |     |     | 52W | AXX  | 0.78 | 4   | 3           | 3   | 10    |         |
| 240       | 9 | 4    | 12  | 166 | 68E | AXX  | 0.92 | 4   | 5           | 5   |       |         |
| 9- 9.3    |   |      |     |     |     |      |      |     |             |     |       |         |
| 241       | 9 | 5    | -20 | 144 | 77E | HAX  | 0.98 | 105 | 247         | 247 |       | PLAT    |
| 9-11.0    |   | 6    |     |     | 60E | HAX  | 0.91 | 88  | 105         | 105 |       |         |
|           |   | 7    |     |     | 48E | HAX  | 0.82 | 114 | 98          | 98  | 80    |         |
|           |   | 8    |     |     | 36E | HSX  | 0.70 | 139 | 97          | 56  | 60    |         |
|           |   | 9    |     |     | 24E | HSX  | 0.59 | 147 | 91          | 57  |       |         |
|           |   | 10   |     |     | 11E | HSX  | 0.48 | 139 | 79          | 55  | 84    |         |
|           |   | 11   |     |     | 5W  | HSX  | 0.46 | 114 | 64          | 47  | 47    |         |
|           |   | 12   |     |     | 14W | CSO  | 0.49 | 63  | 36          | 29  | 41    |         |
|           |   | 13   |     |     | 29W | CSO  | 0.62 | 55  | 35          | 32  | 56    |         |
|           |   | 14   |     |     | 42W | HSX  | 0.75 | 50  | 38          | 35  |       | PLAT    |
|           |   | 15   |     |     | 53W | HRX  | 0.85 | 34  | 32          | 28  |       |         |
|           |   | 16   |     |     | 66W | BXO  | 0.93 | 8   | 12          | 6   |       |         |
|           |   | 17   |     |     | 80W | AXX  | 0.99 | 4   | 14          | 14  |       |         |
| 242       | 9 | 5    | 17  | 251 | 28W | BXO  | 0.45 | 21  | 12          | 9   |       | PLAT    |
| 9- 2.9    |   |      |     |     |     |      |      |     |             |     |       |         |

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| CMP Group |   | Date | Lat | L   | CMD | Type | r/R  | Sd  | Corre. Area |     | Photo | Remarks |
|-----------|---|------|-----|-----|-----|------|------|-----|-------------|-----|-------|---------|
| Mo-Day    |   |      |     |     |     |      |      |     | Whole       | Max |       |         |
| 243       | 9 | 5    | 22  | 147 | 76E | AXO  | 0.95 | 8   | 14          | 7   |       | PLAT    |
| 9-10.8    |   |      |     |     |     |      |      |     |             |     |       |         |
| 244       | 9 | 6    | -26 | 218 | 11W | AXX  | 0.56 | 4   | 3           | 3   |       |         |
| 9- 5.4    |   | 7    |     |     | 26W | AXX  | 0.64 | 4   | 3           | 3   |       |         |
|           |   | 8    |     |     | 37W | AXX  | 0.75 | 4   | 3           | 3   |       |         |
|           |   | 10   |     |     | 55W | BXO  | 0.89 | 13  | 14          | 5   |       |         |
| 245       | 9 | 7    | 16  | 253 | 58W | BXO  | 0.84 | 25  | 23          | 12  |       |         |
| 9- 2.8    |   | 8    |     |     | 69W | CRO  | 0.92 | 29  | 37          | 32  |       |         |
|           |   | 9    |     |     | 81W | AXX  | 0.98 | 8   | 20          | 10  |       |         |
| 246       | 9 | 7    | 19  | 209 | 14W | BXI  | 0.31 | 34  | 18          | 4   | 33    |         |
| 9- 6.1    |   | 8    |     |     | 29W | CRO  | 0.51 | 34  | 19          | 17  | 24    |         |
|           |   | 9    |     |     | 43W | HRX  | 0.68 | 25  | 17          | 17  |       |         |
|           |   | 10   |     |     | 57W | AXX  | 0.83 | 8   | 7           | 7   | 37    |         |
|           |   | 11   |     |     | 76W | AXX  | 0.97 | 4   | 8           | 8   |       |         |
| 247       | 9 | 7    | -13 | 141 | 60E | AXX  | 0.90 | 4   | 5           | 5   |       |         |
| 9-11.2    |   | 8    |     |     | 44E | BXO  | 0.75 | 8   | 6           | 3   |       |         |
|           |   | 9    |     |     | 29E | BXI  | 0.57 | 17  | 10          | 3   |       |         |
|           |   | 10   |     |     | 15E | BXI  | 0.43 | 17  | 9           | 2   |       |         |
|           |   | 11   |     |     | 2W  | BXI  | 0.34 | 8   | 4           | 2   |       |         |
|           |   | 12   |     |     | 10W | BXO  | 0.39 | 13  | 7           | 2   |       |         |
|           |   | 13   |     |     | 24W | BXI  | 0.52 | 8   | 5           | 2   |       |         |
| 248       | 9 | 7    | 31  | 106 | 87E | AXX  | 0.99 | 4   | 14          | 14  |       |         |
| 9-13.9    |   | 8    |     |     | 74E | HRX  | 0.95 | 34  | 56          | 28  |       |         |
|           |   | 9    |     |     | 63E | CSO  | 0.90 | 76  | 85          | 76  |       |         |
|           |   | 10   |     |     | 49E | CSO  | 0.78 | 135 | 108         | 105 | 86    |         |
|           |   | 11   |     |     | 33E | CSO  | 0.62 | 210 | 134         | 131 | 73    |         |
|           |   | 12   |     |     | 23E | HAX  | 0.53 | 130 | 77          | 74  | 140   |         |
|           |   | 13   |     |     | 9E  | CAO  | 0.43 | 269 | 149         | 144 | 165   |         |
|           |   | 14   |     |     | 5W  | CSO  | 0.40 | 278 | 152         | 149 |       |         |
|           |   | 15   |     |     | 15W | HKX  | 0.46 | 307 | 173         | 170 |       | PLAT    |
|           |   | 16   |     |     | 27W | HKX  | 0.57 | 198 | 121         | 110 |       |         |
|           |   | 17   |     |     | 40W | HAX  | 0.70 | 109 | 77          | 41  |       |         |
|           |   | 18   |     |     | 52W | CRI  | 0.82 | 84  | 73          | 22  |       |         |
|           |   | 19   |     |     | 63W | ERI  | 0.89 | 76  | 81          | 32  |       |         |
|           |   | 20   |     |     | 76W | ERI  | 0.95 | 67  | 112         | 21  |       |         |
|           |   | 21   |     |     |     | BXO  | 0.99 | 17  | 56          | 14  |       | PLAT    |
| 249       | 9 | 9    | 13  | 98  | 79E | BXO  | 0.98 | 8   | 20          | 10  |       |         |
| 9-14.5    |   | 10   |     |     | 62E | CRO  | 0.87 | 21  | 22          | 17  | 22    |         |
|           |   | 11   |     |     | 44E | CRO  | 0.69 | 38  | 26          | 20  | 16    |         |
|           |   | 12   |     |     | 34E | BXI  | 0.55 | 13  | 8           | 3   | 15    |         |
|           |   | 13   |     |     | 21E | BXI  | 0.36 | 17  | 9           | 2   | 9     |         |
|           |   | 14   |     |     | 2E  | AXX  | 0.10 | 4   | 2           | 2   |       |         |
|           |   | 15   |     |     | 7W  | AXX  | 0.16 | 4   | 2           | 2   |       | PLAT    |
|           |   | 16   |     |     | 16W | BXI  | 0.30 | 8   | 4           | 2   |       |         |
| 250       | 9 | 10   | 17  | 137 | 19E | BXI  | 0.34 | 25  | 13          | 4   | 23    |         |
| 9-11.5    |   | 11   |     |     | 2E  | BXO  | 0.17 | 8   | 4           | 2   |       |         |

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| CMP Group |   | Date | Lat | L   | CMD | Type | r/R  | Sd  | Corre. Area |     | Photo | Remarks |
|-----------|---|------|-----|-----|-----|------|------|-----|-------------|-----|-------|---------|
| Mo-Day    |   |      |     |     |     |      |      |     | Whole       | Max |       |         |
|           |   | 12   |     |     | 9W  | BXI  | 0.22 | 8   | 4           | 2   |       |         |
|           |   | 13   |     |     | 23W | BXI  | 0.41 | 8   | 5           | 2   |       |         |
|           |   | 15   |     |     | 47W | AXX  | 0.72 | 4   | 3           | 3   |       |         |
| 251       | 9 | 11   | -25 | 178 | 39W | BXO  | 0.76 | 17  | 13          | 6   |       |         |
| 9- 8.4    |   | 12   |     |     | 49W | BXO  | 0.84 | 13  | 12          | 8   |       |         |
| 252       | 9 | 11   | -10 | 62  | 78E | DSO  | 0.99 | 71  | 236         | 181 |       |         |
| 9-17.2    |   | 12   |     |     | 68E | DSO  | 0.93 | 156 | 213         | 173 | 561   |         |
|           |   | 13   |     |     | 55E | DSO  | 0.84 | 404 | 371         | 209 | 480   |         |
|           |   | 14   |     |     | 38E | DHO  | 0.66 | 500 | 331         | 220 |       | PLAT    |
|           |   | 15   |     |     | 29E | DSO  | 0.55 | 416 | 250         | 202 |       |         |
|           |   | 16   |     |     | 16E | DSI  | 0.40 | 421 | 230         | 188 |       |         |
|           |   | 17   |     |     | 3E  | CSI  | 0.30 | 421 | 220         | 203 |       |         |
|           |   | 18   |     |     | 11W | CSI  | 0.34 | 421 | 224         | 213 |       |         |
|           |   | 19   |     |     | 25W | CSI  | 0.51 | 408 | 236         | 232 |       |         |
|           |   | 20   |     |     | 40W | CSO  | 0.69 | 315 | 218         | 215 |       |         |
|           |   | 21   |     |     | 50W | CSO  | 0.79 | 282 | 231         | 217 |       | PLAT    |
|           |   | 22   |     |     | 65W | HSX  | 0.92 | 156 | 198         | 198 |       |         |
|           |   | 23   |     |     | 79W | HSX  | 0.98 | 42  | 99          | 99  |       |         |
| 253       | 9 | 12   | -20 | 129 | 1E  | BXI  | 0.46 | 8   | 5           | 2   |       |         |
| 9-12.2    |   | 13   |     |     | 13W | BXO  | 0.49 | 21  | 12          | 5   | 36    |         |
|           |   | 14   |     |     | 27W | BXI  | 0.60 | 17  | 10          | 3   |       | PLAT    |
|           |   | 15   |     |     | 38W | BXI  | 0.71 | 13  | 9           | 3   |       |         |
|           |   | 16   |     |     | 50W | BXI  | 0.82 | 8   | 7           | 4   |       |         |
|           |   | 17   |     |     | 65W | BXO  | 0.93 | 17  | 23          | 12  |       |         |
|           |   | 18   |     |     | 75W | AXX  | 0.98 | 4   | 10          | 10  |       |         |
| 254       | 9 | 13   | 17  | 160 | 45W | BXI  | 0.70 | 17  | 12          | 3   |       |         |
| 9- 9.8    |   | 14   |     |     | 61W | DAO  | 0.86 | 122 | 120         | 75  |       | PLAT    |
|           |   | 15   |     |     | 72W | DSI  | 0.94 | 63  | 94          | 44  |       |         |
|           |   | 16   |     |     | 84W | HSX  | 0.99 | 29  | 97          | 70  |       |         |
| 255       | 9 | 13   | -7  | 136 | 21W | BXO  | 0.43 | 8   | 5           | 2   |       |         |
| 9-11.6    |   |      |     |     |     |      |      |     |             |     |       |         |
| 256       | 9 | 13   | 13  | 114 | 1E  | BXI  | 0.11 | 8   | 4           | 2   |       |         |
| 9-13.3    |   |      |     |     |     |      |      |     |             |     |       |         |
| 257       | 9 | 14   | 16  | 143 | 39W | AXX  | 0.62 | 8   | 5           | 5   |       | PLAT    |
| 9-11.1    |   |      |     |     |     |      |      |     |             |     |       |         |
| 258       | 9 | 15   | 32  | 43  | 48E | AXX  | 0.78 | 4   | 3           | 3   |       |         |
| 9-18.7    |   | 16   |     |     | 35E | BXO  | 0.67 | 17  | 11          | 3   |       |         |
|           |   | 17   |     |     | 21E | AXX  | 0.51 | 8   | 5           | 2   |       |         |
|           |   | 18   |     |     | 8E  | BXO  | 0.44 | 8   | 5           | 2   |       |         |
|           |   | 24   |     |     | 69W | AXX  | 0.92 | 4   | 5           | 5   |       |         |
| 259       | 9 | 16   | 22  | 48  | 29E | BXO  | 0.53 | 13  | 7           | 5   |       |         |
| 9-18.3    |   | 17   |     |     | 17E | BXI  | 0.38 | 8   | 5           | 2   |       |         |
| 260       | 9 | 17   | 15  | 71  | 7W  | BXI  | 0.18 | 8   | 4           | 2   |       |         |
| 9-16.5    |   |      |     |     |     |      |      |     |             |     |       |         |

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| CMP Group |   | Date | Lat | L   | CMD | Type | r/R  | Sd  | Corre. Area |     | Photo | Remarks |
|-----------|---|------|-----|-----|-----|------|------|-----|-------------|-----|-------|---------|
| Mo-Day    |   |      |     |     |     |      |      |     | Whole       | Max |       |         |
| 261       | 9 | 17   | -17 | 65  | 1W  | BXI  | 0.41 | 8   | 5           | 2   |       |         |
| 9-17.0    |   | 20   |     |     | 43W | BXO  | 0.76 | 17  | 13          | 6   |       |         |
|           |   | 22   |     |     | 70W | BXO  | 0.95 | 8   | 14          | 7   |       |         |
| 262       | 9 | 17   | 19  | 31  | 35E | BXO  | 0.59 | 8   | 5           | 3   |       |         |
| 9-19.6    |   | 18   |     |     | 20E | BXI  | 0.38 | 21  | 11          | 2   |       |         |
|           |   | 19   |     |     | 5E  | BXO  | 0.23 | 17  | 9           | 2   |       |         |
|           |   | 20   |     |     | 11W | BXI  | 0.28 | 17  | 9           | 4   |       |         |
|           |   | 21   |     |     | 22W | AXX  | 0.40 | 4   | 2           | 2   |       | PLAT    |
| 263       | 9 | 17   | -16 | 354 | 71E | DAO  | 0.95 | 59  | 98          | 70  |       |         |
| 9-22.4    |   | 18   |     |     | 58E | DAO  | 0.87 | 114 | 117         | 78  |       |         |
|           |   | 19   |     |     | 43E | DAI  | 0.75 | 223 | 168         | 149 |       |         |
|           |   | 20   |     |     | 29E | DAI  | 0.60 | 265 | 165         | 147 |       |         |
|           |   | 21   |     |     | 18E | CKI  | 0.47 | 299 | 169         | 143 |       | PLAT    |
|           |   | 22   |     |     | 3E  | DAI  | 0.40 | 526 | 287         | 230 |       |         |
|           |   | 23   |     |     | 9W  | CKI  | 0.41 | 366 | 201         | 178 |       |         |
|           |   | 24   |     |     | 24W | CAI  | 0.55 | 177 | 106         | 86  |       |         |
|           |   | 25   |     |     | 38W | CSI  | 0.68 | 160 | 109         | 66  |       | PLAT    |
|           |   | 26   |     |     | 52W | CAI  | 0.83 | 101 | 90          | 67  |       | PLAT    |
|           |   | 27   |     |     | 69W | CAI  | 0.93 | 101 | 138         | 109 |       | PLAT    |
| 264       | 9 | 18   | -29 | 106 | 55W | AXX  | 0.90 | 4   | 5           | 5   |       |         |
| 9-13.9    |   | 19   |     |     | 68W | AXX  | 0.97 | 4   | 8           | 8   |       |         |
| 265       | 9 | 18   | -36 | 347 | 65E | HAX  | 0.95 | 46  | 77          | 77  |       |         |
| 9-22.9    |   | 19   |     |     | 49E | HAX  | 0.90 | 160 | 180         | 176 |       |         |
|           |   | 20   |     |     | 35E | HAX  | 0.82 | 244 | 211         | 207 |       |         |
|           |   | 21   |     |     | 28E | CAI  | 0.77 | 320 | 251         | 194 |       | PLAT    |
|           |   | 22   |     |     | 10E | HSX  | 0.70 | 320 | 224         | 224 |       |         |
|           |   | 23   |     |     | 2W  | HKX  | 0.68 | 273 | 186         | 183 |       |         |
|           |   | 24   |     |     | 15W | HKX  | 0.71 | 265 | 189         | 189 |       |         |
|           |   | 25   |     |     | 26W | HAX  | 0.75 | 214 | 161         | 161 |       | PLAT    |
|           |   | 26   |     |     | 38W | HAX  | 0.82 | 210 | 182         | 182 |       | PLAT    |
|           |   | 27   |     |     | 51W | HAX  | 0.90 | 147 | 166         | 166 |       | PLAT    |
|           |   | 28   |     |     | 65W | HSX  | 0.95 | 126 | 210         | 210 |       | PLAT    |
| 266       | 9 | 18   | -37 | 336 | 78E | BXO  | 0.99 | 8   | 28          | 14  |       |         |
| 9-23.8    |   | 19   |     |     | 63E | BXI  | 0.95 | 13  | 21          | 7   |       |         |
|           |   | 20   |     |     | 45E | DRI  | 0.87 | 88  | 91          | 22  |       |         |
|           |   | 22   |     |     | 22E | CRI  | 0.75 | 42  | 32          | 9   |       |         |
|           |   | 23   |     |     | 10E | CRI  | 0.70 | 38  | 27          | 9   |       |         |
|           |   | 24   |     |     | 5W  | BXO  | 0.70 | 17  | 12          | 3   |       |         |
| 267       | 9 | 19   | -18 | 7   | 29E | BXO  | 0.62 | 8   | 5           | 3   |       |         |
| 9-21.4    |   |      |     |     |     |      |      |     |             |     |       |         |
| 268       | 9 | 19   | -20 | 345 | 52E | AXX  | 0.85 | 8   | 8           | 4   |       |         |
| 9-23.1    |   | 20   |     |     | 37E | AXX  | 0.70 | 8   | 6           | 3   |       |         |
|           |   | 23   |     |     | 1E  | BXO  | 0.45 | 8   | 5           | 2   |       |         |
|           |   | 24   |     |     | 15W | BXI  | 0.51 | 13  | 7           | 2   |       |         |

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| CMP Group |    | Date | Lat | L   | CMD Type | r/R  | Sd  | Corre. Area |           | Remarks |
|-----------|----|------|-----|-----|----------|------|-----|-------------|-----------|---------|
| Mo-Day    |    |      |     |     |          |      |     | Whole       | Max Photo |         |
| 269       | 9  | 19   | -38 | 317 | 75E BXO  | 0.99 | 8   | 28          | 14        |         |
| 9-25.2    |    | 20   |     |     | 61E BXO  | 0.95 | 8   | 14          | 7         |         |
|           |    | 21   |     |     | 53E AXX  | 0.92 | 13  | 16          | 5         | PLAT    |
|           |    | 22   |     |     | 40E AXX  | 0.85 | 8   | 8           | 4         |         |
|           |    | 23   |     |     | 28E AXX  | 0.79 | 4   | 3           | 3         |         |
| 270       | 9  | 19   | 27  | 318 | 81E HRX  | 0.98 | 13  | 30          | 20        |         |
| 9-25.1    |    | 20   |     |     | 66E DRI  | 0.90 | 55  | 62          | 28        |         |
|           |    | 21   |     |     | 55E BXO  | 0.82 | 25  | 22          | 4         | PLAT    |
|           |    | 22   |     |     | 40E DAI  | 0.68 | 202 | 137         | 86        |         |
|           |    | 23   |     |     | 28E DAI  | 0.54 | 269 | 160         | 100       |         |
|           |    | 24   |     |     | 13E DAI  | 0.40 | 404 | 220         | 138       |         |
|           |    | 25   |     |     | 2E ESI   | 0.36 | 458 | 245         | 135       | PLAT    |
|           |    | 26   |     |     | 10W EKI  | 0.39 | 463 | 251         | 160       | PLAT    |
|           |    | 27   |     |     | 26W CKI  | 0.53 | 400 | 235         | 186       | PLAT    |
|           |    | 28   |     |     | 38W CSI  | 0.67 | 311 | 209         | 141       | PLAT    |
|           |    | 29   |     |     | 53W CSO  | 0.82 | 118 | 102         | 98        | PURP    |
|           |    | 30   |     |     | 68W CSO  | 0.92 | 84  | 107         | 102       |         |
|           | 10 | 1    |     |     | 81W HSX  | 0.98 | 59  | 138         | 138       |         |
| 271       | 9  | 20   | 32  | 351 | 29E BXI  | 0.60 | 21  | 13          | 5         |         |
| 9-22.6    |    | 21   |     |     | 20E BXO  | 0.52 | 34  | 20          | 2         | PLAT    |
|           |    | 22   |     |     | 6E BXO   | 0.44 | 13  | 7           | 2         |         |
|           |    | 23   |     |     | 6W BXO   | 0.44 | 8   | 5           | 2         |         |
|           |    | 24   |     |     | 20W BXO  | 0.53 | 8   | 5           | 2         |         |
| 272       | 9  | 20   | 22  | 313 | 67E CRO  | 0.91 | 21  | 25          | 20        |         |
| 9-25.5    |    | 21   |     |     | 55E BXO  | 0.82 | 17  | 15          | 4         | PLAT    |
|           |    | 22   |     |     | 40E BXO  | 0.64 | 8   | 5           | 3         |         |
|           |    | 23   |     |     | 27E BXI  | 0.51 | 13  | 7           | 2         |         |
|           |    | 24   |     |     | 19E CRI  | 0.40 | 29  | 16          | 11        |         |
|           |    | 25   |     |     | 5E CAI   | 0.29 | 97  | 50          | 26        | PLAT    |
|           |    | 26   |     |     | 7W CAI   | 0.29 | 126 | 66          | 48        | PLAT    |
|           |    | 27   |     |     | 21W CRO  | 0.44 | 88  | 49          | 35        | PLAT    |
|           |    | 28   |     |     | 32W DSO  | 0.57 | 88  | 54          | 23        | PLAT    |
|           |    | 29   |     |     | 49W BXO  | 0.77 | 4   | 3           | 3         | PURP    |
|           |    | 30   |     |     | 66W BXI  | 0.91 | 8   | 10          | 5         |         |
|           | 10 | 1    |     |     | 77W AXX  | 0.97 | 4   | 8           | 8         |         |
| 273       | 9  | 20   | 16  | 305 | 78E AXX  | 0.97 | 4   | 8           | 8         |         |
| 9-26.1    |    | 22   |     |     | 51E AXX  | 0.77 | 4   | 3           | 3         |         |
|           |    | 23   |     |     | 41E BXO  | 0.64 | 8   | 5           | 3         |         |
| 274       | 9  | 20   | 21  | 303 | 79E AXX  | 0.98 | 8   | 20          | 10        |         |
| 9-26.2    |    | 21   |     |     | 71E BXO  | 0.94 | 21  | 31          | 6         | PLAT    |
|           |    | 22   |     |     | 55E CRO  | 0.82 | 42  | 36          | 15        |         |
|           |    | 23   |     |     | 44E BXI  | 0.69 | 38  | 26          | 6         |         |
|           |    | 24   |     |     | 28E CRI  | 0.51 | 29  | 17          | 10        |         |
|           |    | 25   |     |     | 18E BXI  | 0.38 | 55  | 30          | 2         | PLAT    |
|           |    | 26   |     |     | 4E BXI   | 0.26 | 59  | 31          | 2         | PLAT    |
|           |    | 27   |     |     | 9W BXO   | 0.30 | 13  | 7           | 2         | PLAT    |

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| CMP Group<br>Mo-Day | Date | Lat | L   | CMD | Type | r/R  | Sd  | Corre.<br>Whole | Area<br>Max | Photo | Remarks |
|---------------------|------|-----|-----|-----|------|------|-----|-----------------|-------------|-------|---------|
|                     | 28   |     |     | 22W | AXO  | 0.43 | 8   | 5               | 2           |       | PLAT    |
|                     | 30   |     |     | 45W | BXI  | 0.71 | 13  | 9               | 3           |       |         |
| 10                  | 1    |     |     | 58W | BXI  | 0.84 | 8   | 8               | 8           |       |         |
|                     | 3    |     |     | 85W | AXX  | 0.99 | 4   | 14              | 14          |       |         |
| 275<br>9-20.4       | 9 21 | 19  | 20  | 8W  | AXO  | 0.24 | 13  | 7               | 2           |       | PLAT    |
|                     | 22   |     |     | 23W | BXO  | 0.43 | 17  | 9               | 2           |       |         |
|                     | 23   |     |     | 35W | BXI  | 0.59 | 13  | 8               | 3           |       |         |
|                     | 24   |     |     | 50W | BXI  | 0.76 | 8   | 6               | 3           |       |         |
|                     | 25   |     |     | 53W | AXX  | 0.79 | 4   | 3               | 3           |       | PLAT    |
|                     | 26   |     |     | 79W | AXO  | 0.97 | 13  | 24              | 8           |       | PLAT    |
| 276<br>9-20.7       | 9 22 | -17 | 16  | 19W | AXX  | 0.49 | 8   | 5               | 2           |       |         |
|                     | 23   |     |     | 37W | BXO  | 0.70 | 17  | 12              | 6           |       |         |
|                     | 24   |     |     | 51W | BXO  | 0.83 | 8   | 7               | 4           |       |         |
| 277<br>9-21.1       | 9 22 | 19  | 11  | 14W | BXI  | 0.31 | 42  | 22              | 4           |       |         |
|                     | 23   |     |     | 26W | BXI  | 0.47 | 21  | 12              | 2           |       |         |
|                     | 24   |     |     | 41W | BXO  | 0.66 | 17  | 11              | 3           |       |         |
| 278<br>9-24.4       | 9 22 | 19  | 328 | 30E | AXX  | 0.52 | 8   | 5               | 2           |       |         |
|                     | 23   |     |     | 19E | BXI  | 0.37 | 13  | 7               | 2           |       |         |
|                     | 24   |     |     | 4E  | DAI  | 0.22 | 135 | 69              | 32          |       |         |
|                     | 25   |     |     | 8W  | DAO  | 0.24 | 189 | 98              | 50          |       | PLAT    |
|                     | 26   |     |     | 20W | DAI  | 0.39 | 202 | 110             | 46          |       | PLAT    |
|                     | 27   |     |     | 34W | DAI  | 0.57 | 139 | 85              | 39          |       | PLAT    |
|                     | 28   |     |     | 50W | AXO  | 0.76 | 8   | 6               | 3           |       | PLAT    |
| 279<br>9-22.5       | 9 23 | 19  | 353 | 8W  | AXX  | 0.24 | 8   | 4               | 2           |       |         |
| 280<br>9-29.7       | 9 24 | 18  | 257 | 74E | DAO  | 0.95 | 139 | 232             | 119         |       |         |
|                     | 25   |     |     | 62E | DAI  | 0.87 | 362 | 372             | 225         |       | PLAT    |
|                     | 26   |     |     | 48E | DAI  | 0.76 | 357 | 274             | 113         |       | PLAT    |
|                     | 27   |     |     | 34E | ESI  | 0.57 | 450 | 275             | 128         |       | PLAT    |
|                     | 28   |     |     | 22E | DAI  | 0.41 | 391 | 215             | 92          |       | PLAT    |
|                     | 29   |     |     | 7E  | DSI  | 0.24 | 412 | 212             | 152         |       | PURP    |
|                     | 30   |     |     | 8W  | FAI  | 0.25 | 454 | 235             | 126         |       |         |
| 10                  | 1    |     |     | 21W | FAC  | 0.41 | 694 | 381             | 129         |       |         |
|                     | 3    |     |     | 48W | FAC  | 0.75 | 715 | 538             | 120         | 527   |         |
|                     | 4    |     |     | 58W | FAC  | 0.83 | 601 | 536             | 124         |       | PURP    |
|                     | 5    |     |     | 71W | EAI  | 0.91 | 324 | 387             | 95          | 545   | PLAT    |
|                     | 6    |     |     | 87W | BXO  | 0.99 | 29  | 97              | 42          |       |         |
| 281<br>9-30.3       | 9 24 | -18 | 249 | 75E | BXI  | 0.98 | 13  | 30              | 10          |       |         |
|                     | 25   |     |     | 60E | BXI  | 0.92 | 25  | 32              | 5           |       | PLAT    |
|                     | 26   |     |     | 48E | AXO  | 0.80 | 17  | 14              | 4           |       | PLAT    |
|                     | 27   |     |     | 34E | AXX  | 0.67 | 8   | 6               | 3           |       | PLAT    |
|                     | 30   |     |     | 0W  | BXI  | 0.41 | 13  | 7               | 2           |       |         |
| 10                  | 1    |     |     | 6W  | BXI  | 0.46 | 8   | 5               | 2           |       |         |
| 282<br>9-26.7       | 9 25 | -1  | 297 | 22E | AXX  | 0.39 | 4   | 2               | 2           |       | PLAT    |

SEPTEMBER 1988

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## H-ALPHA SOLAR FLARES

AUGUST 1988

| Day | Sta  | Time       |          |          | Lat | L   | CMD | Area Measurement |            |           | Imp | Obs Type | A.R. | Remarks |
|-----|------|------------|----------|----------|-----|-----|-----|------------------|------------|-----------|-----|----------|------|---------|
|     |      | Start (UT) | Max (UT) | End (UT) |     |     |     | Cen Dist         | Appar (Sd) | Corr (Sp) |     |          |      |         |
| ✓ 1 | YUNN | 0642E      | 0643     | 0716     | N34 | 298 | E24 | .588             | 482        | 298       | 2B  | P        | 197  | F       |
| 2   | YUNN | 0038E      | 0040     | 0044     | S22 | 359 | W46 | .800             | 24         | 20        | -N  | P        | 193  |         |
| 2   | YUNN | 0648       | 0652     | 0658D    | N13 | 359 | W50 | .760             | 80         | 62        | -N  | P        | 195  |         |
| 2   | BEIJ | 0717E      | 0717     | 0717D    | N14 | 1   | W52 | .770             | 109        | 85        | -F  | P        | 195  | D       |
| 3   | YUNN | 0141E      | 0141U    | 0144     | N26 | 329 | W30 | .569             | 24         | 15        | -N  | P        | 200  |         |
| 3   | YUNN | 0234       | 0237     | 0256     | N30 | 298 | W 0 | .408             | 32         | 18        | -F  | C        | 197  |         |
| 3   | YUNN | 0259       | 0302     | 0303     | N34 | 295 | E 3 | .474             | 64         | 36        | -F  | C        | 197  |         |
| 3   | YUNN | 0653E      | 0653U    | 0658     | N13 | 358 | W62 | .879             | 96         | 101       | 1F  | P        | 195  |         |
| 3   | YUNN | 0704       | 0708     | 0720     | N11 | 3   | W67 | .918             | 24         |           | -F  | C        | 190  |         |
| ✓ 3 | YUNN | 0830E      | 0834     | 0902     | N15 | 4   | W69 | .930             | 338        |           | 2B  | P        | 190  |         |
| 4   | YUNN | 0711       | 0717     | 0731     | N30 | 297 | W15 | .466             | 161        | 91        | -F  | C        | 197  |         |
| 8   | YUNN | 0122       | 0128     | 0138     | S15 | 263 | W30 | .587             | 32         | 20        | -F  | C        | 205  |         |
| 8   | YUNN | 0122       | 0138     | 0141D    | N22 | 206 | E27 | .505             | 129        | 75        | -F  | P        | 203  |         |
| 8   | YUNN | 0122       | 0128     | 0141     | N28 | 298 | W65 | .907             | 64         |           | -N  | C        | 197  | D       |
| 8   | YUNN | 0148       | 0158U    | 0210     | S16 | 260 | W27 | .568             | 32         | 19        | -F  | P        | 205  |         |
| 8   | YUNN | 0714E      | 0714U    | 0726     | N27 | 205 | E25 | .525             | 32         | 19        | -F  | P        | 204  |         |
| 8   | YUNN | 0804E      | 0804U    | 0852     | N29 | 297 | W68 | .924             | 32         |           | -B  | P        | 197  | F       |
| 8   | YUNN | 0847       | 0849U    | 0853     | N22 | 150 | E79 | .975             | 48         |           | -F  | P        | 208  |         |
| 9   | YUNN | 0231E      | 0231U    | 0245     | N22 | 204 | E15 | .367             | 161        | 87        | -F  | P        | 203  | E       |
| 9   | YUNN | 0836E      | 0837     | 0848     | N24 | 204 | E12 | .355             | 64         | 34        | -N  | P        | 203  |         |
| 9   | YUNN | 0836E      | 0837     | 0910     | S14 | 262 | W46 | .765             | 48         | 37        | -N  | P        | 205  |         |
| 9   | YUNN | 0836E      | 0837     | 0851     | N14 | 159 | E57 | .832             | 32         | 29        | -N  | P        | 207  |         |
| 9   | YUNN | 0856       | 0902     | 0912     | N14 | 159 | E56 | .820             | 177        | 155       | 1N  | C        | 207  |         |
| 10  | YUNN | 0043E      | 0046U    | 0036D    | N22 | 204 | E 3 | .267             | 64         | 33        | -F  | P        | 203  |         |
| 10  | YUNN | 0153       | 0158     | 0158D    | N12 | 205 | E 1 | .253             | 80         | 41        | -F  | P        | 203  |         |
| 10  | YUNN | 0232E      | 0242     | 0259D    | N21 | 157 | E49 | .760             | 64         | 49        | -F  | P        | 208  | D       |
| 10  | YUNN | 0232E      | 0232U    | 0259D    | N21 | 204 | E 2 | .252             | 193        | 100       | -B  | P        | 203  | F       |
| 10  | YUNN | 0257E      | 0259U    | 0259D    | S16 | 265 | W59 | .884             | 80         | 86        | -N  | P        | 205  | F       |
| 10  | YUNN | 0806       | 0809     | 0815     | S15 | 263 | W60 | .896             | 193        | 217       | 1N  | C        | 205  |         |
| 10  | YUNN | 0806E      | 0806U    | 0809     | N23 | 207 | W 4 | .288             | 129        | 67        | -F  | P        | 203  | F       |
| 10  | YUNN | 0824       | 0828     | 0840     | N32 | 200 | E 3 | .436             | 24         | 13        | -N  | C        | 204  |         |
| 10  | YUNN | 0907       | 0915     | 0928     | N21 | 156 | E46 | .728             | 241        | 176       | 1B  | C        | 208  |         |
| 10  | YUNN | 0919E      | 0919U    | 0931     | N22 | 204 | W 2 | .272             | 129        | 67        | -N  | P        | 203  |         |
| 11  | YUNN | 0307E      | 0311     | 0315     | N17 | 162 | E30 | .521             | 64         | 37        | -F  | P        | 207  |         |
| 12  | YUNN | 0302E      | 0312U    | 0318     | N20 | 156 | E23 | .441             | 80         | 45        | -N  | P        | 208  | F       |
| 13  | YUNN | 0753       | 0754     | 0757D    | N23 | 150 | E13 | .360             | 48         | 26        | -N  | P        | 208  |         |

## H-ALPHA SOLAR FLARES

AUGUST 1988

| Day | Sta  | T i m e    |          |          | Lat | L   | CMD | Area Measurement |            |           | Imp | Obs Type | A.R. | Remarks |
|-----|------|------------|----------|----------|-----|-----|-----|------------------|------------|-----------|-----|----------|------|---------|
|     |      | Start (UT) | Max (UT) | End (UT) |     |     |     | Cen Dist         | Appar (Sd) | Corr (Sp) |     |          |      |         |
| 16  | YUNN | 0543E      | 0543U    | 0558     | S28 | 151 | W26 | .679             | 64         | 44        | -F  | P        | 209  |         |
| 23  | BEIJ | 0855       | 0858U    | 0930     |     |     |     |                  |            |           | 1F  | V        |      | EF      |
| 27  | YUNN | 0905E      | 0906U    | 0906D    | N16 | 318 | E19 | .350             | 64         | 34        | -N  | P        | 229  |         |
| 28  | BEIJ | 0143       | 0145     | 0148     | N15 | 318 | E10 | .218             | 147        | 75        | -F  | C        | 229  | D       |
| 28  | BEIJ | 0736       | 0738     | 0740     | S19 | 251 | E74 | .966             | 84         |           | 1F  | C        | 231  | D       |
| 28  | BEIJ | 2331       | 2335     | 2340     | N18 | 280 | E36 | .598             | 134        | 84        | -B  | C        | 226  | E       |
| 30  | BEIJ | 0157       | 0209     | 0230     | S21 | 252 | E50 | .184             | 176        | 90        | -F  | C        | 231  | E       |
| 30  | BEIJ | 0201       | 0205     | 0213     | S20 | 22  | W80 | .977             | 34         |           | -F  | C        |      | E       |
| 30  | BEIJ | 0210       | 0213     | 0237     | N26 | 313 | W11 | .368             | 168        | 90        | -N  | C        | 222  | E       |

## H-ALPHA SOLAR FLARES

SEPTEMBER 1988

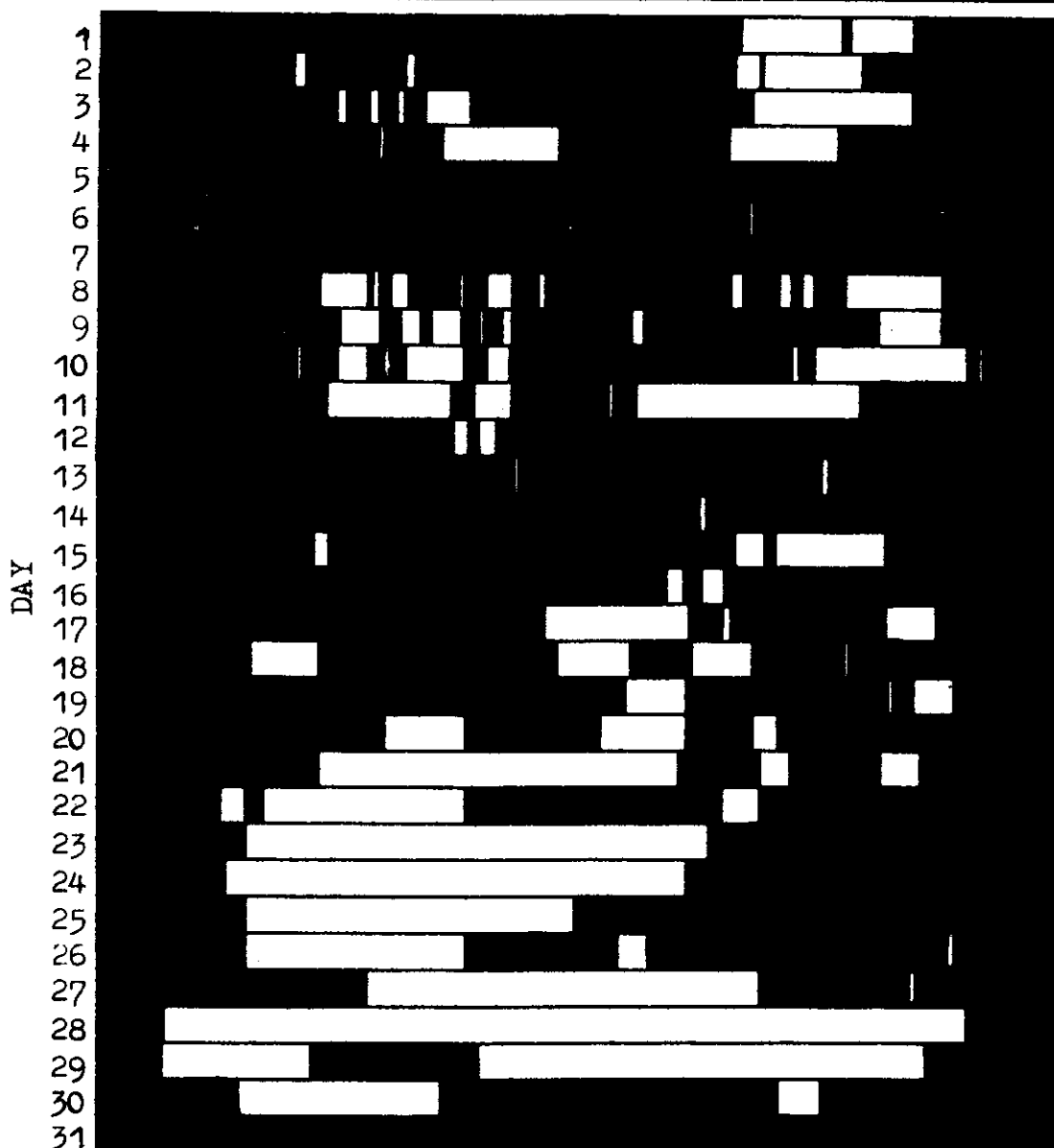
| Day | Sta  | T i m e    |          |          | Lat | L   | CMD | Area Measurement |            |           | Imp | Obs Type | A.R. | Remarks |
|-----|------|------------|----------|----------|-----|-----|-----|------------------|------------|-----------|-----|----------|------|---------|
|     |      | Start (UT) | Max (UT) | End (UT) |     |     |     | Cen Dist         | Appar (Sd) | Corr (Sp) |     |          |      |         |
| 3   | YUNN | 0723E      | 0726U    | 0730D    | S22 | 283 | W37 | .721             | 48         | 35        | -B  | P        | 225  |         |
| 8   | BEIJ | 0035       | 0045     | 0050     | S23 | 256 | W72 | .954             | 38         |           | -B  | P        | 231  | D       |
| 12  | BEIJ | 0025       | 0028     | 0048     | N28 | 211 | W80 | .977             | 38         |           | -N  | P        | 246  | D       |
| 17  | YUNN | 0313E      | 0323     | 0354     | S13 | 60  | E 3 | .341             | 64         | 34        | -N  | P        | 252  |         |
| 19  | YUNN | 0712       | 0714     | 0718     | N24 | 34  | E 1 | .291             | 32         | 17        | -N  | C        | 262  |         |
| 19  | YUNN | 0720       | 0724     | 0731     | N30 | 100 | W65 | .904             | 24         | 28        | -N  | C        | 248  |         |
| 20  | YUNN | 0635       | 0646     | 0653     | N29 | 316 | E66 | .912             | 96         |           | 1N  | C        | 270  |         |
| 20  | YUNN | 0640       | 0646     | 0653D    | S19 | 69  | W47 | .802             | 16         | 13        | -N  | P        | 261  |         |
| 22  | YUNN | 0316E      | 0317     | 0323     | N28 | 315 | E42 | .702             | 16         | 11        | -N  | P        | 270  |         |
| 22  | YUNN | 0323E      | 0332U    | 0343     | S14 | 354 | E 3 | .366             | 32         | 17        | -N  | P        | 263  |         |
| 22  | BEIJ | 0804       | 0807     | 0815     | N27 | 313 | E42 | .701             | 210        | 147       | 1N  | P        | 270  | D       |
| 23  | YUNN | 0044E      | 0044U    | 0130     | S16 | 354 | W 8 | .413             | 241        | 132       | 1N  | P        | 263  | F       |
| 23  | YUNN | 0048       | 0051     | 0122     | N18 | 257 | E88 | 1.               | 16         |           | -B  | C        | 280  | H       |
| 23  | YUNN | 0200       | 0206     | 0230     | N28 | 314 | E31 | .589             | 241        | 149       | 1B  | C        | 270  |         |
| 23  | YUNN | 0306E      | 0308     | 0318     | N29 | 312 | E32 | .605             | 321        | 202       | 1F  | P        | 270  |         |
| 23  | YUNN | 0423E      | 0424     | 0428     | S19 | 357 | W13 | .479             | 48         | 27        | -B  | P        | 263  |         |
| 23  | YUNN | 0431       | 0434     | 0442     | N23 | 310 | E33 | .587             | 48         | 30        | -B  | C        | 272  |         |
| 24  | BEIJ | 0358E      | 0358     | 0400D    | N28 | 312 | E18 | .448             | 134        | 75        | -N  | P        | 270  | E       |
| 24  | BEIJ | 0458E      | 0459     | 0500D    | S15 | 355 | W25 | .529             | 151        | 89        | -N  | P        | 263  | E       |
| 25  | BEIJ | 0033       | 0043     | 0110     | S18 | 251 | E68 | .942             | 442        |           | 2B  | C        | 281  | U       |
| 25  | BEIJ | 0526       | 0527     | 0530     | S18 | 358 | W42 | .736             | 84         | 62        | -N  | P        | 263  | D       |
| 25  | BEIJ | 0527E      | 0527     | 0530     | N23 | 315 | E 1 | .287             | 71         | 37        | -N  | P        | 272  | D       |
| 27  | BEIJ | 0634       | 0646     | 0703     | N21 | 291 | W 2 | .253             | 231        | 119       | 1B  | C        | 274  | E       |
| 30  | YUNN | 0904E      | 0904U    | 0908D    | N22 | 260 | W11 | .318             | 64         | 34        | -N  | P        | 280  |         |

# INTERVALS OF H-ALPHA FLARE PATROL OBSERVATION

HOURLY-UT

AUGUST 1988

22 23 0 1 2 3 4 5 6 7 8 9 10 11

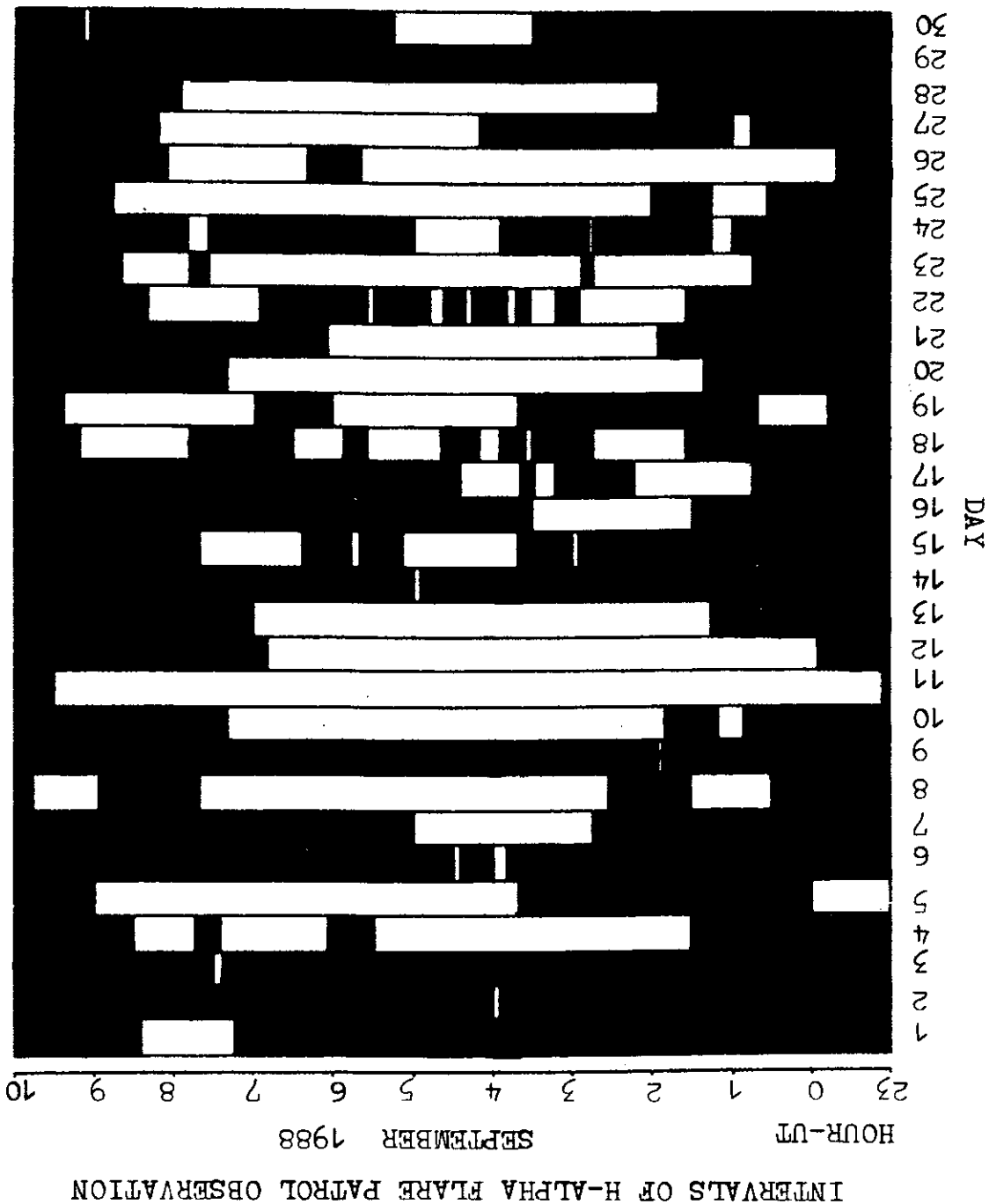


Combined reports from the observatories listed below.

BEIJ YUNN

BRID YUNN

Combined reports from the observatories listed below.



# SOLAR RADIO EMISSION FLUX

AUGUST 1988

| Day  | PURP<br>2700 | YUNN<br>2840 | BEIJ<br>2840 |
|------|--------------|--------------|--------------|
| 1    | 159          | 173          | 150          |
| 2    | 163          | 175          | 151          |
| 3    | 163          | 174          | 152          |
| 4    | 159          | 166          | 153          |
| 5    | 140          | 157          | 142          |
| 6    | 137          | 161          | 133          |
| 7    | 141          | 159          | 139          |
| 8    | 149          | 163          | 143          |
| 9    | 156          | 169          | 148          |
| 10   |              | 167          | 148          |
| 11   | 155          | 168          | 149          |
| 12   | 155          | 158          | 148          |
| 13   | 149          | 154          | 141          |
| 14   | 141          | 149          | 131          |
| 15   | 132          | 140          | 123          |
| 16   | 131          | 140          | 119          |
| 17   | 123          | 136          | 118          |
| 18   | 119          | 123          | 117          |
| 19   | 111          | 130          | 109          |
| 20   | 98           | 125          | 106          |
| 21   | 107          | 122          | 108          |
| 22   | 103          | 118          | 106          |
| 23   | 105          | 119          | 102          |
| 24   | 121          | 128          | 116          |
| 25   | 128          | 134          | 121          |
| 26   | 145          | 133          | 127          |
| 27   | 150          | 155          | 140          |
| 28   | 160          | 160          | 148          |
| 29   | 168          | 170          | 158          |
| 30   | 173          | 178          | 169          |
| 31   | 139          | 176          | 168          |
| Mean | 139.3        | 151.0        | 134.9        |

# SOLAR RADIO EMISSION FLUX

SEPTEMBER 1988

| Day  | PURP<br>2700 | YUNN<br>2840 | BEIJ<br>2840 |
|------|--------------|--------------|--------------|
| 1    | 168          | 178          | 164          |
| 2    | 153          | 183          | 164          |
| 3    | 146          | 175          | 161          |
| 4    | 154          | 191          | 146          |
| 5    | 148          | 187          | 146          |
| 6    | 148          | 176          | 141          |
| 7    | 137          | 172          | 141          |
| 8    | 129          |              | 129          |
| 9    | 114          | 144          | 116          |
| 10   | 116          | 134          | 105          |
| 11   | 116          | 148          | 106          |
| 12   | 112          | 148          | 108          |
| 13   | 116          | 150          | 110          |
| 14   | 106          | 139          | 111          |
| 15   | 107          | 145          | 115          |
| 16   | 117          | 153          | 109          |
| 17   | 122          | 151          | 112          |
| 18   | 128          | 161          | 117          |
| 19   | 129          | 156          | 123          |
| 20   | 136          | 174          | 128          |
| 21   | 144          | 184          | 139          |
| 22   | 160          | 190          | 149          |
| 23   | 150          | 195          | 150          |
| 24   | 163          | 193          | 157          |
| 25   | 170          | 198          | 160          |
| 26   | 161          | 189          | 167          |
| 27   | 156          | 175          | 162          |
| 28   | 157          | 175          | 157          |
| 29   | 165          | 191          | 158          |
| 30   | 165          | 179          | 150          |
| Mean | 139.8        | 170.1        | 136.7        |

## SOLAR RADIO EMISSION OUTSTANDING OCCURRENCES

AUGUST-SEPTEMBER 1988

| Day            | Freq | Sta  | Type   | Start<br>(UT) | Time of<br>Maximum<br>(UT) | Duration<br>(Min) | Flux<br>Peak | Density<br>Rel | Mean |
|----------------|------|------|--------|---------------|----------------------------|-------------------|--------------|----------------|------|
| AUGUST 1988    |      |      |        |               |                            |                   |              |                |      |
| 1              | 2700 | PURP | 20 GRF | 0522.0        | 0537.2                     | 120               | 35           |                |      |
| 1              | 2840 | BEIJ | 22 GRF | 0529          | 0537.4                     | 88                | 27.4         | 18.3           |      |
| 9              | 2840 | BEIJ | 1 S    | 0226          | 0226.8                     | 2                 | 9.0          | 6.1            |      |
| 9              | 2840 | BEIJ | 29 PBI | 0228          |                            | 30                | 1.8          | 1.2            |      |
| 10             | 2840 | BEIJ | 1 S    | 0231.4        | 0232.4                     | 4                 | 5.1          | 3.4            |      |
| 10             | 2840 | BEIJ | 3 S    | 0313.8        | 0314.2                     | 8                 | 10.9         | 7.3            |      |
| 14             | 2840 | BEIJ | 4 S/F  | 0252          | 0252.9                     | 2                 | 18.2         | 14.7           |      |
| 16             | 2840 | BEIJ | 1 S    | 0242          | 0243.1                     | 2                 | 6.6          | 5.5            |      |
| SEPTEMBER 1988 |      |      |        |               |                            |                   |              |                |      |
| 4              | 2840 | YUNN | 1 S    | 0642          | 0643.8                     | 7.9               | 6            |                |      |
| 8              | 2840 | BEIJ | 45 C   | 0207.2        | 0209.2                     | 3                 | 14.3         | 11.1           |      |
| 9              | 2840 | BEIJ | 1 S    | 0334          | 0336.9                     | 8                 | 4.4          | 3.8            |      |
| 9              | 2840 | BEIJ | 1 S    | 0510.7        | 0511.2                     | 1.3               | 2.5          | 2.2            |      |
| 9              | 2840 | BEIJ | 20 GRF | 0643          | 0644.7                     | 31                | 4.5          | 3.9            |      |
| 9              | 2840 | BEIJ | 1 S    | 0739.7        | 0740.6                     | 1.9               | 3.9          | 3.4            |      |
| 9              | 2840 | BEIJ | 1 S    | 0802          | 0803.2                     | 3                 | 7.2          | 6.2            |      |
| 12             | 2840 | BEIJ | 40 F   | 0308          | 0315                       | 16                | 8            | 7.5            |      |
| 12             | 2840 | BEIJ | 1 S    | 0716          | 0718                       | 4                 | 4            | 3.7            |      |
| 14             | 2840 | BEIJ | 21 GRF | 0742          | 0758                       | 31                | 2.6          | 2.3            |      |
| 14             | 2840 | BEIJ | 1 S    | 0801          | 0801.6                     | 1                 | 6.7          | 6.0            |      |
| 14             | 2840 | BEIJ | 1 S    | 0809          | 0809.3                     | 1                 | 7.5          | 6.7            |      |
| 20             | 2840 | BEIJ | 5 S    | 0222          | 0225                       | 5                 | 15.5         | 12.1           |      |
| 20             | 2840 | BEIJ | 8 S    |               | 0224                       |                   | 117.9        | 92.1           |      |
| 22             | 2840 | BEIJ | 1 S    | 0145          | 0146.8                     | 7                 | 9.7          | 6.5            |      |
| 22             | 2840 | BEIJ | 1 S    | 0329.5        | 0331                       | 2.5               | 7.4          | 5.0            |      |
| 22             | 2840 | BEIJ | 1 S    | 0734          | 0736.5                     | 5                 | 4.7          | 3.2            |      |
| 22             | 2700 | PURP | 4 S/F  | 0803          | 0806.9                     | 8                 | 87           |                |      |
| 22             | 2840 | YUNN | 45 C   | 0804.6        | 0807.1                     | 5.9               | 119          |                |      |
| 23             | 2840 | BEIJ | 1 S    | 0422          | 0422.8                     | 4                 | 6.1          | 4.1            |      |
| 24             | 2840 | BEIJ | 1 S    | 0450          | 0451.3                     | 2                 | 6.5          | 4.1            |      |
| 25             | 2700 | PURP | 28 PRE | 0023.3        |                            | 9.4               |              |                |      |
| 25             | 2700 | PURP | 47 GB  | 0032.7        | 0037.5                     | 16.3              | 720          |                |      |
| 25             | 2700 | PURP | 29 PBI | 0049.0        |                            | 10.5              |              |                |      |
| 25             | 2840 | BEIJ | 47 GB  | 0035 E        | 0037.7                     | 41 D              | 671.2        | 419.5          |      |
| 27             | 2840 | YUNN | 45 C   | 0637.4        | 0641.4                     | 18                | 19           |                |      |
| 30             | 2840 | BEIJ | 5 S    | 0056          | 0059.9                     | 10                | 23           | 15.3           |      |
| 30             | 2840 | BEIJ | 5 S    | 0132          | 0139.7                     | 28                | 14.8         | 9.9            |      |
| 30             | 2840 | BEIJ | 24 R   | 0203          | 0211                       | 16                | 9.1          | 6.1            |      |

INTERVALS OF SOLAR RADIO EMISSION PATROL OBSERVATION

AUGUST 1988

| Day | PURP |    | YUNN |    | BEIJ |    |
|-----|------|----|------|----|------|----|
|     | From | To | From | To | From | To |

2700  
2840  
2840

1 0000 0728 0059 0946 0000 0715

2 0004 0640 0250 0451 0003 0715

3 2328 2400 0000 0640 2343 2400

4 0000 0640 2347 2400 2343 2400

5 0000 0640 2340 2400 0000 0615

6 2340 2400 0000 0638 2340 2400

7 2318 2400 0000 0630 2338 2400

8 2347 2400 0000 0413 0000 0252

9 2350 2400 0000 0627 2358 2400

10 2345 2400 0000 0415 2350 2400

11 2342 2400 0000 0645 0017 0128

12 2341 2400 0050 0650 0233 0722

13 2341 2400 0042 0930 2338 2355

14 2319 2400 0132 0710 0000 0514

15 2339 2400 0100 0720 2354 2400

16 2339 2400 0110 0700 0000 0721

17 2328 2400 0100 0710 2333 2400

18 2321 2400 0130 0700 2309 2400

19 2321 2400 0120 0700 2319 2400

20 2324 2400 0110 0700 0000 0650

21 2351 2400 0505 0700 2333 2400

22 0000 0640 0130 0818 0000 0515

23 2325 2400 0150 0700 2349 2400

24 2325 2400 0120 0828 0000 0600

25 2345 2400 0211 1010 2349 2400

0000 0640 0000 0720 0000 0720

INTERVALS OF SOLAR RADIO EMISSION PATROL OBSERVATION

AUGUST-SEPTEMBER 1988

| Day | PURP |    | YUNN |    | BEIJ |    |
|-----|------|----|------|----|------|----|
|     | From | To | From | To | From | To |

AUGUST 1988

|    |           |           |           |           |
|----|-----------|-----------|-----------|-----------|
| 26 | 0005 0655 | 2325 2400 | 0100 1040 | 0001 0720 |
| 27 | 0000 0640 | 0000 0640 | 0050 1000 | 0010 0650 |
| 28 | 0004 0726 | 2327 2400 | 0145 0844 | 2334 2400 |
| 29 | 2325 2400 | 0000 0640 | 0100 0935 | 2350 2400 |
| 30 | 2346 2400 | 0000 0635 | 0045 0922 | 2357 2400 |
| 31 | 0000 0640 | 2347 2400 | 0100 1040 | 0330 0540 |

SEPTEMBER 1988

|    |           |           |           |           |
|----|-----------|-----------|-----------|-----------|
| 1  | 0030 0640 | 2320 2400 | 0020 1020 | 0000 0715 |
| 2  | 0000 0630 | 2357 2400 | 0048 0925 | 0320 0613 |
| 3  | 0000 0635 | 0000 0635 | 0025 1030 | 2358 2400 |
| 4  | 2314 2400 | 0000 0720 | 0140 0805 | 2342 2400 |
| 5  | 2344 2400 | 0000 0640 | 0035 1009 | 0000 0723 |
| 6  | 2345 2400 | 0000 0450 | 0050 1024 | 2345 2400 |
| 7  | 2346 2400 | 0000 0644 | 0030 1007 | 0239 0647 |
| 8  | 2348 2400 | 0000 0640 |           | 2355 2400 |
| 9  | 2353 2400 | 0000 0500 | 0035 0915 | 2357 2400 |
| 10 | 0053 0832 | 2352 2400 | 0030 0915 | 0000 0654 |
| 11 | 0045 0840 | 0053 0938 | 0110 1005 | 0041 0350 |
| 12 | 0043 0843 | 0110 0805 | 0046 0815 | 0056 0814 |
| 13 | 0036 0735 | 0200 0952 | 0053 0817 | 0055 0750 |
| 14 | 0034 0833 | 0110 1028 | 0055 0750 | 0050 0741 |
| 15 | 2350 2400 | 0100 1001 | 0050 0720 | 0041 0550 |
| 16 | 0000 0835 | 0200 0614 | 0040 0350 | 0044 0747 |
| 17 | 0014 0620 | 0124 0810 | 0030 0625 | 0042 0745 |
| 18 | 0014 0745 | 0030 1006 | 0046 0610 | 0040 0747 |
| 19 | 0055 0802 | 0110 0830 | 0025 0717 | 0038 0746 |
| 20 | 0049 0752 | 0145 1020 | 0052 0750 | 0025 0717 |
| 21 | 0400 0830 | 0120 1020 | 0058 1020 | 0046 0610 |
| 22 | 0044 0809 | 0130 1025 | 0058 1020 | 0058 0746 |
| 23 | 0037 0835 | 0100 1019 | 0042 0745 | 0044 0747 |
| 24 | 0009 0831 | 0100 1019 | 0042 0745 | 0041 0550 |
| 25 | 0040 0711 | 0120 1005 | 0040 0747 |           |
| 26 | 0040 0711 | 0130 1025 | 0038 0746 |           |
| 27 | 0223 0803 | 0100 1019 | 0042 0745 |           |
| 28 | 0007 0821 | 0100 1019 | 0042 0745 |           |
| 29 | 0016 0810 | 0100 1020 | 0044 0747 |           |
| 30 | 0036 0837 | 0105 1012 | 0041 0550 |           |

## SUDDEN IONOSPHERIC DISTURBANCES (D Layer)

AUGUST 1988

| Day | Sta  | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Imp | LF    | SPA<br>VLF | SFA<br>LF   |
|-----|------|---------------|-------------|-------------|-----|-------|------------|-------------|
| 1   | LINT | 0430          | 0411        | 0431        | 1-  | - 0.6 | -          | + 0.2       |
| 1   | LINT | 0533          | 0548        | 0623D       | 2-  | - 3.5 | -          | + 1.6       |
| 1   | LINT | 0615          | 0628        | 0710        | 1   | - 1.6 | -          | + 1.8       |
| 3   | YUNN | 0045          | 0052        | 0057        | 1+  | - 2.3 | -          | - 0.9       |
| 3   | LINT | 0044          | 0053        | 0107        | 1-  | - 0.7 | -          | - 0.9       |
| 3   | YUNN | 0420          | 0427        | 0457        | 1   | - 1.4 | -          | - 0.9       |
| 3   | YUNN | 0422          | 0427        | 0502        | 1   | - 1.2 | -          | - 0.9       |
| 3   | LINT | 0420          | 0428        | 0500        | 1-  | - 1.0 | -          | + 0.4       |
| 3   | LINT | 0730          | 0742        | 0830        | 2-  | - 3.4 | -          | + 3.3       |
| 3   | YUNN | 0756          | 0758        | 0801        | 1   | - 1.5 | -          | - 0.9       |
| 3   | YUNN | 0833          | 0838        | 0918        | 1+  | - 2.2 | -          | - 0.9       |
| 4   | LINT | 0215          | 0230        | 0245U       | 1-  | - 0.4 | -          | 0           |
| 4   | YUNN | 0453          | 0456        | 0524        | 1-  | - 0.9 | -          | - 0.9       |
| 4   | LINT | 0452          | 0459        | 0514        | 1-  | - 0.9 | -          | + 0.8       |
| 4   | YUNN | 0826          | 0828        | 0839        | 1+  | - 2.2 | -          | - 0.9       |
| 4   | YUNN | 0919          | 0923        | 0927        | 1   | - 2.0 | -          | - 0.9       |
| 4   | YUNN | 1051          | 1054        | 1100        | 3+  | -10.7 | -          | - 0.9       |
| 6   | YUNN | 0141          | 0142        | 0145        | 1-  | - 0.9 | -          | - 0.9       |
| 6   | LINT | 0340          | 0355        | 0415D       | 1-  | - 0.6 | -          | - 1.0       |
| 6   | LINT | 0415          | 0423        | 0441        | 1-  | - 0.3 | -          | 0           |
| 6   | LINT | 0520          | 0524        | 0546        | 1-  | - 0.5 | -          | - 0.7       |
| 7   | YUNN | 0010          | 0014        | 0054        | 2-  | - 3.1 | -          | - 0.7       |
| 7   | LINT | 0004          | 0018        | 0044        | 1   | - 1.8 | -          | + 0.5       |
| 7   | YUNN | 1043          | 1047        | 1100        | 3+  | -10.7 | -          | + 0.5       |
| 8   | LINT | 2354          | 0000        | 0018        | 1+  | - 2.9 | -          | - 0.7, +1.2 |
| 8   | LINT | 0225          | 0232        | 0250        | 1-  | - 0.5 | -          | - 0.9       |
| 8   | LINT | 0530          | 0537        | 0600        | 1-  | - 0.3 | -          | 0           |
| 8   | LINT | 0710          | 0715        | 0745        | 1-  | - 1.0 | -          | - 1.6       |
| 8   | YUNN | 0802          | 0805        | 0849        | 2-  | - 3.2 | -          | - 1.6       |
| 8   | LINT | 0802          | 0811        | 0850        | 2   | - 4.5 | -          | + 1.1       |
| 9   | LINT | 0227          | 0234        | 0258        | 1-  | - 0.6 | -          | - 0.7       |
| 9   | LINT | 0428          | 0438        | 0508        | 1-  | - 0.8 | -          | - 0.5       |
| 9   | LINT | 0533          | 0539        | 0556        | 1-  | - 0.7 | -          | 0           |
| 9   | YUNN | 0637          | 0641        | 0658        | 1   | - 1.3 | -          | 0           |
| 9   | LINT | 0636          | 0645        | 0728        | 1+  | - 2.3 | -          | + 1.7       |
| 10  | YUNN | 0231          | 0236        | 0316        | 1   | - 2.0 | -          | + 1.7       |
| 10  | LINT | 0232          | 0237        | 0302D       | 1   | - 1.8 | -          | - 2.1       |
| 10  | LINT | 0256          | 0301        | 0320        | 1-  | - 0.4 | -          | - 0.5       |
| 10  | LINT | 0722          | 0730        | 0752D       | 1   | - 1.2 | -          | - 0.6       |
| 10  | LINT | 0740          | 0758        | 0850        | 1   | - 1.9 | -          | - 0.7, +0.7 |
| 13  | YUNN | 1032          | 1035        | 1046        | 2+  | - 6.0 | -          | - 0.7, +0.7 |
| 13  | YUNN | 1049          | 1050        | 1055        | 3+  | -16.1 | -          | - 0.7, +0.7 |
| 15  | LINT | 0154          | 0157        | 0254U       | 1-  | - 0.2 | -          | 0           |
| 16  | LINT | 0436          | 0440        | 0502        | 1-  | - 0.2 | -          | 0           |
| 16  | LINT | 0546          | 0550        | 0606        | 1-  | - 0.1 | -          | - 0.5       |
| 16  | LINT | 0838          | 0843        | 0900        | 1-  | - 1.0 | -          | + 2.3       |
| 17  | LINT | 0011          | 0020        | 0040        | 1   | - 1.1 | -          | + 1.1       |
| 17  | YUNN | 0626          | 0628        | 0632        | 1   | - 1.7 | -          | + 1.1       |
| 18  | YUNN | 1005          | 1007        | 1016        | 2+  | - 5.6 | -          | + 1.1       |
| 21  | YUNN | 1029          | 1034        | 1100        | 3+  | -13.2 | -          | + 1.1       |
| 22  | YUNN | 0011          | 0012        | 0018        | 1+  | - 2.5 | -          | + 1.1       |
| 24  | LINT | 0520          | 0523        | 0528        | 1-  | - 0.4 | -          | - 0.4       |
| 25  | YUNN | 0017          | 0020        | 0024        | 2   | - 4.1 | -          | - 0.4       |

# SUDDEN IONOSPHERIC DISTURBANCES (D Layer)

AUGUST-SEPTEMBER 1988

| Day            | Sta  | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Imp | LF    | SPA<br>VLF | SFA<br>LF  |
|----------------|------|---------------|-------------|-------------|-----|-------|------------|------------|
| AUGUST 1988    |      |               |             |             |     |       |            |            |
| 25             | LINT | 0443          | 0450        | 0540        | 1-  | - 0.4 | -          | - 0.6      |
| 26             | LINT | 0451          | 0510        | 0540        | 1-  | - 0.6 | -          | - 1.0      |
| 28             | LINT | 0011          | 0018        | 0030        | 1-  | - 0.8 | -          | - 0.5      |
| 28             | LINT | 0335          | 0345        | 0430        | 1+  | - 2.5 | -          | - 2.4      |
| 28             | YUNN | 0340          | 0346        | 0419        | 1   | - 1.8 |            |            |
| 28             | YUNN | 1049          | 1055        | 1100        | 3+  | -19.4 |            |            |
| 29             | LINT | 0305          | 0310        | 0320U       | 1-  | - 0.2 | -          | 0          |
| 30             | LINT | 0136          | 0153        | 0300U       | 1+  | - 2.2 | -          | - 2.8      |
| 31             | YUNN | 0510          | 0511        | 0521        | 1   | - 1.3 |            |            |
| 31             | LINT | 0509          | 0513        | 0529D       | 1   | - 1.4 | -          | - 1.3      |
| 31             | LINT | 0529          | 0534        | 0632        | 1-  | - 0.4 | -          | 0          |
| 31             | LINT | 0815          | 0821        | 0838        | 1   | - 1.8 | -          | 0          |
| SEPTEMBER 1988 |      |               |             |             |     |       |            |            |
| 1              | LINT | 0349          | 0353        | 0450        | 1-  | - 0.2 | 0          | - 1.0      |
| 1              | YUNN | 0930          | 0939        | 0946        | 3+  | -26.1 |            |            |
| 2              | YUNN | 0752          | 0802        | 0832        | 2-  | - 3.4 |            |            |
| 2              | LINT | 0755          | 0802        | 0920        | 1   | - 1.6 | 0          | - 1.3      |
| 2              | YUNN | 1019          | 1024        | 1054        | 3+  | - 8.6 |            |            |
| 3              | YUNN | 0018          | 0022        | 0047        | 2+  | - 5.2 |            |            |
| 3              | LINT | 0406          | 0409        | 0510        | 1-  | - 0.2 | 0          | 0          |
| 3              | LINT | 0525          | 0532        | 0630        | 1-  | - 0.7 | 0          | - 2.2      |
| 3              | LINT | 0703          | 0712        | 0840        | 1+  | - 2.6 | - 2.2      | - 2.0,+1.7 |
| 3              | YUNN | 0708          | 0717        | 0807        | 1+  | - 3.0 |            |            |
| 5              | YUNN | 0457          | 0460        | 0525        | 1-  | - 0.8 |            |            |
| 5              | LINT | 0500          | 0509        | 0650        | 1-  | - 0.6 | 0          | - 2.2      |
| 6              | YUNN | 1013          | 1026        | 1032        | 3+  | -13.5 |            |            |
| 6              | YUNN | 1032          | 1040        | 1100        | 3   | - 7.1 |            |            |
| 8              | YUNN | 0038          | 0041        | 0056        | 2-  | - 3.5 |            |            |
| 8              | LINT | 0036          | 0051        | 0210        | 2-  | - 3.1 | - 4.2      | - 0.8,+0.6 |
| 11             | YUNN | 0025          | 0029        | 0046        | 2   | - 4.5 |            |            |
| 11             | LINT | 0102          | 0104        | 0210        | 1-  | - 0.3 | 0          | - 0.5      |
| 12             | YUNN | 0905          | 0906        | 0915        | 1+  | - 2.7 |            |            |
| 12             | YUNN | 0949          | 0951        | 0959        | 2+  | - 5.2 |            |            |
| 13             | YUNN | 0803          | 0809        | 0829        | 1   | - 1.8 |            |            |
| 16             | LINT | 0449          | 0500        | 0600        | 1-  | - 0.7 | - 0.8      | - 1.3      |
| 17             | YUNN | 0044          | 0048        | 0108        | 1+  | - 2.9 |            |            |
| 18             | LINT | 0642          | 0651        | 0830        | 1-  | - 0.9 | - 1.4      | - 1.6      |
| 19             | LINT | 0059          | 0107        | 0200        | 1-  | - 0.9 | - 1.3      | - 0.4      |
| 19             | YUNN | 0228          | 0231        | 0243        | 1   | - 2.0 |            |            |
| 19             | LINT | 0223          | 0242        | 0440        | 2   | - 4.2 | - 4.2      | - 4.9,+2.3 |
| 20             | LINT | 0224          | 0233        | 0500        | 2   | - 4.7 | - 4.1      | - 6.5,+3.8 |
| 20             | LINT | 0517          | 0523        | 0611D       | 1   | - 1.6 | - 1.2      | - 1.8      |
| 20             | LINT | 0611          | 0618        | 0714        | 1+  | - 2.1 | - 2.3      | - 0.6,+1.4 |
| 22             | YUNN | 0310          | 0314        | 0324        | 1+  | - 2.1 |            |            |
| 22             | LINT | 0310          | 0314        | 0410        | 1+  | - 2.4 | - 3.0      | - 2.6,+0.5 |
| 22             | LINT | 0516          | 0522        | 0640        | 1-  | - 0.5 | - 0.8      | - 1.0      |
| 22             | LINT | 0806          | 0812        | 0914        | 2+  | - 5.3 | - 6.0      | 0          |
| 22             | YUNN | 0808          | 0813        | 0952        | 2+  | - 5.1 |            |            |

## SUDDEN IONOSPHERIC DISTURBANCES (D Layer)

SEPTEMBER 1988

| Day | Sta  | Start<br>(UT) | Max<br>(UT) | End<br>(UT) | Imp | LF    | SPA<br>VLF | SFA<br>LF   |
|-----|------|---------------|-------------|-------------|-----|-------|------------|-------------|
| 22  | YUNN | 1034          | 1036        | 1100        | 2   | - 4.2 |            |             |
| 23  | LINT | 0053          | 0100        | 0200        | 1+  | - 2.3 | - 2.8      | + 0.4       |
| 23  | LINT | 0205          | 0211        | 0306D       | 1+  | - 2.5 | - 4.5      | - 0.8       |
| 23  | LINT | 0306          | 0311        | 0410        | 1-  | - 0.5 | - 1.1      | - 1.1       |
| 23  | LINT | 0527          | 0534        | 0621D       | 1-  | - 0.7 | - 1.1      | - 0.6       |
| 23  | LINT | 0621          | 0624        | 0645        | 1-  | - 0.4 | - 0.8      | - 0.4       |
| 24  | LINT | 0358          | 0402        | 0450D       | 1-  | - 0.3 | - 0.9      | - 1.0       |
| 24  | LINT | 0450          | 0454        | 0550        | 1-  | - 0.3 | - 1.0      | - 0.8       |
| 25  | YUNN | 0017          | 0025        | 0033        | 3   | - 7.7 |            |             |
| 25  | YUNN | 0035          | 0040        | 0055        | 2   | - 4.2 |            |             |
| 25  | LINT | 0025          | 0056        | 0300U       | 3+  | - 8.6 | - 9.4      | - 8.7, +4.7 |
| 26  | LINT | 0241          | 0258        | 0433        | 1   | - 1.8 | - 2.6      | - 7.1       |
| 26  | LINT | 0433          | 0442        | 0531D       | 1-  | - 0.7 | 0          | - 4.0       |
| 26  | LINT | 0531          | 0534        | 0700        | 1-  | - 0.5 | - 0.8      | - 2.8       |
| 26  | YUNN | 1024          | 1027        | 1100        | 2   | - 5.0 |            |             |
| 27  | YUNN | 0643          | 0646        | 0851        | 1   | - 1.7 |            |             |
| 28  | YUNN | 0858          | 0903        | 0913        | 3-  | - 6.9 |            |             |
| 29  | YUNN | 0455          | 0457        | 0512        | 1   | - 1.1 |            |             |
| 29  | YUNN | 0559          | 0601        | 0606        | 1   | - 1.5 |            |             |
| 29  | LINT | 0553          | 0605        | 0800        | 2+  | - 5.4 | - 4.4      | - 3.4, +3.2 |
| 29  | YUNN | 0609          | 0611        | 0620        | 1+  | - 2.3 |            |             |
| 29  | YUNN | 0902          | 0906        | 0926        | 3+  | - 9.4 |            |             |
| 30  | LINT | 0102          | 0114        | 0143D       | 2-  | - 4.0 | - 3.5      | - 2.4, +3.7 |
| 30  | LINT | 0143          | 0158        | 0330        | 1   | - 1.4 | - 2.5      | + 1.2       |
| 30  | LINT | 0458          | 0520        | 0800        | 1+  | - 2.7 | - 1.9      | - 1.4, +0.9 |

# GEOMAGNETIC ACTIVITY INDICES K AND A<sub>k</sub>

AUGUST 1988

| Day  | Three-Hourly Indices K |     |     |      |       |       |       |       | Sum  | A <sub>k</sub> |
|------|------------------------|-----|-----|------|-------|-------|-------|-------|------|----------------|
|      | 0-3                    | 3-6 | 6-9 | 9-12 | 12-15 | 15-18 | 18-21 | 21-24 |      |                |
| 1    | 3                      | 3   | 3   | 3    | 2     | 1     | 2     | 3     | 20   | 12             |
| 2 Q  | 4                      | 4   | 4   | 2    | 2     | 2     | 3     | 3     | 24   | 17             |
| 3    | 3                      | 3   | 3   | 3    | 2     | 2     | 0     | 2     | 18   | 10             |
| 4 Q  | 1                      | 2   | 1   | 1    | 1     | 2     | 0     | 2     | 10   | 4              |
| 5    | 1                      | 3   | 3   | 2    | 3     | 3     | 2     | 3     | 20   | 12             |
| 6    | 3                      | 4   | 4   | 2    | 1     | 1     | 1     | 2     | 18   | 12             |
| 7 Q  | 4                      | 4   | 3   | 2    | 2     | 2     | 1     | 2     | 20   | 13             |
| 8 Q  | 0                      | 2   | 1   | 1    | 1     | 1     | 2     | 3     | 11   | 5              |
| 9    | 4                      | 3   | 4   | 3    | 3     | 4     | 3     | 2     | 26   | 19             |
| 10   | 2                      | 2   | 3   | 2    | 2     | 1     | 2     | 2     | 16   | 8              |
| 11   | 2                      | 3   | 2   | 4    | 3     | 2     | 3     | 3     | 22   | 14             |
| 12 D | 3                      | 4   | 2   | 3    | 5     | 4     | 2     | 2     | 25   | 19             |
| 13 D | 3                      | 3   | 4   | 3    | 4     | 4     | 3     | 3     | 27   | 20             |
| 14 D | 3                      | 4   | 4   | 5    | 3     | 4     | 3     | 0     | 26   | 22             |
| 15   | 1                      | 3   | 5   | 4    | 5     | 3     | 2     | 2     | 25   | 21             |
| 16   | 3                      | 3   | 3   | 3    | 2     | 2     | 2     | 3     | 21   | 12             |
| 17 Q | 3                      | 3   | 2   | 3    | 1     | 1     | 1     | 2     | 16   | 9              |
| 18   | 3                      | 3   | 3   | 2    | 3     | 3     | 2     | 1     | 20   | 12             |
| 19   | 1                      | 2   | 2   | 3    | 2     | 3     | 2     | 2     | 17   | 9              |
| 20 D | 3                      | 2   | 4   | 3    | 6     | 4     | 3     | 2     | 27   | 24             |
| 21   | 1                      | 3   | 3   | 2    | 1     | 0     | 1     | 5     | 16   | 12             |
| 22 D | 6                      | 5   | 3   | 2    | 3     | 1     | 2     | 2     | 24   | 23             |
| 23   | 2                      | 3   | 3   | 3    | 3     | 3     | 3     | 3     | 23   | 14             |
| 24   | 3                      | 3   | 3   | 4    | 2     | 2     | 3     | 3     | 23   | 15             |
| 25   | 2                      | 3   | 4   | 4    | 3     | 3     | 3     | 3     | 25   | 17             |
| 26   | 3                      | 3   | 2   | 2    | 3     | 3     | 1     | 3     | 20   | 12             |
| 27   | 3                      | 3   | 3   | 3    | 3     | 2     | 3     | 3     | 23   | 14             |
| 28   | 2                      | 3   | 3   | 2    | 2     | 2     | 3     | 3     | 20   | 11             |
| 29   | 2                      | 3   | 3   | 3    | 2     | 2     | 2     | 2     | 19   | 10             |
| 30   | 4                      | 4   | 3   | 3    | 2     | 2     | 2     | 3     | 23   | 15             |
| 31   | 3                      | 3   | 3   | 2    | 2     | 4     | 3     | 3     | 23   | 15             |
|      |                        |     |     |      |       |       |       |       | Sum  | 432            |
|      |                        |     |     |      |       |       |       |       | Mean | 13.9           |

GEOMAGNETIC ACTIVITY INDICES K AND A<sub>k</sub>

SEPTEMBER 1988

| Day  | Three-Hourly Indices K |     |     |      |       |       |       |       | Sum  | A <sub>k</sub> |
|------|------------------------|-----|-----|------|-------|-------|-------|-------|------|----------------|
|      | 0-3                    | 3-6 | 6-9 | 9-12 | 12-15 | 15-18 | 18-21 | 21-24 |      |                |
| 1 D  | 3                      | 4   | 4   | 3    | 3     | 3     | 3     | 2     | 25   | 17             |
| 2    | 3                      | 4   | 4   | 2    | 3     | 2     | 2     | 2     | 22   | 14             |
| 3    | 3                      | 3   | 4   | 2    | 2     | 2     | 3     | 1     | 19   | 12             |
| 4    | 2                      | 3   | 3   | 2    | 2     | 1     | 1     | 2     | 16   | 8              |
| 5 Q  | 1                      | 2   | 3   | 3    | 2     | 1     | 0     | 1     | 13   | 7              |
| 6 Q  | 3                      | 3   | 2   | 2    | 2     | 2     | 3     | 1     | 18   | 10             |
| 7 Q  | 3                      | 3   | 3   | 2    | 1     | 1     | 2     | 2     | 17   | 9              |
| 8    | 2                      | 3   | 2   | 2    | 2     | 2     | 3     | 3     | 19   | 10             |
| 9 Q  | 2                      | 2   | 1   | 1    | 1     | 1     | 3     | 2     | 13   | 6              |
| 10   | 1                      | 3   | 2   | 2    | 2     | 3     | 4     | 4     | 21   | 14             |
| 11 D | 3                      | 4   | 6   | 5    | 6     | 4     | 4     | 5     | 37   | 44             |
| 12   | 4                      | 4   | 4   | 2    | 2     | 2     | 2     | 2     | 22   | 15             |
| 13   | 4                      | 3   | 5   | 3    | 3     | 2     | 3     | 1     | 24   | 18             |
| 14   | 3                      | 3   | 3   | 3    | 3     | 2     | 1     | 2     | 20   | 12             |
| 15   | 3                      | 2   | 3   | 1    | 4     | 4     | 2     | 2     | 21   | 14             |
| 16   | 2                      | 3   | 1   | 1    | 3     | 2     | 1     | 2     | 15   | 8              |
| 17 D | 3                      | 3   | 3   | 3    | 4     | 3     | 4     | 3     | 26   | 18             |
| 18 D | 5                      | 5   | 4   | 3    | 4     | 2     | 3     | 3     | 29   | 25             |
| 19 D | 4                      | 4   | 5   | 4    | 4     | 2     | 3     | 3     | 29   | 24             |
| 20   | 3                      | 4   | 2   | 2    | 1     | 2     | 3     | 2     | 19   | 11             |
| 21   | 3                      | 3   | 2   | 3    | 3     | 2     | 3     | 3     | 22   | 13             |
| 22   | 3                      | 4   | 4   | 4    | 3     | 5     | 2     | 1     | 26   | 21             |
| 23   | 2                      | 3   | 3   | 2    | 2     | 1     | 1     | 3     | 17   | 9              |
| 24   | 2                      | 3   | 1   | 2    | 2     | 2     | 2     | 3     | 17   | 9              |
| 25   | 4                      | 4   | 1   | 1    | 2     | 2     | 3     | 3     | 20   | 13             |
| 26   | 2                      | 4   | 3   | 3    | 4     | 2     | 2     | 3     | 23   | 15             |
| 27   | 3                      | 4   | 3   | 1    | 1     | 1     | 1     | 2     | 16   | 10             |
| 28   | 3                      | 3   | 1   | 2    | 2     | 2     | 2     | 2     | 17   | 9              |
| 29 Q | 2                      | 2   | 1   | 2    | 1     | 0     | 1     | 3     | 12   | 6              |
| 30   | 3                      | 2   | 3   | 2    | 3     | 3     | 3     | 2     | 21   | 12             |
|      |                        |     |     |      |       |       |       |       | Sum  | 413            |
|      |                        |     |     |      |       |       |       |       | Mean | 13.8           |

# MAGNETIC STORMS

AUGUST-SEPTEMBER 1988

| Time of Magnetic |    |    |            |    | Type | Sudden Com. Amplitude |     |     | Deg. of Acti. | Maximum Acti. on K-scale 3hour k |      |       | Maximum Range |     |     |
|------------------|----|----|------------|----|------|-----------------------|-----|-----|---------------|----------------------------------|------|-------|---------------|-----|-----|
| Beginning Day    | h  | m  | Ending Day | h  |      | D'                    | HnT | ZnT |               | Day                              | Int. | Index | D'            | HnT | ZnT |
| AUGUST 1988      |    |    |            |    |      |                       |     |     |               |                                  |      |       |               |     |     |
| 21               | 22 | 30 | 22         | 21 | SC   | 2.1                   | 23  |     | ms            | 22                               | 1    | 6     | 16.0          | 148 | 36  |
| SEPTEMBER 1988   |    |    |            |    |      |                       |     |     |               |                                  |      |       |               |     |     |
| 11               | 03 |    | 12         | 09 | ...  |                       |     |     | ms            | 11                               | 5    | 6     | 13.8          | 112 | 34  |