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 FEDERATION OF ASTRONOMICAL AND GEOPHYSICAL DATA ANALYSIS SERVICES  
 SERVICE INTERNATIONAL DES INDICES GEOMAGNETIQUES  
 INTERNATIONAL SERVICE OF GEOMAGNETIC INDICES



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**ISGI Publications Office Monthly Bulletin n°97 - 12 - December 1997**

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Explanations about published data are given in Special Issue 1994 of ISGI Monthly Bulletin.

Ce Bulletin est adressé gracieusement aux Scientifiques intéressés, grâce à une dotation du FAGS et au soutien du laboratoire d'accueil, le CETP, et des organismes français de Recherche Scientifique (CNRS, INSU, BCMT).  
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**PRELIMINARY REPORT ON RAPID VARIATIONS**

**DECEMBER 1997**

**SSC - Storm Sudden Commencements**

**SFE - Solar Flare Effects**

10 05 26 A : SOD\* DOB\* LER\* ESK\* WNG\* HAD\*  
 DOU\* HRB\* NAG\* COI BJI SPT\* LNP  
 HYB HER\* CNB\*  
 B : NUR VAL\* BDV GCK HTY\* KNY\* QUE  
 TEN  
 C : NGK CLF\* MMB\* EBR\* KAK\*  
 - : ETT\*  
 30 02 09 A : SOD\* WNG\* HRB COI BJI\* TEN HER\*  
 B : LER\* ESK\* HAD\* DOU NAG\* SPT  
 C : NGK VAL BDV\* GCK MMB\* EBR\* KAK  
 HTY\* KNY\* QUE LNP HYB  
 - : ETT

03 1322-1330 BDV  
 10 1118-1120 TEN (SSC: DOU\* CLF\* si : HRB)

**REPORTING OBSERVATORIES (up to th 3rd of february 1998) :**

SOD DOB NUR LER WNG ESK NGK VAL HAD DOU BDV CLF HRB NAG GCK MMB EBR COI BJI SPT FRD  
 KAK HTY KNY QUE TEN LNP HYB ETT HER CNB

**FIVE INTERNATIONAL QUIETEST DAYS**

**FIVE INTERNATIONAL MOST DISTURBED DAYS**

|                      |    |   |    |    |   |    |     |     |     |    |
|----------------------|----|---|----|----|---|----|-----|-----|-----|----|
| <b>December 1997</b> | 27 | 8 | 28 | 13 | 9 | 30 | 10* | 11* | 18* | 5* |
|----------------------|----|---|----|----|---|----|-----|-----|-----|----|

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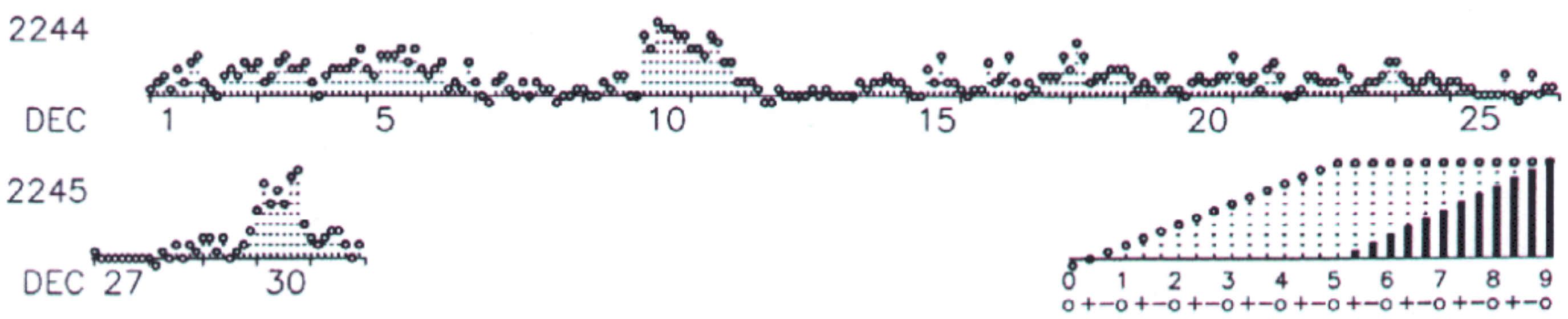
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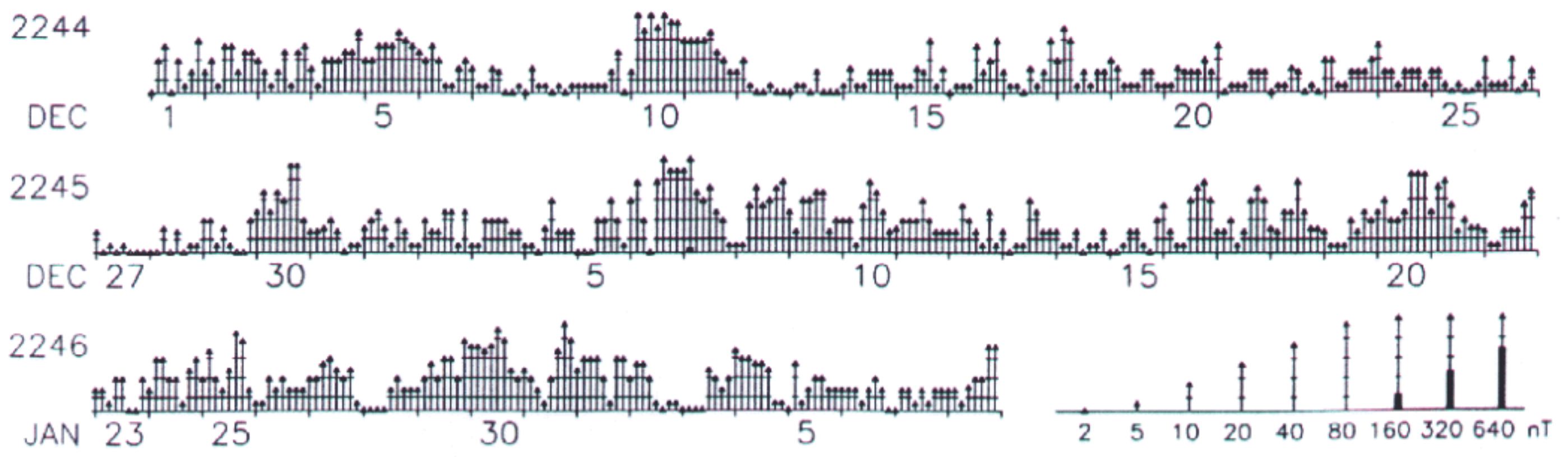
Email : INTERNET : Josette.PARIS@cetp.ipsl.fr

| DECEMBER 1997 |    | Geomagnetic Indices (provisional) |    |    |    |            |                                        |       |       |       |       |       |       | Daily Average and Sum |                |     |                |     |
|---------------|----|-----------------------------------|----|----|----|------------|----------------------------------------|-------|-------|-------|-------|-------|-------|-----------------------|----------------|-----|----------------|-----|
|               | aa |                                   |    |    | D  | quiet days | am and Km for each three hour interval |       |       |       |       |       |       |                       | Am $\Sigma$ Km |     | Ap $\Sigma$ Kp |     |
|               | N  | S                                 | am | pm |    |            | 1                                      | 2     | 3     | 4     | 5     | 6     | 7     | 8                     |                |     |                |     |
| 1             | 9  | 13                                | 9  | 12 | 11 | CC         | 5 1-                                   | 7 1o  | 10 1+ | 5 1-  | 13 2- | 6 1o  | 14 2o | 19 2+                 | 10             | 11- | 4              | 8-  |
| 2             | 9  | 17                                | 11 | 15 | 13 | CC         | 7 1o                                   | 4 1-  | 2 0+  | 8 1+  | 13 2- | 8 1+  | 14 2o | 12 2-                 | 9              | 10o | 4              | 7o  |
| 3             | 14 | 9                                 | 8  | 14 | 11 | CC         | 14 2o                                  | 7 1o  | 10 1+ | 14 2o | 19 2+ | 13 2- | 11 2- | 14 2o                 | 13             | 14o | 6              | 13- |
| 4             | 13 | 16                                | 10 | 19 | 14 |            | 7 1o                                   | 3 0+  | 8 1+  | 11 2- | 12 2- | 13 2- | 16 2o | 24 3-                 | 12             | 12+ | 6              | 11+ |
| 5             | 15 | 25                                | 16 | 24 | 20 |            | 11 2-                                  | 10 1+ | 20 2+ | 19 2+ | 18 2+ | 22 3- | 14 2o | 21 3-                 | 17             | 17+ | 8              | 16+ |
| 6             | 7  | 16                                | 15 | 8  | 11 | CK         | 11 2-                                  | 9 1+  | 12 2- | 15 2o | 4 1-  | 6 1o  | 5 1-  | 14 2o                 | 10             | 11o | 4              | 8-  |
| 7             | 4  | 8                                 | 7  | 4  | 6  | CC         | 6 1o                                   | 3 0+  | 1 0o  | 7 1o  | 9 1+  | 5 1-  | 3 0+  | 6 1o                  | 5              | 6-  | 2              | 4+  |
| 8             | 3  | 6                                 | 5  | 4  | 4  | CC*        | 2 0+                                   | 6 1o  | 5 1-  | 4 1-  | 1 0o  | 2 0+  | 2 0+  | 4 1-                  | 3              | 4o  | 1              | 1o  |
| 9             | 5  | 8                                 | 5  | 8  | 6  | C *        | 4 1-                                   | 3 0+  | 3 0+  | 6 1o  | 5 1-  | 8 1+  | 9 1+  | 3 0+                  | 5              | 6o  | 1              | 2o  |
| 10            | 32 | 55                                | 40 | 47 | 44 |            | 3 0+                                   | 38 3+ | 22 3- | 59 4o | 44 4- | 48 4- | 40 3+ | 35 3+                 | 36             | 24+ | 18             | 24- |
| 11            | 19 | 22                                | 24 | 17 | 21 |            | 25 3-                                  | 22 3- | 19 2+ | 37 3+ | 29 3o | 15 2o | 15 2o | 6 1o                  | 21             | 19o | 11             | 19o |
| 12            | 4  | 6                                 | 7  | 3  | 5  | CC         | 7 1o                                   | 6 1o  | 4 1-  | 1 0o  | 1 0o  | 4 1-  | 3 0+  | 2 0+                  | 4              | 4o  | 2              | 4-  |
| 13            | 3  | 5                                 | 4  | 4  | 4  | CC*        | 2 0+                                   | 3 0+  | 4 1-  | 2 0+  | 4 1-  | 3 0+  | 3 0+  | 2 0+                  | 3              | 3+  | 1              | 1+  |
| 14            | 5  | 9                                 | 6  | 8  | 7  | CC         | 3 0+                                   | 6 1o  | 5 1-  | 6 1o  | 6 1o  | 8 1+  | 7 1o  | 7 1o                  | 6              | 7+  | 2              | 4o  |
| 15            | 5  | 12                                | 6  | 12 | 9  | CC         | 4 1-                                   | 3 0+  | 3 0+  | 12 2- | 7 1o  | 17 2+ | 7 1o  | 6 1o                  | 7              | 8+  | 3              | 5+  |
| 16            | 9  | 11                                | 4  | 16 | 10 | CC         | 4 1-                                   | 3 0+  | 4 1-  | 4 1-  | 14 2o | 6 1o  | 10 1+ | 17 2+                 | 8              | 9o  | 4              | 8o  |
| 17            | 7  | 9                                 | 5  | 12 | 8  | CK         | 7 1o                                   | 2 0+  | 7 1o  | 5 1-  | 10 1+ | 8 1+  | 8 1+  | 18 2+                 | 8              | 9+  | 4              | 8o  |
| 18            | 15 | 12                                | 20 | 7  | 13 | KK         | 12 2-                                  | 29 3o | 17 2+ | 6 1o  | 9 1+  | 9 1+  | 11 2- | 12 2-                 | 13             | 14o | 7              | 12- |
| 19            | 5  | 9                                 | 8  | 7  | 7  | CC         | 11 2-                                  | 8 1+  | 4 1-  | 6 1o  | 5 1-  | 8 1+  | 9 1+  | 5 1-                  | 7              | 9-  | 3              | 6-  |
| 20            | 7  | 9                                 | 7  | 9  | 8  | CC         | 5 1-                                   | 2 0+  | 7 1o  | 8 1+  | 6 1o  | 6 1o  | 10 1+ | 8 1+                  | 7              | 8o  | 3              | 6-  |
| 21            | 8  | 7                                 | 8  | 7  | 8  | CC         | 18 2+                                  | 8 1+  | 7 1o  | 9 1+  | 4 1-  | 12 2- | 15 2o | 9 1+                  | 10             | 12- | 4              | 7o  |
| 22            | 4  | 6                                 | 5  | 4  | 5  | CC         | 3 0+                                   | 2 0+  | 5 1-  | 10 1+ | 8 1+  | 6 1o  | 7 1o  | 7 1o                  | 6              | 7o  | 2              | 4-  |
| 23            | 8  | 9                                 | 9  | 9  | 9  | CC         | 11 2-                                  | 8 1+  | 5 1-  | 5 1-  | 6 1o  | 6 1o  | 8 1+  | 14 2o                 | 8              | 10- | 4              | 7o  |
| 24            | 10 | 7                                 | 10 | 7  | 9  | CC         | 15 2o                                  | 9 1+  | 6 1o  | 4 1-  | 6 1o  | 8 1+  | 7 1o  | 4 1-                  | 7              | 9o  | 4              | 8o  |
| 25            | 4  | 5                                 | 6  | 4  | 5  | CC         | 7 1o                                   | 7 1o  | 4 1-  | 4 1-  | 2 0+  | 3 0+  | 2 0+  | 3 0+                  | 4              | 5-  | 1              | 2o  |
| 26            | 8  | 6                                 | 7  | 7  | 7  | CC         | 8 1+                                   | 2 0+  | 1 0o  | 2 0+  | 8 1+  | 2 0+  | 5 1-  | 5 1-                  | 4              | 5o  | 2              | 3o  |
| 27            | 4  | 4                                 | 4  | 3  | 4  | CC*        | 4 1-                                   | 2 0+  | 3 0+  | 3 0+  | 2 0+  | 2 0+  | 2 0+  | 2 0+                  | 3              | 3o  | 0              | 1-  |
| 28            | 4  | 6                                 | 4  | 5  | 4  | CC*        | 3 0+                                   | 1 0o  | 5 1-  | 2 0+  | 7 1o  | 3 0+  | 6 1o  | 5 1-                  | 4              | 4+  | 1              | 1+  |
| 29            | 6  | 9                                 | 10 | 5  | 7  | CK         | 8 1+                                   | 10 1+ | 4 1-  | 9 1+  | 2 0+  | 4 1-  | 6 1o  | 11 2-                 | 7              | 8+  | 2              | 3+  |
| 30            | 41 | 32                                | 24 | 49 | 37 |            | 25 3-                                  | 53 4o | 27 3o | 44 4- | 28 3o | 63 4+ | 72 5- | 14 2o                 | 41             | 27+ | 21             | 26+ |
| 31            | 5  | 9                                 | 9  | 5  | 7  | C          | 10 1+                                  | 6 1o  | 8 1+  | 12 2- | 13 2- | 7 1o  | 3 0+  | 6 1o                  | 8              | 9+  | 3              | 6-  |

ROT DAY IN SOLAR ROTATION INTERVAL Three-hour indices Km(provisional) DEC 1997



ROT DAY IN SOLAR ROTATION INTERVAL Three-hour indices aa (logscale) DEC1997-FEB1998

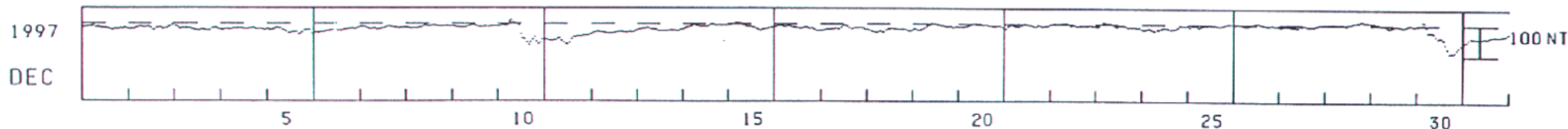


Dst monthly table of hourly indices - December 1997

HOURLY EQUATORIAL DST VALUES (PROVISIONAL)

DECEMBER 1997

| DAY | UNIT=NT |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | U.T. |  |
|-----|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|--|
|     | 1       | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  | 23  | 24  |      |  |
| 1   | -12     | -11 | -10 | -9  | -9  | -7  | -12 | -12 | -12 | -14 | -14 | -16 | -15 | -17 | -19 | -20 | -17 | -17 | -17 | -16 | -17 | -14 | -16 | -18 |      |  |
| 2   | -17     | -17 | -18 | -14 | -12 | -11 | -11 | -12 | -12 | -10 | -11 | -14 | -20 | -19 | -14 | -13 | -13 | -17 | -16 | -15 | -11 | -8  | -4  | 1   |      |  |
| 3   | -8      | -13 | -18 | -15 | -16 | -15 | -15 | -15 | -17 | -19 | -21 | -22 | -22 | -19 | -19 | -20 | -23 | -23 | -20 | -16 | -14 | -14 | -18 | -19 |      |  |
| 4   | -20     | -19 | -18 | -18 | -19 | -17 | -16 | -15 | -16 | -16 | -15 | -17 | -18 | -17 | -16 | -16 | -14 | -18 | -18 | -17 | -17 | -19 | -20 | -18 |      |  |
| 5   | -19     | -21 | -19 | -15 | -14 | -15 | -16 | -21 | -22 | -26 | -31 | -31 | -27 | -27 | -28 | -35 | -33 | -28 | -23 | -21 | -20 | -20 | -32 | -31 |      |  |
| 6   | -29     | -29 | -29 | -27 | -27 | -26 | -24 | -22 | -22 | -20 | -19 | -22 | -22 | -22 | -22 | -19 | -19 | -18 | -18 | -16 | -17 | -17 | -14 | -10 |      |  |
| 7   | -10     | -11 | -13 | -16 | -18 | -17 | -16 | -16 | -19 | -18 | -18 | -15 | -14 | -11 | -9  | -10 | -11 | -12 | -13 | -15 | -14 | -14 | -13 | -13 |      |  |
| 8   | -14     | -15 | -15 | -16 | -15 | -15 | -13 | -12 | -8  | -6  | -9  | -8  | -7  | -6  | -6  | -7  | -9  | -9  | -8  | -9  | -7  | -7  | -8  | -8  |      |  |
| 9   | -9      | -11 | -12 | -13 | -12 | -13 | -12 | -10 | -8  | -5  | -3  | -6  | -9  | -11 | -10 | -10 | -9  | -8  | -11 | -9  | -8  | -8  | -9  | -9  |      |  |
| 10  | -8      | -6  | -5  | -7  | -6  | 7   | 12  | 5   | 2   | 0   | -6  | -34 | -47 | -49 | -60 | -68 | -60 | -51 | -43 | -58 | -64 | -61 | -51 | -51 |      |  |
| 11  | -51     | -53 | -55 | -55 | -53 | -53 | -48 | -46 | -54 | -59 | -65 | -67 | -61 | -50 | -43 | -43 | -41 | -40 | -40 | -37 | -37 | -38 | -36 | -32 |      |  |
| 12  | -29     | -28 | -25 | -26 | -27 | -27 | -29 | -31 | -31 | -30 | -30 | -29 | -27 | -26 | -26 | -26 | -27 | -27 | -27 | -26 | -27 | -25 | -22 | -20 |      |  |
| 13  | -18     | -17 | -16 | -15 | -14 | -14 | -17 | -18 | -18 | -19 | -22 | -24 | -23 | -22 | -22 | -22 | -20 | -20 | -21 | -21 | -22 | -22 | -19 | -17 |      |  |
| 14  | -15     | -12 | -11 | -9  | -7  | -3  | -5  | -6  | -8  | -9  | -9  | -9  | -9  | -5  | -2  | -1  | -4  | -3  | -3  | -3  | -3  | -4  | -4  | -3  |      |  |
| 15  | -3      | -1  | 1   | 5   | 5   | 4   | 1   | -3  | -6  | -8  | -9  | -9  | -10 | -12 | -15 | -18 | -20 | -17 | -16 | -16 | -14 | -13 | -11 | -10 |      |  |
| 16  | -9      | -7  | -5  | -5  | -8  | -9  | -7  | -7  | -9  | -10 | -12 | -13 | -14 | -14 | -12 | -11 | -11 | -14 | -14 | -13 | -17 | -20 | -20 | -21 |      |  |
| 17  | -20     | -19 | -18 | -18 | -17 | -15 | -15 | -14 | -16 | -15 | -10 | -6  | -4  | -7  | -13 | -16 | -14 | -12 | -12 | -13 | -13 | -13 | -18 | -18 |      |  |
| 18  | -19     | -22 | -24 | -26 | -27 | -24 | -23 | -25 | -25 | -19 | -16 | -15 | -14 | -16 | -16 | -18 | -18 | -17 | -17 | -17 | -21 | -23 | -23 | -19 |      |  |
| 19  | -15     | -17 | -20 | -19 | -18 | -14 | -10 | -6  | -3  | 1   | 0   | -1  | -2  | -2  | -6  | -6  | -7  | -8  | -8  | -7  | -13 | -11 | -9  | -11 |      |  |
| 20  | -11     | -11 | -10 | -9  | -7  | -6  | -2  | 0   | 1   | -2  | -3  | -2  | -3  | -4  | -4  | -5  | -5  | -7  | -7  | -7  | -5  | -7  | -11 | -14 |      |  |
| 21  | -15     | -9  | -5  | -4  | -6  | -7  | -9  | -9  | -5  | -2  | -2  | -1  | -3  | -4  | -6  | -8  | -8  | -3  | -5  | -8  | -7  | -7  | -6  | -2  |      |  |
| 22  | 0       | 2   | 1   | 0   | 1   | 2   | 3   | 3   | 3   | -1  | -5  | -3  | -4  | -7  | -7  | -6  | -6  | -5  | -5  | -6  | -4  | -5  | -7  | -7  |      |  |
| 23  | -8      | -7  | -1  | 6   | 5   | 4   | 3   | 4   | -2  | -6  | -9  | -5  | -3  | -4  | -3  | -7  | -11 | -9  | -10 | -9  | -11 | -13 | -11 | -16 |      |  |
| 24  | -19     | -17 | -16 | -14 | -17 | -20 | -22 | -18 | -17 | -14 | -13 | -13 | -13 | -14 | -17 | -15 | -15 | -13 | -9  | -4  | -5  | -6  | -6  | -6  |      |  |
| 25  | -8      | -3  | -3  | -3  | -6  | -10 | -7  | -5  | -4  | -3  | -2  | -2  | -3  | -2  | -3  | -5  | -5  | -3  | -3  | -1  | 1   | 1   | 2   | 4   |      |  |
| 26  | 2       | 1   | 1   | -1  | -4  | -6  | -5  | -3  | -2  | 1   | 3   | 5   | 3   | 2   | -1  | -2  | -3  | -3  | -3  | -2  | -4  | -4  | -4  | -6  |      |  |
| 27  | -7      | -6  | -5  | -5  | -5  | -6  | -7  | -7  | -8  | -8  | -4  | -3  | -2  | -3  | -5  | -6  | -5  | -5  | -4  | -2  | -1  | -1  | 0   | 1   |      |  |
| 28  | 0       | 1   | 2   | 3   | 2   | 2   | 1   | 2   | 1   | -1  | -2  | 1   | 3   | 4   | 6   | 7   | 8   | 8   | 11  | 10  | 9   | 9   | 8   | 7   |      |  |
| 29  | 6       | 6   | 3   | 4   | -1  | -2  | -1  | -3  | -7  | -10 | -7  | -5  | -2  | -2  | -3  | -6  | -7  | -5  | -2  | 0   | 0   | -2  | -4  | -2  |      |  |
| 30  | -2      | 0   | 11  | 10  | -6  | -22 | -23 | -23 | -26 | -36 | -42 | -41 | -40 | -46 | -61 | -75 | -90 | -88 | -90 | -86 | -78 | -72 | -65 | -59 |      |  |
| 31  | -56     | -53 | -46 | -41 | -43 | -43 | -43 | -44 | -44 | -42 | -41 | -42 | -40 | -37 | -36 | -36 | -36 | -36 | -35 | -34 | -34 | -33 | -28 | -24 |      |  |



Note: The baselines for the observatories were adjusted for secular change for the Provisional Dst values for December 1997.