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STATISTICAL ASPECTS OF THE 1980 SOLAR FLARES – I. DATA BASE, FREQUENCY DISTRIBUTIONS, AND OVERVIEW REMARKS

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16. ABSTRACT

All 1349 Hα flares occurring in 1980 which have known start, maximum brightness, and end times, latitudes, and associated Hα importance and X-ray classes have been used to perform a statistical study of flare Hα rise time, decay time, duration, latitude, importance (areal and relative intensity), and X-ray class. Frequency distributions of these parameters are tabulated and plotted. Other comparative studies using this data base are in progress.

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TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

LIST OF TABLES

TECHNICAL MEMORANDUM

STATISTICAL ASPECTS OF THE 1980 SOLAR FLARES – I. DATA BASE, FREQUENCY DISTRIBUTIONS, AND OVERVIEW REMARKS

I. INTRODUCTION

Flares are often described as "large, intense brightenings that occupy large areas of the solar surface and last from minutes to hours" [1]. They represent a response of the solar atmosphere to a sudden, transient release of energy which leads to a localized, temporary heating and to an acceleration of particles and the emission of electromagnetic radiation extending from X-rays to radio waves [2]. The physical nature of solar flares has been the subject of many investigations [3-8].

Historically, flares are classified using a dual importance classification scheme based on the relative brightness [faint (F), normal (N), or bright (B)] of the hydrogen alpha (Hα) emission from a flaring region at the time of maximum intensity and the brightened area, measured either in square degrees or in millionths of hemisphere [the areal importance ranges from sub (S) through class 1, 2, 3, and 4; those of importance $\geq$ 2 are referred to as "Major flares"] [1-4]. Thus a "subfaint" flare is denoted SF, a flare of "1 normal" importance as 1N, and so on.

More recently, an X-ray flare classification scheme has been developed, using the flares' maximum X-ray flux (E, in erg cm^{-2} s^{-1}) in the 1 to 8 Å spectral range as measured at the Earth. The letters C, M, and X indicate decades of energy, and associated numerals give the value within the decade. C flares have soft X-ray fluxes at Earth in the range $10^{-3} \leq E < 10^{-2}$ erg cm^{-2} s^{-1}; M flares $10^{-2} \leq E < 10^{-1}$ erg cm^{-2} s^{-1}; and X flares $10^{-1} \leq E$ [1,2]. Thus, a C5 X-ray class flare has an energy output of 5×10^{-3} erg cm^{-2} s^{-1}, an M3 3×10^{-2} erg cm^{-2} s^{-1}, and so on.

It is also noted that flares generally do not occur in random locations on the Sun. Rather, they are closely associated with active regions. Most flares occur within active regions and thus are confined to the zone of solar latitude (typically $\leq$ 40 degrees latitude), where the regions of enhanced magnetic field are found [1-4].

Over the years, occasional studies concerning the frequency of occurrence versus magnitude for a few selected parameters of flares have been reported, such as for duration and area [4]. These studies have laid the groundwork for our present knowledge and together with more contemporary investigations may give some insight into the association of flares with phases of the solar cycle and, perhaps, even an understanding leading to better flare prediction. The opportunity to add to this data set has increased in recent years because of the use of geosynchronous satellites for X-ray monitoring and to more elaborate ground-based Hα patrol systems. Also, emphasis has come of late to provide coordinated observations of the Sun during the "Solar Maximum Year" [9]. Thus, this report series addresses the statistical nature of the solar flares occurring in 1980, the "Solar Maximum Year."

II. APPROACH

The weekly *Preliminary Report and Forecast of Solar Geophysical Data* published by NOAA (Boulder, Colorado), among other things, lists all reported flares by date of occurrence and the time of flare start, in addition to giving the times of peak emission and flare end, the location of the flare in solar coordinates (latitude and longitude), the active region associated with the flare, and the Hα importance and X-ray classes (when known) of the flare. Using these reports, this author has generated a table of events which meet certain criteria. These criteria include: (1) start, maximum brightness, and end times, (2) latitude of occurrence, (3) Hα importance, and (4) X-ray class. The first criterion allows determination of the rise time (RT), decay time (DT), and duration (D ≡ RT + DT) of each flare, which in turn allows one to ascertain the monthly and yearly variation and frequency distribution of these parameters. Similar time-dependent frequency distributions are made for latitude, Hα importance, and X-ray class.

III. RESULTS

Following the aforementioned approach, 1349 events were found to meet the specified criteria and are listed in the Appendix. These events form the "data base" from which the statistical study and its conclusions are made. The data base flares are listed sequentially by month, day of year, and flare start time (UT, universal time). The parameters of interest are listed in columns beside each event. Thus, the RT, DT, D latitude, Hα importance (IMP), and X-ray (XR) class of each event are identified.

Regrouping these data base flares (by month) according to elapsed time duration (denoted TIME) results in Tables 1a through 12a. In these tables, RT, DT, and D values for each of the flares in the month of interest are combined according to TIME to yield frequency of occurrence (f), running frequency (RF), relative monthly percent (p), and running percent (Rp) values. TIME is shown in 1-min intervals starting from TIME equals 0 (meaning elapsed time duration < 1 min) through 80 min; then, in 10-min steps until TIME equals 111 to 120 min; then, in 60-min steps until TIME equals 181 to 240 min; and finally, in an open-ended time bin, TIME > 240 min.

Concerning the use of Tables 1a through 12a, as an example, consider Table 6a. This table represents a reformatting of the information contained in the Appendix for the month of June. It gives the f, Rf, p, and Rp of the collection of flares reported in the month for RT, DT, and D, according to TIME. From the Appendix, we note that a flare occurred on June 30, 1980 (day of year or DOY 182), beginning at 1944 UT. The flare has a rise time equal to 5 min, decay time equal to 18 min, and duration of 23 min. Thus, in Table 6a, we would combine this flare with all other flares in the month of June which had RT equal to 5 min, DT equal to 18 min, and D equal to 23 min. In Table 6a, we see that there were 5 flares which had RT equal to 5 min (i.e., f = 5; p = 5/120 ~ 0.042 or 4.2 percent) with 79 flares having RT equal to or less than 5 min (i.e., Rf = 79; Rp = 79/120 ≃ 0.658 or 65.8 percent); there were 2 flares which had DT equal to 18 min (i.e., f = 2; p = 2/120 ≃ 0.017 or 1.7 percent) with 77 flares having DT equal to or less than 18 min (i.e., Rf = 77; Rp = 77/120 ≃ 0.642 or 64.2 percent); and there were 3 flares which had D equal to 23 min (i.e., f = 3; p = 3/120 ≃ 0.025 or 2.5 percent) with 77 flares having D equal to or less than 23 min (i.e., Rf = 77; Rp = 77/120 ≃ 0.642 or 64.2 percent).

Tables 1b through 12b are similar to Tables 1a through 12a in that they give monthly values for f, Rf, p, and Rp, except that they give these values according to each flare's X-ray class. Thus, each bin is now associated with an X-ray class between CO and X9. The tables also group the flares according to whether a flare is associated with C, M, or X XR classification. Continuing the previous example, the June 30 flare of 1944 UT was associated with a C4 X-ray burst. Thus, it was combined with all other C4 flares occurring in June. We see that C4 flares accounted for 13 of the 120 flares (f = 13, p = 10.8 percent) reported in June 1980, which met the selection criteria and that 57 of the 120 flares (Rf = 57, Rp = 47.5 percent) reported had X-ray energies less than or equal to XR = C4. Also, 89 of the 120 flares (f and Rf = 89; p and Rp = 74.2 percent) were catalogued as C flares.

Tables 1c through 12c likewise regroup the data base flares following the f, Rf, p, and Rp scheme, but this time according to each flare's Hα importance class. Thus, each bin is now associated with an Hα importance class between SF and 3B. The tables also group the flares purely by areal classification (i.e., S, 1, 2, 3) and by relative brightness classification (i.e., F, N, B). The June 30 flare was reported as IMP = SB. Thus, it was combined with all other SB flares occurring in June. We see that SB flares accounted for 39 of the 120 flares (f = 39, p = 32.5 percent) reported in June and that 93 of the 120 flares (Rf = 93, Rp = 77.5 percent) had importance values less than or equal to IMP = SB. Also, 93 of the 120 flares (f and Rf = 93, p and Rp = 77.5 percent) were catalogued as "subflares," and 56 of the 120 flares (f = 56, p = 46.7 percent) were catalogued as "bright" events.

Figures 1 through 12 are graphical representations of Tables 1 through 12. Recall that in Tables 1 through 12 each Rp (v) is defined as the percentage of flares which exhibited a value of the parameter less than or equal to v. Figures 1 through 12 are plots of Rp (v) versus v for each parameter. Smooth curves were drawn through the plotted points merely to guide the eye. The figure legends show: the total number of flares for the month; the mean ($\bar{x}$) and standard deviation (s) for RT, DT, and D; and the median (Q_{50}) and 90-percentile (Q_{90}) values for RT, DT, and D. In other words, 50 and 90 percent, respectively, of the flares have elapsed time durations less than or equal to Q_{50} and Q_{90} [or Rp ($v = Q_{50}$) = 0.5 and Rp ($v = Q_{90}$) = 0.9]. One anomalous event is noted in October (RT = 953 min; D = 955 min). The legend for Figure 10 shows mean and standard deviation values both including and omitting this anomalous event.

Table 13 lists in one table the percent of flares, in each month and for the year, having elapsed time durations less than or equal to 10 min, 30 min, and 60 min [i.e., Rp (v = 10), Rp (v = 30), Rp (v = 60)] for parameters RT, DT, and D. Also tabulated are the median (Q_{50}) and 90-percentile (Q_{90}) elapsed time durations in minutes of parameters RT, DT, and D. The number (N) of study flares per month is also given. Thus, as an example, 85 percent of the flares occurring in the month of June (N = 120) had rise times less than or equal to 10 min, 40 percent had decay times less than or equal to 10 min, and 27.5 percent had durations less than or equal to 10 min. Likewise, 95 percent had rise times less than or equal to 30 min, 81.7 percent had decay times less than or equal to 30 min, and 75.8 percent had durations less than or equal to 30 min, and so on. Similarly, 50 percent of the June flares had rise times less or equal to approximately 3 min, 50 percent had decay times less than or equal to 13 min, and 50 percent had durations less than or equal to approximately 18 min, and so on.

Figures 13 and 14 are graphical representations of Table 13. Figure 13 illustrates the variation of Rp (v = 10), Rp (v = 30), and Rp (v = 60) for parameters RT, DT, and D. Rp (v = 10) is plotted as the solid line, Rp (v = 30) as the long-short-long dashed line, and Rp (v = 60) as the short-short-short dashed line. Also graphed is the average monthly 2800-MHz radio flux (denoted F_{2800}), which is a measure of solar activity The average value for each Rp (v) line is shown to

the right of each curve (identified as $\bar{x}$). Thus, while Rp ($v = 10$) for parameter D varied between approximately 8.5 and 27.5 percent, its average for the year was $\bar{x} = 17.3$.

Figure 14 illustrates the variation of the median (Q_{50}) and 90-percentile (Q_{90}) elapsed time durations for parameters RT, DT, and D. Q_{50} is plotted as the solid line and Q_{90} as the dashed line. To the right of each curve is shown the average elapsed time duration for the year per parameter. Thus, the median rise time for the year was about 3.5 min or $\bar{x} = 3.5$. Again, F_{2800} is co-plotted for convenience to show solar activity levels.

Table 14 gives the f, Rf, p, and Rp values by month for the flares contained in this study. Also given is the daily flare rate averaged over each month and over the entire year, as well as the average number (and percent) of flares per month over the year. Thus, in June 120 flares met the selection criteria and are included in this study. These 120 flares represent 8.9 percent of all the study flares. Five hundred and seventy-four flares occurred prior to and including the month of June, or 42.6 percent of the study flares occurred prior to and including the month of June. Statistically speaking, 112.42 flares occurred per month that met the selection criteria, which implies that 3.69 flares occurred per day. One observes that the bulk of the activity occurred in the last quarter of 1980; that is, 37 percent of the study flares occurred between October and December 1980. January 1980 contained the fewest flares (69) and November the most (192), despite the fact that the peak of solar activity, defined by sunspot number R_Z, during 1980 occurred in May ($R_Z = 179.7$) and the peak for cycle 21 occurred in September 1979 ($R_Z = 188.7$). (Wilson [10] has discussed flare activity levels associated with cycle 21 in considerable detail.)

Table 15 follows the format of Tables 1 through 12, except that, instead of tabulating results for a particular month, it tabulates the parameters for the entire year. Thus, Table 15a gives f, Rf, p, and Rp values for the parameters RT, DT, and D as a function of TIME; Tables 15b and c identify f, Rf, p, and RP values according to the parameters XR and IMP, respectively. Figure 15, likewise, is similar to Figures 1 through 12 in construction but, instead of plotting monthly values, it plots annual values of RP for the various parameters RT, DT, D, XR, and IMP, as identified in Table 15. Again, smooth curves are drawn through the plotted points merely to guide the eye. The figure legend shows: the total number of study flares for the year (1349); the mean ($\bar{x}$) and standard deviation (s) for the parameters RT, DT, and D; and the median (Q_{50}) and 90-percentile (Q_{90}) values for RT, DT, and D. The anomalous event of October has been both included and deleted in the mean and standard deviation computations. Histograms (or frequency distributions) of number of occurrences (f) and running percent (Rp) of flares are given as a function of the elapsed time duration (TIME) for the parameters RT, DT, and D in Figures 17 (RT) and 18 (DT, D). For convenience, Figure 17 is cut off at TIME > 60 min, since larger values of TIME correspond to less than 10 percent of the study flares. Figures 18 and 19 are similar histograms for the year showing f and Rp against XR and IMP, respectively.

Figure 20 (a, b) illustrates the latitudinal positions of the flares during the year. One clearly observes the locations of the flares to occur well within the active-region zone (LAT < 40 degrees), and the frequency of occurrence of solar flares to be greater in the last quarter of the year. This is to be expected since flares are generally associated with active regions (hence the clumpiness of Figure 20) and several major regions were observed during the latter part of the year. One also notes a slight predominance of southern hemisphere flares.

Table 16 groups the flares for each month by latitude bin or zone (North-N, South-S, sum-N+S) and gives number (f) and percent (p) in each bin. Figure 21 illustrates the percent (p) of flares in each bin versus month of year; i.e., the p columns for N+S in Table 16. Figure 22 shows the percent (p) of flares versus month of year for northern and southern latitudes. F_{2800} values

are plotted in both Figures 21 and 22 for comparison. Histograms of number (f) and percent (p), similar to Figures 16 through 19, for latitude bins are depicted in Figure 23.

Additional investigations of RT, DT, and D as well as other latitudinal, X-ray, and importance aspects (especially how the parameters relate to each other and to solar activity) will be discussed in subsequent reports of this series.

IV. DISCUSSION AND CONCLUSIONS

A. Rise Time

The tables and figures reveal that during 1980, on the average, 8.3 percent (ranging from 4.1 to 13.5) of the flares had rise times shorter than 1 min. While the rise time with the largest relative percent occurrence for a single month was 3 min for March with a 22.9-percent occurrence, the most commonly occurring rise time over the year was 2 min (mean: 13.6 percent; range: 6.3 to 20.5 percent). The Q_{50} level indicates that, on the average, 50 percent of the events had rise time about 3.5 min or less; the Q_{90} level shows that 90 percent had rise time less than or equal to about 16.5 min. (Conversely, only 10 percent of the study flares had rise time longer than 16.5 min.) About 82 percent of the events had rise time $\leq$ 10 min and 96 percent $\leq$ 30 min (conversely, only 4 percent of the flares had rise time longer than 30 min); only 1 percent of the events had rise time longer than 1 hr.

Figure 13 reveals that for rise time $\leq$ 10 min the relative percent occurrence of study flares increased from 75 to about 92 percent corresponding to January through March, and, thereafter, essentially decreased in relative percent occurrence through the remainder of the year. Thus, from a relative percent occurrence point of view, events of short rise time were more plentiful in the first half of the year and of longer rise time during the latter half. (This is also reflected in Fig. 14.) The average rise time of the study flares (excluding the October anomalous event) in 1980 was 7.66 min.

B. Decay Time

The majority of flares occurring in 1980 had decay times in the range 2 to 20 min; the most frequently occurring decay time was 10 min (4.4 percent). The most popular decay time for a single month occurred in June, when 10 percent of the study flares for that month had a decay time of 7 min. It is noted that the 7-min decay time category had the second highest number of occurrences for the year (4.3 percent). The Q_{50} level indicates that, on average, 50 percent of the events had decay time less than or equal to 16 min; the Q_{90} level shows that 90 percent had decay time less than or equal to 44 min. (Conversely, only 10 percent had decay time longer than 44 min.) About 31 percent of the events had decay time of $\leq$ 10 min and 70 percent of $\leq$ 30 min; 5 percent of the events had decay time longer than 1 hr.

Figure 13 shows that the overall percentage of study flares with decay time $\leq$ 10 min decreased throughout the year, as did those $\leq$ 30 min. Figure 14 reveals that while the median (Q_{50}) decay time remained fairly steady (mean: 15.5 min; range: 12.5 to 21.5 min), the elapsed time duration defining the 90th percentile (Q_{90}) increased through the year (mean: 44 min; range: 29.5 to 59 min). Figures 13 and 14 suggest that more flares with very long decay time occurred in the latter

half of the year than in the first half. The average decay time for the study flares in 1980 was 22.10 min. A comparison of the rise time and decay time median (Q_{50}) and 90-percentile (Q_{90}) values reveals that decay time was about 2.7 to 4.4 times longer than its rise time counterpart. The ratio of mean values of rise time to decay time equals about 0.35, implying that decay time was, on average, about 2.9 times longer than rise time.

C. Duration

The durations associated with the study flares were typically 5 to 33 min. The most frequently occurring duration time was 11 min, exhibited by only 3.9 percent of the flares. The most popular duration time for a single month occurred in March, when 7.3 percent of the study flares for that month had duration of 5 and 12 min each. The Q_{50} level indicates that, on average, 50 percent of the events had duration less than or equal to 21 min; the Q_{90} level shows that 90 percent had duration less than or equal to 58 min. (Conversely, only 10 percent had duration greater than 58 min.) About 17 percent had duration $\leq$ 10 min and 66 percent $\leq$ 30 min; about 9 percent of the events had duration longer than 1 hr.

Figure 13 shows that the percentage of short-duration flares (duration $\leq$ 10 min) decreased throughout the year after about March (except for June and September which had significant increases), as did the percentage with duration $\leq$ 30 min. Figure 14 depicts an increase in the times of Q_{50} and Q_{90} levels after March. These suggest that events of longer duration were relatively more prevalent in the latter portion of the year. The average duration time for the study flares in 1980 was 29.77 min. A comparison of the rise time and duration time median (Q_{50}) and 90-percentile (Q_{90}) values reveals that flare duration time tended to be about 3.5 to 6.0 times longer than its rise time counterpart. The ratio of mean values of rise time to duration equals about 0.26, implying that flare duration was, on the average, about 3.9 times longer than flare rise time.

D. X-Ray

During 1980, about 78 percent of the study flares were denoted C class X-ray flares, 21 percent were M class flares, and about 1 percent were X class flares. While the number of C flares increased throughout the year, the relative monthly percentage of C flares decreased. M flares tended to mimic the solar cycle fluctuation (to be addressed in a subsequent publication), showing decreases in number of flares when F_{2800} flux was low and increases when F_{2800} flux was high. An exception to this occurred in November when 40 percent (77 events), significantly high, of the study flares were denoted M flares. (It is to be noted that during the latter part of 1980, the threshold level for X-ray flares was at or near M1; thus, only events $\geq$ M1 were being counted. This may explain the drop in percent of C class flares, since not enough would be counted, even though M flares increased in number and percent.) X flares occurred most often in the months of enhanced flare frequency occurrence, namely, May, June, October, and November. Exceptions were December when no X class flares were included in the study flares, yet flare counts were high, and July when flare counts were low yet X flares were counted. (It is noted that X class flares are generally correlated with B relative intensity events, and July had an especially large fraction of B events; this will be discussed in a later publication.)

Of the C events included in this study, the largest single class was the C2 class, occurring about 20 percent of the time. The month of March had the highest relative percent occurrence of C flares (94 percent); November had the least (57 percent). October had the greatest number of C flares (140) and January the least (53).

Of the M events, the largest single class was the M1 class, occurring 10.5 percent of the time. The month of November had the highest relative percent occurrence of M flares (about 40 percent); March had the least (6.3 percent). November had the greatest number of M flares (77) and March the least (6).

Only 15 X flares were included in this study. The largest single classes were the X1 and X2 groups, which occurred just 0.4 percent of the time each. July had the highest relative percent occurrence of X flares (3.8 percent), and November had the greatest number of X flares (5).

E. Importance

The majority of study flares were subflares (about 72 percent), with SN flares comprising about 34 percent of the total. Subflares were about 3 times more numerous than class 1 flares and about 18 times more numerous than class 2 flares. Only one class 3 flare was included in this study and no class 4 flares. 1B events comprised about 14 percent of the flares, and class 2B about 3 percent. One observes that as the area of the flare increased (from S to class 1, 2, or 3), the relative intensity class increased too (from F and N to B). As M flare output appears to be related to solar cycle activity, so does class 1 output (see subsequent publication). Faint events accounted for 17 percent of the flares, normals about 44 percent, and brights about 39 percent.

Although S flares tended to increase in number through the year, as a percentage of the monthly totals they decreased. On the other hand, class 1 and 2 flares increased in both number and percentage through the year. Thus, larger, more important Hα flares occurred in the latter half of the year, as compared to the first half. As November showed a significant enhancement in M flares, it also showed significant increases in both class 1 and 2 flares. S flares were least plentiful in July (48) and most numerous in October (123); class 1 flares were least plentiful in January (11) and most numerous in November (18). The only class 3 event in this study occurred in October.

Faint flares remained fairly steady in number and relative percent occurrence (perhaps slightly decreasing) through the year. In contrast, normal and especially bright events increased in number; normal events showed a slight percentage decrease, while bright events showed a percentage increase. Faint events varied in number between 9 (July) and 29 (March); normals between 27 (July) and 75 (October); and brights between 18 (January) and 97 (November).

F. Latitude

The study flares of 1980 were scattered in latitude from 1 to 38 degrees N and 2 to 38 degrees S. No flares were noted at latitudes higher than 38 degrees. About 17 percent of the flares occurred in the equatorial region (arbitrarily defined as 0 to 9 degrees latitude), 60 percent in the lower mid-latitude (10 to 19 degrees), 20.5 percent in the upper mid-latitude (20 to 29 degrees), and only about 2.5 percent at latitudes $\geq$ 30 degrees. Forty-five percent occurred in the northern and 55 percent in the southern hemisphere. While equatorial and lower mid-latitude region flares were somewhat diminished between March and July, upper mid-latitude region flares were markedly enhanced. Similarly, the northern latitudinal flares were less plentiful through July, but became more numerous in the latter few months of the year. Equatorial region flares were greatest in number in November and December (40 and 39, respectively) and least in May, June, and July (8, 4, and 9 respectively); lower mid-latitude region flares were greatest in October and November (110 and 132, respectively) and least in March (36) and July (39); upper mid-latitude region flares were most

numerous in March (48) and June (43) and least in January (2); and, finally, high-latitude region flares were most frequent in April (15) and June (6) and least frequent in February, March, August, and November when none were recorded. The mean latitude of flare occurrence decreased through the year from a high of 17.85 degrees (March) to a low of 12.53 degrees (November). (This will be discussed in a subsequent publication.)

G. Flare Frequency

During 1980, 1349 flares were observed meeting the criteria defined in Section II. These 1349 flares represent 26.7 percent of the flares listed in the NOAA publication with known positions. (The other 73.3 percent could not meet the study criteria for inclusion since at least one of the parameters was unknown.) Thus, over the year, an average (statistically speaking) of 112.42 flares (8.3 percent) were observed per month, or 3.69 flares per day. The latter portion of the year was much more productive in flares than the first half; in fact, 37 percent of the study flares occurred in October, November, and December, yielding an average flare daily rate of 5.58, or about 1.5 times the 1980 total year average and about 1.8 times the early 1980 average

Of the 112.42 flares occurring, on the average, for a month in 1980, 87.33 were C flares, 23.83 were M flares, and 1.25 were X flares. Also, of the 112.42 flares, 80.42 were subflares, 27.25 were class 1 events, 4.67 were class 2 events, and less than 1 event (0.08) was of class 3. Again, of the 112.42 flares, 18.92 flares were faint in relative brightness, 49.58 were denoted normal, and 43.92 were called bright. Similarly, 19.33 events occurred in the equatorial zone, 90.16 events were of mid-latitude (67.08 lower mid-latitude and 23.08 upper mid-latitude), and 2.92 events had latitudes $\geq$ 30 degrees; 61.58 events were southern latitudinal and 50.83 were northern latitudinal.

H. Conclusions

In conclusion, the statistically typical flare of 1980, the Solar Maximum Year, based on the median times (Q_{50}) of the 1349 flares in this study, had rise time $\leq$ 3.5 min, decay time $\leq$ 16 min, and duration $\leq$ 21 min. Based on mean times ($\bar{x}$), the statistically typical flare had rise time 7.66 min, decay time 22.10 min, and duration 29.77 min. Also, the flare was of X-ray class C (precisely, C2) and of Hα importance SN. It had slightly greater tendency to occur in the southern hemisphere in the lower mid-latitude range (10 to 19 degrees), at 15.29 degrees. (These comments are based solely on the study flares, those flares which met a specific set of selection criteria, namely: known start, maximum brightness, and end times; latitude of occurrence; Hα importance; and X-ray class.)

Details relating to solar cycle activity and intercomparisons of the parameters will follow in subsequent publications. This initial report has presented the data base and the frequency distributions of the parameters. The intent of the series is to give insight into the behavior of flares at solar maximum and, perhaps, for other phases of the solar cycle; it is hoped also that mission planning exercises (e.g., preparations of timelines) and instrument operational philosophies can benefit from this statistical look at flares.

TABLE 1. JANUARY 1980 SUMMARY OF RT, DT, D, IMP, AND XR (f, Rf, p, Rp)

1a. JANUARY 1980 / 80 FLARES

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
0	4	4	5.8	5.8								
1	7	11	10.1	15.9								
2	9	20	13.0	29.0								
3	4	24	5.8	34.8	1	1	1.4	1.4				
4	8	32	11.6	46.4	2	3	2.9	4.3				
5	5	37	7.2	53.6					1	1	1.4	1.4
6	4	41	5.8	59.4	3	6	4.3	8.7	1	2	1.4	2.9
7	5	46	7.2	66.7	4	10	5.8	14.5	1	3	1.4	4.3
8	2	48	2.9	69.6								
9	1	49	1.4	71.0	5	15	7.2	21.7	1	4	1.4	5.8
10	1	50	1.4	72.5	5	20	7.2	29.0	2	6	2.9	8.7
11					2	22	2.9	31.9	3	9	4.3	13.0
12	2	52	2.9	75.4	4	26	5.8	37.7	2	11	2.9	15.9
13									1	12	1.4	17.4
14	3	55	4.3	79.7	3	29	4.3	42.0	2	14	2.9	20.3
15	1	56	1.4	81.2	2	31	2.9	44.9	3	17	4.3	24.6
16	1	57	1.4	82.6	2	33	2.9	47.8	4	21	5.8	30.4
17					2	35	2.9	50.7	2	23	2.9	33.3
18					5	40	7.2	58.0	3	26	4.3	37.7
19									1	27	1.4	39.1
20	1	58	1.4	84.1	2	42	2.9	60.9	4	31	5.8	44.9
21	1	59	1.4	85.5	2	44	2.9	63.8	2	33	2.9	47.8
22					1	45	1.4	65.2	3	36	4.3	52.2
23					1	46	1.4	66.7	1	37	1.4	[illegible]
24	1	60	1.4	87.0	2	48	2.9	69.6	2	39	2.9	5[illegible]
25	1	61	1.4	88.4					1	40	1.4	58.0
26					1	49	1.4	71.0				
27	1	62	1.4	89.9								
28					3	52	4.3	75.4				
29	1	63	1.4	91.3								
30					1	53	1.4	76.8	1	41	1.4	59.4
31									1	42	1.4	60.9
32	1	64	1.4	92.8	1	54	1.4	78.3				
33					2	56	2.9	81.2	2	44	2.9	63.8
34									1	45	1.4	65.2
35												
36	1	65	1.4	94.2	1	57	1.4	82.6				
37												
38					3	60	4.3	87.0	2	47	1.4	68.1
39												
40									3	50	4.3	72.5
41					1	61	1.4	88.4				
42												
43					1	62	1.4	89.9	2	52	2.9	75.4
44	1	66	1.4	95.7	1	63	1.4	91.3	2	54	2.9	78.3
45									1	55	1.4	79.7
46												
47												
48					1	64	1.4	92.8				
49												

TABLE 1. (Continued)

1e. (Continued)

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
50									1	56	1.4	81.2
51												
52												
53					1	65	1.4	94.2				
54												
55												
56												
57					1	66	1.4	95.7	1	57	1.4	82.6
58									2	59	2.9	85.5
59												
60	1	67	1.4	97.1								
61									1	60	1.4	87.0
62									1	61	1.4	88.4
63	1	68	1.4	98.6								
64												
65									1	62	1.4	89.9
66									1	63	1.4	91.3
67									1	64	1.4	92.8
68					1	67	1.4	97.1				
69					1	68	1.4	98.6				
70												
71												
72												
73									1	65	1.4	94.2
74												
75									1	66	1.4	95.7
76												
77												
78												
79												
80												
81-90									1	67	1.4	97.1
91-100												
101-110									1	68	1.4	98.6
111-120	1	69	1.4	100.0								
121-180					1	69	1.4	100.0				
181-240												
> 240									1	69	1.4	100.0
≤ 10	50	50	72.5	72.5	20	20	29.0	29.0	6	6	8.7	8.7
> 10 ≤ 30	19	69	27.5	100.0	49	69	71.0	100.0	63	69	91.3	100.0
> 30 ≤ 60	63	63	91.3	91.3	53	53	76.8	76.8	41	41	59.4	59.4
> 60	6	69	8.7	100.0	16	69	23.2	100.0	28	69	40.6	100.0
	67	67	97.1	97.1	66	66	95.7	95.7	59	59	85.5	85.5
	2	69	2.9	100.0	3	69	4.3	100.0	10	69	14.5	100.0

TABLE 1. (Concluded)

1b. JANUARY 1980 / 69 FLARES

X-RAY CLASS	f	Rf	p	Rp
C0				
C1	8	8	11.6	11.6
C2	12	20	17.4	29.0
C3	6	26	8.7	37.7
C4	8	34	11.6	49.3
C5	3	37	4.3	53.6
C6	4	41	5.8	59.4
C7	3	44	4.3	63.8
C8	5	49	7.2	71.0
C9	4	53	5.8	76.8
M1	9	62	13.0	89.9
M2	1	63	1.4	91.3
M3	2	65	2.9	94.2
M4				
M5				
M6	1	66	1.4	95.7
M7	2	68	2.9	98.6
M8				
M9	1	69	1.4	100.0
X1				
X2				
X3				
X4				
X5				
X6				
X7				
X8				
X9				
C	53	53	76.8	76.8
M	16	69	23.2	100.0
X				

1c. JANUARY 1980 / 69 FLARES

IMP.	f	Rf	p	Rp
SF	13	13	18.8	18.8
SN	32	45	46.4	65.2
SB	12	57	17.4	82.6
1F				
1N	6	63	8.7	91.3
1B	5	68	7.2	98.6
2F				
2N				
2B	1	69	1.4	100.0
3F				
3N				
3B				
S	57	57	82.6	82.6
1	11	68	15.9	98.6
2	1	69	1.4	100.0
3				
F	13	13	18.8	18.8
N	38	51	55.1	73.9
B	18	69	26.1	100.0

TABLE 2. FEBRUARY 1980 SUMMARY OF RT, DT, D, IMP, AND XR (f, Rf, p, Rp)

2a. FEBRUARY 1980 / 73 FLARES

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
0	8	8	11.0	11.0								
1	12	20	16.4	27.4								
2	15	35	20.5	47.9								
3	3	38	4.1	52.1	1	1	1.4	1.4				
4	4	42	5.5	57.5	1	2	1.4	2.7				
5	7	49	9.6	67.1	2	4	2.7	5.5	2	2	2.7	2.7
6	6	55	8.2	75.3	5	9	6.8	12.3				
7	1	56	1.4	76.7	2	11	2.7	15.1	3	5	4.1	6.8
8	6	62	8.2	84.9	2	13	2.7	17.8	2	7	2.7	9.6
9	1	63	1.4	86.3	2	15	2.7	20.5	1	8	1.4	11.0
10	2	65	2.7	89.0	3	18	4.1	24.7	4	12	5.5	16.4
11					1	19	1.4	26.0	1	13	1.4	17.8
12	1	66	1.4	90.4	4	23	5.5	31.5	3	16	4.1	21.9
13					4	27	5.5	37.0	2	18	2.7	24.7
14	2	68	2.7	93.2					1	19	1.4	26.0
15	1	69	1.4	94.5	3	30	4.1	41.1	4	23	5.5	31.5
16					6	36	8.2	49.3	4	27	5.5	37.0
17					1	37	1.4	50.7	5	32	6.8	43.8
18					3	40	4.1	54.8	2	34	2.7	46.6
19					3	43	4.1	58.9	2	36	2.7	49.3
20					4	47	5.5	64.4	1	37	1.4	50.7
21	1	70	1.4	95.9					1	38	1.4	52.1
22									1	39	1.4	53.4
23					2	49	2.7	67.1	2	41	2.7	56.2
24					1	50	1.4	68.5	2	43	2.7	58.9
25					1	51	1.4	69.9	3	46	4.1	63.0
26									2	48	2.7	65.8
27					1	52	1.4	71.2				
28					2	54	2.7	74.0	1	49	1.4	67.1
29	1	71	1.4	97.3								
30					1	55	1.4	75.3				
31					2	57	2.7	78.1	1	50	1.4	68.5
32					1	58	1.4	79.5	2	52	2.7	71.2
33					2	60	2.7	82.2	4	56	5.5	76.7
34					2	62	2.7	84.9				
35					1	63	1.4	86.3				
36												
37					1	64	1.4	87.7	1	57	1.4	78.1
38					1	65	1.4	89.0	2	59	2.7	80.8
39									2	61	2.7	83.6
40					1	66	1.4	90.4				
41									1	62	1.4	84.9
42												
43					1	67	1.4	91.8				
44												
45												
46												
47									1	63	1.4	86.3
48												
49					1	68	1.4	93.2	1	64	1.4	87.7

TABLE 2. (Continued)

2a. (Continued)

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
50												
51									1	65	1.4	89.0
52									1	66	1.4	90.4
53												
54					1	69	1.4	94.5				
55												
56												
57												
58					1	70	1.4	95.9				
59												
60	1	72	1.4	98.6								
61					1	71	1.4	97.3	1	67	1.4	91.8
62									1	68	1.4	93.2
63												
64												
65												
66												
67												
68												
69									1	69	1.4	94.5
70												
71												
72												
73												
74												
75					1	72	1.4	98.6				
76												
77												
78												
79												
80												
81-90	1	73	1.4	100.0								
91-100					1	73	1.4	100.0	1	70	1.4	95.9
101-110									2	72	2.7	98.6
111-120												
121-180									1	73	1.4	100.0
181-240												
>240												
≤10	65	65	89.0	89.0	18	18	24.7	24.7	12	12	16.4	16.4
10<≤30	8	73	11.0	100.0	55	73	75.3	100.0	61	73	83.6	100.0
30<≤60	71	71	97.3	97.3	55	55	75.3	75.3	49	49	67.1	67.1
30<>60	2	73	2.7	100.0	18	73	24.7	100.0	24	73	32.9	100.0
60<≤240	72	72	98.6	98.6	70	70	95.9	95.9	66	66	90.4	90.4
>60	1	73	1.4	100.0	3	73	4.1	100.0	7	73	9.6	100.0

TABLE 2. (Concluded)

2b. FEBRUARY 1980 / 73 FLARES

X-RAY CLASS	f	Rf	p	Rp
C0				
C1	12	12	16.4	16.4
C2	18	30	24.7	41.1
C3	8	38	11.0	52.1
C4	5	43	6.8	58.9
C5	4	47	5.5	64.4
C6	3	50	4.1	68.5
C7	6	56	8.2	76.7
C8	3	59	4.1	80.8
C9	1	60	1.4	82.2
M1	9	69	12.3	94.5
M2	1	70	1.4	95.9
M3	1	71	1.4	97.3
M4	1	72	1.4	98.6
M5	1	73	1.4	100.0
M6				
M7				
M8				
M9				
X1				
X2				
X3				
X4				
X5				
X6				
X7				
X8				
X9				
C	60	60	82.2	82.2
M	13	73	17.8	100.0
X				

2c. FEBRUARY 1980 / 73 FLARES

IMP.	f	Rf	p	Rp
SF	10	10	13.7	13.7
SN	30	40	41.1	54.8
SB	11	51	15.1	69.9
1F				
1N	5	56	6.8	76.7
1B	12	68	16.4	93.2
2F	1	69	1.4	94.5
2N	2	71	2.7	97.3
2B	2	73	2.7	100.0
3F				
3N				
3B				
S	51	51	69.9	69.9
1	17	68	23.3	93.2
2	5	73	6.8	100.0
3				
F	11	11	15.1	15.1
N	37	48	50.7	65.8
B	25	73	34.2	100.0

TABLE 3. MARCH 1980 SUMMARY OF RT, DT, D, IMP, AND XR (f, Rf, p, Rp)

3a. MARCH 1980 / 96 FLARES

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
0	11	11	11.5	11.5								
1	13	24	13.5	25.0	1	1	1.0	1.0				
2	6	30	6.3	31.3	2	3	2.1	3.1				
3	22	52	22.9	54.2	1	4	1.0	4.2	1	1	1.0	1.0
4	6	58	6.3	60.4	5	9	5.2	9.4				
5	11	69	11.5	71.9	4	13	4.2	13.5	7	8	7.3	8.3
6	5	74	5.2	77.1	7	20	7.3	20.8	3	11	3.1	11.5
7	3	77	3.1	80.2	3	23	3.1	24.0	1	12	1.0	12.5
8	2	79	2.1	82.3	5	28	5.2	29.2	1	13	1.0	13.5
9	6	85	6.3	88.5	5	33	5.2	34.4	3	16	3.1	16.7
10	3	88	3.1	91.7	5	38	5.2	39.6	4	20	4.2	20.8
11	2	90	2.1	93.8	3	41	3.1	42.7	4	24	4.2	25.0
12					3	44	3.1	45.8	7	31	7.3	32.3
13					8	52	8.3	54.2	5	36	5.2	37.5
14									3	39	3.1	40.6
15	1	91	1.0	94.8	4	56	4.2	58.3	1	40	1.0	41.7
16	1	92	1.0	95.8	3	59	3.1	61.5	3	43	3.1	44.8
17					2	61	2.1	63.5	3	46	3.1	47.9
18	1	93	1.0	96.9	2	63	2.1	65.6	5	51	5.2	53.1
19	1	94	1.0	97.9	5	68	5.2	70.8	2	53	2.1	55.2
20	1	95	1.0	99.0	2	70	2.1	72.9	1	54	1.0	56.3
21	1	96	1.0	100.0	3	73	3.1	76.0	1	55	1.0	57.3
22					2	75	2.1	78.1	6	61	6.3	63.5
23					3	78	3.1	81.3	2	63	2.1	65.6
24					3	81	3.1	84.5	5	68	5.2	70.8
25					1	82	1.0	85.4	1	69	1.0	72.9
26									3	72	3.1	75.0
27					2	84	2.1	87.5	1	73	1.0	76.0
28					1	85	1.0	88.5	3	76	3.1	79.2
29					2	87	2.1	90.6	2	78	2.1	81.3
30					1	88	1.0	91.7	1	79	1.0	82.3
31												
32									3	82	3.1	85.4
33									1	83	1.0	86.5
34									3	86	3.1	89.6
35												
36									1	87	1.0	90.6
37												
38					1	89	1.0	92.7	1	88	1.0	91.7
39					1	90	1.0	93.8				
40												
41												
42												
43					1	91	1.0	94.8	2	90	2.1	93.8
44					1	92	1.0	95.8				
45									1	91	1.0	94.8
46					1	93	1.0	96.9				
47												
48					1	94	1.0	97.9				
49												

TABLE 3. (Continued)

3a. (Continued)

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
50												
51												
52												
53									1	92	1.0	95.8
54												
55												
56												
57									1	93	1.0	96.9
58												
59												
60												
61												
62									1	94	1.0	97.9
63												
64												
65												
66												
67												
68												
69												
70												
71												
72												
73					1	95	1.0	99.0				
74												
75												
76												
77												
78												
79												
80												
81-90												
91-100									1	95	1.0	99.0
101-110												
111-120					1	96	1.0	100.0	1	96	1.0	100.0
121-180												
181-240												
>240												
≤ 10	88	88	91.7	91.7	38	38	39.6	39.6	20	20	20.8	20.8
> 10 ≤ 30	8	96	8.3	100.0	58	96	60.1	100.0	76	96	79.2	100.0
> 30 ≤ 60	96	96	100.0	100.0	88	88	91.7	91.7	79	79	82.3	82.3
> 60					8	96	8.3	100.0	17	96	17.7	100.0
≤ 60	96	96	100.0	100.0	94	94	97.9	97.9	93	93	96.9	96.9
> 60					2	96	2.1	100.0	3	96	3.1	100.0

TABLE 3. (Concluded)

3b. MARCH 1980 / 96 FLARES

X-RAY CLASS	f	Rf	p	Rp
C0	4	4	4.2	4.2
C1	25	29	26.0	30.2
C2	25	54	26.0	56.3
C3	18	72	18.8	75.0
C4	6	78	6.3	81.3
C5	2	80	2.1	83.3
C6	4	84	4.2	87.5
C7	4	88	4.2	91.7
C8	1	89	1.0	92.7
C9	1	90	1.0	93.8
M1	1	91	1.0	94.8
M2	3	94	3.1	97.9
M3				
M4	1	95	1.0	99.0
M5	1	96	1.0	100.0
M6				
M7				
M8				
M9				
X1				
X2				
X3				
X4				
X5				
X6				
X7				
X8				
X9				
C	90	90	93.8	93.8
M	6	96	6.3	100.0
X				

3c. MARCH 1980 / 96 FLARES

IMP.	f	Rf	p	Rp
SF	28	28	29.2	29.2
SN	36	64	37.5	66.7
SB	13	77	13.5	80.2
1F	1	78	1.0	81.3
1N	9	87	9.4	90.6
1B	8	95	8.3	99.0
2F				
2N	1	96	1.0	100.0
2B				
3F				
3N				
3B				
S	77	77	80.2	80.2
1	18	95	18.8	99.0
2	1	96	1.0	100.0
3				
F	29	29	30.2	30.2
N	46	75	47.9	78.1
B	21	96	21.9	100.0

TABLE 4. APRIL 1980 SUMMARY OF RT, DT. D, IMP, AND XR (f, Rf, p, Rp)

4a. APRIL 1980 / 104 FLARES

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
0	14	14	13.5	13.5								
1	9	23	8.7	22.1								
2	17	40	16.3	38.5								
3	16	56	15.4	53.8	1	1	1.0	1.0				
4	5	61	4.8	58.7	3	4	2.9	3.8				
5	5	66	4.8	63.5	5	9	4.8	8.7	3	3	2.9	2.9
6	7	73	6.7	70.2	8	17	7.7	16.3	6	9	5.8	8.7
7	6	79	5.8	76.0	5	22	4.8	21.2	4	13	3.8	12.5
8	3	82	2.9	78.8	4	26	3.8	25.0	3	16	2.9	15.4
9	3	85	2.9	81.7					4	20	3.8	19.2
10	1	86	1.0	82.7	4	30	3.8	28.8	2	22	1.9	21.2
11	5	91	4.8	87.5	3	33	2.9	31.7	2	24	1.9	23.1
12	2	93	1.9	89.4	4	37	3.8	35.6	2	26	1.9	25.0
13					6	43	5.8	41.3	2	28	1.9	26.9
14	2	95	1.9	91.3	5	48	4.8	46.2	5	33	4.8	31.7
15	1	96	1.0	92.3	6	54	5.8	51.9	7	40	6.7	38.5
16	1	97	1.0	93.3	3	57	2.9	54.8	4	44	3.8	42.3
17					3	60	2.9	57.7	3	47	2.9	45.2
18	2	99	1.9	95.2	3	63	2.9	60.6	2	49	1.9	47.1
19									3	52	2.9	50.0
20	3	102	2.9	98.1					4	56	3.8	53.8
21					1	64	1.0	61.5	1	57	1.0	54.8
22					3	67	2.9	64.4	1	58	1.0	55.8
23	1	103	1.0	99.0	1	68	1.0	65.4	1	59	1.0	56.7
24					2	70	1.9	67.3	2	61	1.9	58.7
25					2	72	1.9	69.2	1	62	1.0	59.6
26					1	73	1.0	70.2	1	63	1.0	60.6
27					4	77	3.8	74.0	1	64	1.0	61.5
28					1	78	1.0	75.0				
29					3	81	2.9	77.9	2	66	1.9	63.5
30					1	82	1.0	78.8	2	68	1.9	65.4
31	1	104	1.0	100.0	1	83	1.0	79.8	2	70	1.9	67.3
32					1	84	1.0	80.8	4	74	3.8	71.2
33					1	85	1.0	81.7	1	75	1.0	72.1
34					1	86	1.0	82.7	1	76	1.0	73.1
35									3	79	2.9	76.0
36												
37					3	89	2.9	85.6				
38					1	90	1.0	86.5				
39					1	91	1.0	87.5	3	82	2.9	78.8
40					1	92	1.0	88.5	1	83	1.0	79.8
41									1	84	1.0	80.8
42					2	94	1.9	90.4	3	87	2.9	83.7
43					1	95	1.0	91.3				
44									1	88	1.0	84.6
45					1	96	1.0	92.3	1	89	1.0	85.6
46					1	97	1.0	93.3	1	90	1.0	86.5
47					1	98	1.0	94.2	2	92	1.9	88.5
48												
49					1	99	1.0	95.2	1	93	1.0	89.4

TABLE 4. (Continued)

4a. (Continued)

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
50												
51												
52												
53									1	94	1.0	90.4
54					1	100	1.0	96.2				
55					1	101	1.0	97.1				
56									1	95	1.0	91.3
57												
58									1	96	1.0	92.3
59									1	97	1.0	93.3
60												
61												
62									1	98	1.0	94.2
63												
64												
65												
66					1	102	1.0	98.1				
67									1	98	1.0	95.2
68												
69												
70												
71									1	100	1.0	96.2
72												
73												
74												
75												
76					1	103	1.0	99.0	1	101	1.0	97.1
77									1	102	1.0	98.1
78												
79												
80												
81-90									1	103	1.0	99.0
91-100												
101-110												
111-120												
121-180												
181-240												
> 240					1	104	1.0	100.0	1	104	1.0	100.0
≤10	86	86	82.7	82.7	30	30	28.8	28.8	22	22	21.2	21.2
>10	18	104	17.3	100.0	74	104	71.2	100.0	82	104	78.8	100.0
≤30	103	103	99.0	99.0	82	82	78.8	78.8	68	68	65.4	65.4
>30	1	104	1.0	100.0	22	104	21.2	100.0	36	104	34.6	100.0
≤60	104	104	100.0	100.0	101	101	97.1	97.1	97	97	93.3	93.3
>60					3	104	2.9	100.0	7	104	6.7	100.0

TABLE 4. (Concluded)

4b. APRIL 1980 / 104 FLARES

X-RAY CLASS	f	Rf	p	Rp
C0				
C1	8	8	7.7	7.7
C2	19	27	18.3	26.0
C3	21	48	20.2	46.2
C4	8	56	7.7	53.8
C5	5	61	4.8	58.7
C6	3	64	2.9	61.5
C7	4	68	3.8	65.4
C8	7	75	6.7	72.1
C9	7	82	6.7	78.8
M1	6	88	5.8	84.6
M2	7	95	6.7	91.3
M3	1	96	1.0	92.3
M4	2	98	1.9	94.2
M5	4	102	3.8	98.1
M6				
M7				
M8	2	104	1.9	100.0
M9				
X1				
X2				
X3				
X4				
X5				
X6				
X7				
X8				
X9				
C	82	82	78.8	78.8
M	22	104	21.2	100.0
X				

4a. APRIL 1980 /104 FLARES

IMP.	f	Rf	p	Rp
SF	14	14	13.5	13.5
SN	47	61	45.2	58.7
SB	13	74	12.5	71.2
1F	4	78	3.8	75.0
1N	10	88	9.6	84.6
1B	14	102	13.5	98.1
2F				
2N				
2B	2	104	1.9	100.0
3F				
3N				
3B				
S	74	74	71.2	71.2
1	28	102	26.9	98.1
2	2	104	1.9	100.0
3				
F	18	18	17.3	17.3
N	57	75	54.8	72.1
B	29	104	27.9	100.0

TABLE 5. MAY 1980 SUMMARY OF RT, DT, D, IMP, AND XR (f, Rf, p, Rp)

So. MAY 1980 / 112 FLARES

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	RT	p	Rp
0	10	10	8.9	8.9								
1	22	32	19.6	28.6	1	1	0.9	0.9				
2	19	51	17.0	45.5	2	3	1.8	2.7				
3	13	64	11.6	57.1	1	4	0.9	3.6				
4	12	76	10.7	67.9	1	5	0.9	4.5	1	1	0.9	0.9
5	6	82	5.4	73.2	7	12	6.3	10.7	2	3	1.8	2.7
6	2	84	1.8	75.0	7	19	6.3	17.0	2	5	1.8	4.5
7	2	86	1.8	76.8	1	20	0.9	17.9	5	10	4.5	8.9
8	1	87	0.9	77.7	5	25	4.5	22.3	5	15	4.5	13.4
9	4	91	3.6	81.3	6	31	5.4	27.7	6	21	5.4	18.8
10	2	93	1.8	83.0	7	38	6.3	33.9	2	23	1.8	20.5
11					3	41	2.7	36.6	5	28	4.5	25.0
12	2	95	1.8	84.8	3	44	2.7	39.3	4	32	3.6	28.6
13	2	97	1.8	86.6	4	48	3.6	42.9	2	34	1.8	30.4
14	2	99	1.8	88.4	5	53	4.5	47.3	4	38	3.6	33.9
15	1	100	0.9	89.3	1	54	0.9	48.2	3	41	2.7	36.6
16	2	102	1.8	91.1	5	59	4.5	52.7	3	44	2.7	39.3
17					5	64	4.5	57.1	7	51	6.3	45.5
18					3	67	2.7	59.8	3	54	2.7	48.2
19					1	68	0.9	60.7	2	56	1.8	50.0
20	1	103	0.9	92.0	3	71	2.7	63.4	6	62	5.4	55.4
21					2	73	1.8	65.2	3	65	2.7	58.0
22					1	74	0.9	66.1	2	67	1.8	59.8
23					5	79	4.5	70.5	2	69	1.8	61.6
24	2	105	1.8	93.8	2	81	1.8	72.3	2	71	1.8	63.4
25	1	106	0.9	94.6					1	72	0.9	64.3
26	1	107	0.9	95.5	4	85	3.6	75.9	3	75	2.7	67.0
27	2	109	1.8	97.3	1	86	0.9	76.8	1	76	0.9	67.9
28	1	110	0.9	98.2	2	88	1.8	78.6	1	77	0.9	68.8
29					3	91	2.7	81.3				
30												
31					1	92	0.9	82.1	4	81	3.6	72.3
32	1	111	0.9	9[illegible]	1	93	0.9	83.0	2	83	1.8	74.1
33	1	112	0.9	100.0					2	85	1.8	75.9
34					2	95	1.8	84.8	1	86	0.9	76.8
35					3	98	2.7	87.5	1	87	0.9	77.7
36					1	99	0.9	88.4				
37					1	100	0.9	89.3	2	89	1.8	79.5
38												
39					1	101	0.9	90.2	2	91	1.8	81.3
40									1	92	0.9	82.1
41					1	102	0.9	91.1	1	93	0.9	83.0
42									1	94	0.9	83.9
43									1	95	0.9	84.8
44					2	104	1.8	92.9				
45									1	96	0.9	85.7
46												
47												
48					1	105	0.9	93.8	2	98	1.8	87.5
49					1	106	0.9	94.6	1	99	0.9	88.4

TABLE 5. (Continued)

5a. (Continued)

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
50									1	100	0.9	89.3
51									1	101	0.9	90.2
52												
53												
54												
55									1	102	0.9	91.1
56												
57					1	107	0.9	95.5				
58												
59									1	103	0.9	92.0
60												
61					2	109	1.8	97.3	1	104	0.9	92.9
62					1	110	0.9	98.2				
63									1	105	0.9	93.8
64												
65												
66												
67												
68												
69					1	111	0.9	99.1	1	106	0.9	94.6
70												
71												
72									1	107	0.9	95.5
73									1	108	0.9	96.4
74												
75												
76												
77					1	112	0.9	100.0				
78												
79												
80									1	109	0.9	97.3
81-90									2	111	1.8	99.1
91-100												
101-110									1	112	0.9	100.0
111-120												
121-180												
181-240												
>240												
≤10	93	93	83.0	83.0	38	38	33.9	33.9	23	23	20.5	20.5
>10 ≤30	19	112	17.0	100.0	74	112	66.1	100.0	89	112	79.5	100.0
>30 ≤60	110	110	98.2	98.2	91	91	81.3	81.3	77	77	68.8	68.8
>60	2	112	1.8	100.0	21	112	18.7	100.0	35	112	31.2	100.0
≤60	112	112	100.0	100.0	107	107	95.5	95.5	103	103	92.0	92.0
>60					5	112	4.5	100.0	9	112	8.0	100.0

TABLE 5. (Concluded)

5b. MAY 1980 / 112 FLARES

X-RAY CLASS	f	Rf	p	Rp
C0				
C1	10	10	8.9	8.9
C2	24	34	21.4	30.4
C3	15	49	13.4	43.8
C4	14	63	12.5	56.3
C5	8	71	7.1	63.4
C6	5	76	4.5	67.9
C7	4	80	3.6	71.4
C8	1	81	0.9	72.3
C9	2	83	1.8	74.1
M1	11	94	9.8	83.9
M2	8	102	7.1	91.1
M3	4	106	3.6	94.6
M4	1	107	0.9	95.5
M5				
M6	1	108	0.9	96.4
M7	1	109	0.9	97.3
M8				
M9				
X1	2	111	1.8	99.1
X2				
X3	1	112	0.9	100.0
X4				
X5				
X6				
X7				
X8				
X9				
C	83	83	74.1	74.1
M	26	109	23.2	97.3
X	3	112	2.7	100.0

5c. MAY 1980 / 112 FLARES

IMP.	f	Rf	p	Rp
SF	17	17	15.2	15.2
SN	38	55	33.9	49.1
SB	23	78	20.5	69.6
1F	1	79	0.9	70.5
1N	16	95	14.3	84.8
1B	12	107	10.7	95.5
2F				
2N	2	109	1.8	97.3
2B	3	112	2.7	100.0
3F				
3N				
3B				
S	78	78	69.6	69.6
1	29	107	25.9	95.5
2	5	112	4.5	100.0
3				
F	18	18	16.1	16.1
N	56	74	50.0	66.1
B	38	112	33.9	100.0

TABLE 6. JUNE 1980 SUMMARY OF RT, DT, D, IMP, AND XR (f, Rf, p, Rp)

6a. JUNE 1980 / 120 FLARES

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
0	8	8	6.7	6.7								
1	17	25	14.2	20.8	1	1	0.8	0.8				
2	19	44	15.8	36.7	6	7	5.0	5.8	1	1	0.8	0.8
3	18	62	15.0	51.7	4	11	3.3	9.2				
4	12	74	10.0	61.7	7	18	5.8	15.0				
5	5	79	4.2	65.8	4	22	3.3	18.3	8	9	6.7	7.5
6	13	92	10.8	76.7	3	25	2.5	20.8	2	11	1.7	9.2
7	3	95	2.5	79.2	12	37	10.0	30.8	2	13	1.7	10.8
8	4	99	3.3	82.5	4	41	3.3	34.2	7	20	5.8	16.7
9	2	101	1.7	84.2	3	44	2.5	36.7	6	26	5.0	21.7
10	1	102	0.8	85.0	4	48	3.3	40.0	7	33	5.8	27.5
11	2	104	1.7	86.7	4	52	3.3	43.3	4	37	3.3	30.8
12					4	56	3.3	46.7	3	40	2.5	33.3
13	1	105	0.8	87.5	5	61	4.2	50.8	3	43	2.5	35.8
14					4	65	3.3	54.2	3	46	2.5	38.3
15					5	70	4.2	58.3	1	47	0.8	39.2
16	1	106	0.8	88.3	1	71	0.8	59.2	4	51	3.3	42.5
17	2	108	1.7	90.0	4	75	3.3	62.5	4	55	3.3	45.8
18					2	77	1.7	64.2	5	60	4.2	50.0
19					3	80	2.5	66.7	2	62	1.7	51.7
20					6	86	5.0	71.7	2	64	1.7	53.3
21	2	110	1.7	91.7	4	90	3.3	75.0	8	72	6.7	60.0
22					3	93	2.5	77.5	2	74	1.7	61.7
23	1	111	0.8	92.5					3	77	2.5	64.2
24	1	112	0.8	93.3	1	94	0.8	78.3	1	78	0.8	65.0
25					3	97	2.5	80.8	1	79	0.8	65.8
26	1	113	0.8	94.2					5	84	4.2	70.0
27									2	86	1.7	71.7
28	1	114	0.8	95.0					1	87	0.8	72.5
29					1	98	0.8	81.7	1	88	0.8	73.3
30									3	91	2.5	75.8
31					1	99	0.8	82.5				
32					2	101	1.7	84.2	1	92	0.8	76.7
33					1	102	0.8	85.0	2	94	1.7	78.3
34	1	115	0.8	95.8					1	95	0.8	79.2
35					1	103	0.8	85.8	1	96	0.8	80.0
36												
37	1	116	0.8	96.7					1	97	0.8	80.8
38									1	98	0.8	81.7
39					2	105	1.7	87.5	1	99	0.8	82.5
40												
41												
42												
43					1	106	0.8	88.3	2	101	1.7	84.2
44									1	102	0.8	85.0
45					2	108	1.7	90.0				
46					1	109	0.8	90.8				
47	1	117	0.8	97.5	1	110	0.8	91.7	3	105	2.5	87.5
48					1	111	0.8	92.5	1	106	0.8	88.3
49												

TABLE 6. (Continued)

6a. (Continued)

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
50					1	112	0.8	93.3				
51	1	118	0.8	98.3								
52												
53					1	113	0.8	94.2	1	107	0.8	89.2
54					1	114	0.8	95.0	1	108	0.8	90.0
55									2	110	1.7	91.7
56	1	119	0.8	99.2					1	111	0.8	92.5
57					1	115	0.8	95.8				
58												
59					1	116	0.8	96.7	2	113	1.7	94.2
60												
61												
62												
63									1	114	0.8	95.0
64												
65												
66												
67									1	115	0.8	95.8
68												
69												
70					2	118	1.7	98.3				
71												
72												
73												
74												
75												
76									1	116	0.8	96.7
77												
78												
79												
80												
81-90												
91-100	1	120	0.8	100.0								
101-110					1	119	0.8	99.2	1	117	0.8	97.5
111-120					1	120	0.8	100.0				
121-180									3	120	2.5	100.0
181-240												
>240												
≤ 10	102	102	85.0	85.0	48	48	40.0	40.0	33	33	27.5	27.5
>10	18	120	15.0	100.0	72	120	60.0	100.0	87	120	72.5	100.0
≤ 30	114	114	95.0	95.0	98	98	81.7	81.7	91	91	75.8	75.8
>30	6	120	5.0	100.0	22	120	18.3	100.0	29	120	24.2	100.0
≤ 60	119	119	99.2	99.2	116	116	96.7	96.7	113	113	94.2	94.2
>60	1	120	0.8	100.0	4	120	3.3	100.0	7	120	5.8	100.0

TABLE 6. (Concluded)

6b. JUNE 1980 / 120 FLARES

X-RAY CLASS	f	Rf	p	Rp
C0				
C1	9	9	7.5	7.5
C2	21	30	17.5	25.0
C3	14	44	11.7	36.7
C4	13	57	10.8	47.5
C5	6	63	5.0	52.5
C6	4	67	3.3	55.8
C7	6	73	5.0	60.8
C8	4	77	3.3	64.2
C9	12	89	10.0	74.2
M1	16	105	13.3	87.5
M2	6	111	5.0	92.5
M3	1	112	0.8	93.3
M4	2	114	1.7	95.0
M5				
M6	2	116	1.7	96.7
M7	2	118	1.7	98.3
M8				
M9				
X1				
X2	2	120	1.7	100.0
X3				
X4				
X5				
X6				
X7				
X8				
X9				
C	89	89	74.2	74.2
M	29	118	24.2	98.3
X	2	120	1.7	100.0

6c. JUNE 1980 / 120 FLARES

IMP.	f	Rf	p	Rp
SF	25	25	20.8	20.8
SN	29	54	24.2	45.0
SB	39	93	32.5	77.5
1F	1	94	0.8	78.3
1N	7	101	5.8	84.2
1B	15	116	12.5	96.7
2F				
2N	2	118	1.7	98.3
2B	2	120	1.7	100.0
3F				
3N				
3B				
S	93	93	77.5	77.5
1	23	116	19.2	96.7
2	4	120	3.3	100.0
3				
F	26	26	21.7	21.7
N	38	64	31.7	53.3
B	56	120	46.7	100.0

TABLE 7. JULY 1980 SUMMARY OF RT, DT, D, IMP, AND XR (f, Rf, p, Rp)

7a. JULY 1980 / 79 FLARES

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	R	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
0	9	9	11.4	11.4								
1	5	14	6.3	17.7	3	3	3.8	3.8				
2	9	23	11.4	29.1	1	4	1.3	5.1				
3	14	37	17.7	46.8								
4	4	41	5.1	51.9	1	5	1.3	6.3				
5	5	46	6.3	58.2	1	6	1.3	7.6				
6	1	47	1.3	59.5	3	9	3.8	11.4	1	1	1.3	1.3
7	8	55	10.1	69.6	2	11	2.5	13.9	1	2	1.3	2.5
8	3	58	3.8	73.4	1	12	1.3	15.2	3	5	3.8	6.3
9					2	14	2.5	17.7	3	8	3.8	10.1
10	1	59	1.3	74.7	2	16	2.5	20.3				
11	4	63	5.1	79.7	1	17	1.3	21.5	3	11	3.8	13.9
12	1	64	1.3	81.0	4	21	5.1	26.6	2	13	2.5	16.5
13	1	65	1.3	82.3	3	24	3.8	30.4	2	15	2.5	19.0
14	1	66	1.3	83.5	2	26	2.5	32.9	1	16	1.3	20.3
15	1	67	1.3	84.8					3	19	3.8	24.1
16	1	68	1.3	86.1	2	28	2.5	35.4	1	20	1.3	25.3
17					5	33	6.3	41.8	1	21	1.3	26.6
18	1	69	1.3	87.3	2	35	2.5	44.3	1	22	1.3	27.8
19					1	36	1.8	45.6	1	23	1.3	29.1
20	1	70	1.3	88.6	1	37	1.3	46.8	3	26	3.8	32.9
21	1	71	1.3	89.9	1	38	1.3	48.1	1	27	1.3	34.2
22	1	72	1.3	91.1	2	40	2.5	50.6	3	30	3.8	38.0
23					1	41	1.3	51.9				
24	1	73	1.3	92.4					2	32	2.5	40.5
25					2	43	2.5	54.4	2	34	2.5	43.0
26					2	45	2.5	57.0	2	36	2.5	45.6
27									1	37	1.3	46.8
28					1	46	1.3	58.2	2	39	2.5	49.4
29					4	50	5.1	63.3				
30					1	51	1.3	64.6	1	40	1.3	50.6
31	1	74	1.3	93.7	2	53	2.5	67.1	1	41	1.3	51.9
32					1	54	1.3	68.4	3	44	3.8	55.7
33									1	45	1.3	57.0
34									1	46	1.3	58.2
35									1	47	1.3	59.5
36									2	49	2.5	62.0
37	1	75	1.3	94.9	2	56	2.5	70.9	1	50	1.3	63.3
38	2	77	2.5	97.5	1	57	1.3	72.2	1	51	1.3	64.6
39	2	79	2.5	100.0								
40					1	58	1.3	73.4	2	53	2.5	67.1
41					1	59	1.3	74.7	2	55	2.5	69.6
42					2	61	2.5	77.2				
43					1	62	1.3	78.5				
44									2	57	2.5	72.2
45												
46					1	63	1.3	79.7	1	58	1.3	73.4
47					1	64	1.3	81.0				
48												
49					2	66	2.5	83.5	1	59	1.3	74.7

TABLE 7. (Continued)

7e. (Continued)

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
50												
51					2	68	2.5	86.1	2	61	2.5	77.2
52									1	62	1.3	78.5
53									2	64	2.5	81.0
54												
55									1	65	1.3	82.3
56					3	71	3.8	89.9				
57									1	66	1.3	83.5
58												
59												
60												
61					1	72	1.3	91.1	1	67	1.3	84.8
62									1	68	1.3	86.1
63									1	69	1.3	87.3
64									1	70	1.3	88.6
65												
66												
67					1	73	1.3	92.4				
68									1	71	1.3	89.9
69												
70												
71					1	74	1.3	93.7				
72												
73									1	72	1.3	91.1
74												
75					1	75	1.3	94.9				
76					1	76	1.3	96.2				
77												
78												
79												
80												
81-90					2	78	2.5	98.7	1	73	1.3	92.4
91-100					1	79	1.3	100.0	1	74	1.3	93.7
101-110									2	76	2.5	96.2
111-120									2	78	2.5	98.7
121-180									1	79	1.3	100.0
181-240												
> 240												
≤ 10	59	59	74.7	74.7	16	16	20.3	20.3	8	8	10.1	10.1
> 10 ≤ 30	20	79	25.3	100.0	63	79	79.7	100.0	71	79	89.9	100.0
≤ 30	73	73	92.4	92.4	51	51	64.6	64.6	40	40	50.6	50.6
> 30 ≤ 60	6	79	7.6	100.0	28	79	35.4	100.0	39	79	49.4	100.0
≤ 60	79	79	100.0	100.0	71	71	89.9	89.9	66	66	83.5	83.5
> 60					8	79	10.1	100.0	13	79	16.5	100.0

TABLE 7. (Concluded)

7b. JULY 1980 / 79 FLARES

X-RAY CLASS	f	Rf	p	Rp
C0				
C1	7	7	8.9	8.9
C2	9	16	11.4	20.3
C3	11	27	13.9	34.2
C4	8	35	10.1	44.3
C5	7	42	8.9	53.2
C6	7	49	8.9	62.0
C7	4	53	5.1	67.1
C8	2	55	2.5	69.6
C9	2	57	2.5	72.2
M1	6	63	7.6	79.7
M2	6	69	7.6	87.3
M3	3	72	3.8	91.1
M4	1	73	1.3	92.4
M5	1	74	1.3	93.7
M6				
M7				
M8	2	76	2.5	96.2
M9				
X1	2	78	2.5	98.7
X2	1	79	1.3	100.0
X3				
X4				
X5				
X6				
X7				
X8				
X9				
C	57	57	72.2	72.2
M	19	76	24.1	96.2
X	3	79	3.8	100.0

7a. JULY 1980 / 79 FLARES

IMP.	f	Rf	p	Rp
SF	8	8	10.1	10.1
SN	20	28	25.3	35.4
SB	20	48	25.3	60.8
1F	1	49	1.3	62.0
1N	7	56	8.9	70.9
1B	20	76	25.3	96.2
2F				
2N				
2B	3	79	3.8	100.0
3F				
3N				
3B				
S	48	48	60.8	60.8
1	28	76	35.4	96.2
2	3	79	3.8	100.0
3				
F	9	9	11.4	11.4
N	27	36	34.2	45.6
B	43	79	54.4	100.0

TABLE 8. AUGUST 1980 SUMMARY OF RT, DT, D, IMP, AND XR (f, Rf, p, Rp)

8a. AUGUST 1980 / 87 FLARES

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
0	6	6	6.9	6.9	2	2	2.3	2.3				
1	6	12	6.9	13.8	2	4	2.3	4.6				
2	16	28	18.4	32.2	1	5	1.1	5.7				
3	13	41	14.9	47.1					1	1	1.1	1.1
4	6	47	6.9	54.0	1	6	1.1	6.9				
5	6	53	6.9	60.9	3	9	3.4	10.3	3	4	3.4	4.6
6	2	55	2.3	63.2								
7	4	59	4.6	67.8	5	14	5.7	16.1	1	5	1.1	5.7
8	4	63	4.6	72.4	2	16	2.3	18.4	2	7	2.3	8.0
9	4	67	4.6	77.0	5	21	5.7	24.1	2	9	2.3	10.3
10	4	71	4.6	81.6	5	26	5.7	29.9	3	12	3.4	13.8
11	1	72	1.1	82.8	2	28	2.3	32.2	4	16	4.6	18.4
12	1	73	1.1	83.9					4	20	4.6	23.0
13	1	74	1.1	85.1	1	29	1.1	33.3	2	22	2.3	25.3
14	2	76	2.3	87.4	1	30	1.1	34.5	1	23	1.1	26.4
15	1	77	1.1	88.5	5	35	5.7	40.2	2	25	2.3	28.7
16					2	37	2.3	42.5	3	28	3.4	32.2
17	1	78	1.1	89.7	4	41	4.6	47.1	1	29	1.1	33.3
18	1	79	1.1	90.8	1	42	1.1	48.3				
19					3	45	3.4	51.7	4	33	2.3	37.9
20	1	80	1.1	92.0	4	49	4.6	56.3	2	35	2.3	40.2
21									2	37	2.3	42.5
22					3	52	3.4	59.8	2	39	2.3	44.8
23	1	81	1.1	93.1	1	53	1.1	60.9	1	40	1.1	46.0
24					4	57	4.6	65.5	3	43	3.4	49.4
25					3	60	3.4	69.0				
26					2	62	2.3	71.3	1	44	1.1	50.6
27									2	46	2.3	52.9
28									3	49	3.4	56.3
29									1	50	1.1	57.5
30					3	65	3.4	74.7	2	52	2.3	59.8
31					2	67	2.3	77.0	1	53	1.1	60.9
32					3	70	3.4	80.5				
33					3	73	3.4	83.9				
34	1	82	1.1	94.3	1	74	1.1	85.1	2	55	2.3	63.2
35									1	56	1.1	64.4
36					1	75	1.1	86.2	3	59	3.4	67.8
37									1	60	1.1	69.0
38									3	63	3.4	72.4
39					1	76	1.1	87.4	2	65	2.3	74.7
40					1	77	1.1	88.5	1	66	1.1	75.9
41	2	84	2.3	96.6	2	79	2.3	90.8	2	68	2.3	78.2
42									2	70	2.3	80.5
43												
44	1	85	1.1	97.7					1	71	1.1	81.6
45					2	81	2.3	93.1				
46									1	72	1.1	82.8
47									1	73	1.1	83.9
48									1	74	1.1	85.1
49									1	75	1.1	86.2

TABLE 8. (Continued)

8a. (Continued)

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
50												
51												
52												
53					1	82	1.1	94.3	1	76	1.1	87.4
54												
55												
56									1	77	1.1	88.5
57												
58												
59												
60												
61	1	86	1.1	98.9								
62												
63									1	78	1.1	89.7
64					1	83	1.1	95.4				
65					1	84	1.1	96.6	1	79	1.1	90.8
66												
67												
68												
69												
70									1	80	1.1	92.0
71												
72									1	81	1.1	93.1
73					1	85	1.1	97.7				
74					1	86	1.1	98.9				
75									1	82	1.1	94.3
76	1	87	1.1	100.0					1	83	1.1	95.4
77												
78									1	84	1.1	96.6
79												
80												
81-90					1	87	1.1	100.0	1	85	1.1	97.7
91-100												
101-110									2	87	2.3	100.0
111-120												
121-180												
181-240												
>240												
≤10	71	71	81.6	81.6	26	26	29.9	29.9	12	12	13.8	13.8
>10	16	87	18.4	100.0	61	87	70.1	100.0	75	87	86.2	100.0
≤30	81	81	93.1	93.1	65	65	74.7	74.7	52	52	59.8	59.8
>30	6	87	6.9	100.0	22	87	25.3	100.0	35	87	40.2	100.0
≤60	85	85	97.7	97.7	82	82	94.3	94.3	77	77	88.5	88.5
>60	2	87	2.3	100.0	5	87	5.7	100.0	10	87	11.5	100.0

TABLE 8. (Concluded)

8b. AUGUST 1980 / 87 FLARES

X-RAY CLASS	f	Rf	p	Rp
C0				
C1	11	11	12.6	12.6
C2	27	38	31.0	43.7
C3	12	50	13.8	57.5
C4	7	57	8.0	65.5
C5	5	62	5.7	71.3
C6	5	67	5.7	77.0
C7	2	69	2.3	79.3
C8	4	73	4.6	83.9
C9	2	75	2.3	86.2
M1	5	80	5.7	92.0
M2	4	84	4.6	96.6
M3	1	85	1.1	97.7
M4				
M5	1	86	1.1	98.9
M6				
M7	1	87	1.1	100.0
M8				
M9				
X1				
X2				
X3				
X4				
X5				
X6				
X7				
X8				
X9				
C	75	75	86.2	86.2
M	12	87	13.8	100.0
X				

8c. AUGUST 1980 / 87 FLARES

IMP.	f	Rf	p	Rp
SF	10	10	11.5	11.5
SN	31	41	35.6	47.1
SB	25	66	28.7	75.9
1F	1	67	1.1	77.0
1N	3	70	3.4	80.5
1B	13	83	14.9	95.4
2F				
2N				
2B	4	87	4.6	100.0
3F				
3N				
3B				
S	66	66	75.9	75.9
1	17	83	19.5	95.4
2	4	87	4.6	100.0
3				
F	11	11	12.6	12.6
N	34	45	39.1	51.7
B	42	87	48.3	100.0

TABLE 9. SEPTEMBER 1980 SUMMARY OF RT, DT, D, IMP, AND XR (f, Rf, p, Rp)

Sa. SEPTEMBER 1980 / 104 FLARES

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
0	9	9	8.7	8.7								
1	17	26	16.3	25.0	1	1	1.0	1.0				
2	17	43	16.3	41.3	4	5	3.8	4.8				
3	20	63	19.2	60.6	3	8	2.9	7.7				
4	5	68	4.8	65.4	3	11	2.9	10.6	3	3	2.9	2.9
5	4	72	3.8	69.2	4	15	3.8	14.4	5	8	4.8	7.7
6	5	77	4.8	74.0	3	18	2.9	17.3	1	9	1.0	8.7
7	3	80	2.9	76.9	7	25	6.7	24.0	7	16	6.7	15.4
8	1	81	1.0	77.9	2	27	1.9	26.0	2	18	1.9	17.3
9	2	83	1.9	79.8	4	31	3.8	29.8	2	20	1.9	19.2
10	4	87	3.8	83.7	6	37	5.8	35.6	4	24	3.8	23.1
11	1	88	1.0	84.6	6	43	5.8	41.3	4	28	3.8	26.9
12					4	47	3.8	42.2	6	34	5.8	32.7
13	1	89	1.0	85.6	1	48	1.0	46.2	6	40	5.8	38.5
14	3	92	2.9	88.5	2	50	1.9	48.1	3	43	2.9	41.3
15	3	95	2.9	91.3	3	53	2.9	51.0	1	44	1.0	42.3
16	2	97	1.9	93.3	1	54	1.0	51.9	1	45	1.0	43.3
17	2	99	1.9	95.2	1	55	1.0	52.9	3	48	2.9	46.2
18	1	100	1.0	96.2	4	59	3.8	56.7	2	50	1.9	48.1
19					3	62	2.9	59.6	3	53	2.9	51.0
20	1	101	1.0	97.1	3	65	2.9	62.5	2	55	1.9	52.9
21	2	103	1.9	99.0	1	66	1.0	63.5	4	59	3.8	56.7
22					5	71	4.8	68.3	2	61	1.9	58.7
23					1	72	1.0	69.2	1	62	1.0	59.6
24	1	104	1.0	100.0	1	73	1.0	70.2	3	65	2.9	62.5
25					3	76	2.9	73.1	2	67	1.9	64.4
26					2	78	1.9	75.0	4	71	3.8	68.3
27												
28					4	82	3.8	78.8				
29					1	83	1.0	79.8	1	72	1.0	69.2
30					1	84	1.0	80.8	1	73	1.0	70.2
31									2	75	1.9	72.1
32					1	85	1.0	81.7				
33									3	78	2.9	75.0
34												
35					2	87	1.9	83.7	3	81	2.9	77.9
36					2	89	1.9	85.6	1	82	1.9	78.8
37									1	83	1.0	79.8
38												
39					1	90	1.0	86.5	2	85	1.9	81.7
40					1	91	1.0	87.5				
41												
42									2	87	1.9	83.7
43					2	93	1.9	89.4	1	88	1.0	84.6
44					2	95	1.9	91.3				
45												
46												
47												
48					1	96	1.0	92.3	1	89	1.0	85.6
49									1	90	1.0	86.5

TABLE 9. (Continued)

9a. (Continued)

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
50									2	92	1.9	88.5
51												
52												
53												
54												
55									1	93	1.0	89.4
56												
57												
58												
59									1	94	1.0	90.4
60					1	97	1.0	93.3				
61												
62												
63												
64												
65					2	99	1.9	95.2	2	96	1.9	92.3
66												
67												
68												
69												
70												
71												
72												
73									1	97	1.0	93.3
74												
75					1	100	1.0	96.2				
76					1	101	1.0	97.1				
77												
78												
79					1	102	1.0	98.1				
80					1	103	1.0	99.0	2	99	1.9	95.2
81-90									1	100	1.0	96.2
91-100									3	103	2.9	99.0
101-110												
111-120					1	104	1.0	100.0	1	104	1.0	100.0
121-180												
181-240												
>240												
≤ 10	87	87	83.7	83.7	37	37	35.6	35.6	24	24	23.1	23.1
>10	17	104	16.3	100.0	67	104	64.4	100.0	80	104	76.9	100.0
≤ 30	104	104	100.0	100.0	84	84	80.8	80.8	73	73	70.2	70.2
>30					20	104	19.2	100.0	31	104	29.8	100.0
≤ 60	104	104	100.0	100.0	97	97	93.3	93.3	94	94	90.4	90.4
>60					7	104	6.7	100.0	10	104	9.6	100.0

TABLE 9. (Concluded)

9b. SEPTEMBER 1990 / 104 FLARES

X-RAY CLASS	f	Rf	p	Rp
C0	2	2	1.9	1.9
C1	31	33	29.8	31.7
C2	33	66	31.7	63.5
C3	11	77	10.6	74.0
C4	7	84	6.7	80.8
C5	2	86	1.9	82.7
C6	2	88	1.9	84.6
C7	2	90	1.9	86.5
C8	2	92	1.9	88.5
C9				
M1	6	98	5.8	94.2
M2	3	101	2.9	97.1
M3	1	102	1.0	98.1
M4				
M5				
M6	1	103	1.0	99.0
M7				
M8	1	104	1.0	100.0
M9				
X1				
X2				
X3				
X4				
X5				
X6				
X7				
X8				
X9				
C	92	92	88.5	88.5
M	12	104	11.5	100.0
X				

9c. SEPTEMBER 1990 / 104 FLARES

IMP.	f	Rf	p	Rp
SF	23	23	22.1	22.1
SN	37	60	35.6	57.7
SB	21	81	20.2	77.9
1F	2	83	1.9	79.8
1N	6	89	5.8	85.6
1B	13	102	12.5	98.1
2F				
2N				
2B	2	104	1.9	100.0
3F				
3N				
3B				
S	81	81	77.9	77.9
1	21	102	20.2	98.1
2	2	104	1.9	100.0
3				
F	25	25	24.0	24.0
N	43	68	41.3	65.4
B	36	104	34.6	100.0

TABLE 10. OCTOBER 1980 SUMMARY OF RT, DT, D, IMP, AND XR (f, Rf, p, Rp)

10a. OCTOBER 1980 / 168 FLARES

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
0	12	12	7.1	7.1	3	3	1.8	1.8				
1	19	31	11.3	18.5	3	6	1.8	3.6				
2	21	52	12.5	31.0	5	11	3.0	6.5	1	1	0.6	0.6
3	12	64	7.1	38.1	5	16	3.0	9.5				
4	18	82	10.7	48.8	2	18	1.2	10.7	2	3	1.2	1.8
5	10	92	6.0	54.8	4	22	2.4	13.1	3	6	1.8	3.6
6	7	99	4.2	58.9	5	27	3.0	16.1	3	9	1.8	5.4
7	11	110	6.5	65.5	7	34	4.2	20.2	2	11	1.2	6.5
8	5	115	3.0	68.5	5	39	3.0	23.2	6	17	3.6	10.1
9	2	117	1.2	69.6	5	44	3.0	26.2	4	21	2.4	12.5
10	8	125	4.8	74.4	7	51	4.2	30.4	4	25	2.4	14.9
11	4	129	2.4	76.8	10	61	6.0	36.3	5	30	3.0	17.9
12	1	130	0.6	77.4	6	67	3.6	39.9	5	35	3.0	20.8
13	5	135	3.0	80.4	11	78	6.5	46.4	4	39	2.4	23.2
14	3	138	1.8	82.1	3	81	1.8	48.2	8	47	4.8	28.0
15	1	139	0.6	82.7	5	86	3.0	51.2	3	50	1.8	29.8
16	2	141	1.2	83.9	3	89	1.8	53.0	4	54	2.4	32.1
17					5	94	3.0	56.0	6	60	3.6	35.7
18	4	145	2.4	86.3	7	101	4.2	60.1	6	66	3.6	39.3
19	6	151	3.6	89.9	3	104	1.8	61.9	7	73	4.2	43.5
20	1	152	0.6	90.5	4	108	2.4	64.3	6	79	3.6	47.0
21	2	154	1.2	91.7	2	110	1.2	65.5	3	82	1.8	48.8
22	2	156	1.2	92.9	3	113	1.8	67.3	5	87	3.0	51.8
23					4	117	2.4	69.6	1	88	0.6	52.4
24					2	119	1.2	70.8	4	92	2.4	54.8
25					2	121	1.2	72.0	3	95	1.8	56.5
26					5	126	3.0	75.0	2	97	1.2	57.7
27					4	130	2.4	77.4	3	100	1.8	59.5
28	1	157	0.6	93.5	4	134	2.4	79.8	3	103	1.8	61.3
29					2	136	1.2	81.0	2	105	1.2	62.5
30	1	158	0.6	94.0					4	109	2.4	64.9
31	1	159	0.6	94.6	1	137	0.6	81.5	3	112	1.8	66.7
32	2	161	1.2	95.8	2	139	1.2	82.7	6	118	3.6	70.2
33					3	142	1.8	84.5	3	121	1.8	72.0
34	1	162	0.6	96.4	2	144	1.2	85.7	2	123	1.2	73.2
35					2	146	1.2	86.9	2	125	1.2	74.4
36					3	149	1.8	88.7	2	127	1.2	75.6
37					1	150	0.6	89.3	1	128	0.6	76.2
38												
39					3	153	1.8	91.1	1	129	0.6	76.8
40	1	163	0.6	97.0	2	155	1.2	92.3	3	132	1.8	78.6
41	1	164	0.6	97.6	2	157	1.2	93.5	1	133	0.6	79.2
42									3	136	1.8	81.0
43					1	158	0.6	94.0	1	137	0.6	81.5
44												
45									4	141	2.4	83.9
46					1	159	0.6	94.6	5	146	3.0	86.9
47					1	160	0.6	95.2				
48									1	147	0.6	87.5
49	1	165	0.6	98.2					2	149	1.2	88.7

TABLE 10. (Concluded)

10b. OCTOBER 1980 / 168 FLARES

X-RAY CLASS	f	Rf	p	Rp
C0				
C1	9	9	5.4	5.4
C2	29	38	17.3	22.6
C3	33	71	19.6	42.3
C4	22	93	13.1	55.4
C5	15	108	8.9	64.3
C6	13	121	7.7	72.0
C7	10	131	6.0	78.0
C8	5	136	3.0	81.0
C9	4	140	2.4	83.3
M1	18	158	10.7	94.0
M2	5	163	3.0	97.0
M3	1	164	0.6	97.6
M4				
M5	1	165	0.6	98.2
M6				
M7				
M8	1	166	0.6	98.8
M9				
X1				
X2				
X3	2	168	1.2	100.0
X4				
X5				
X6				
X7				
X8				
X9				
C	140	140	83.3	83.3
M	26	166	15.5	98.8
X	2	168	1.2	100.0

10c. OCTOBER 1980 / 168 FLARES

IMP.	f	Rf	p	Rp
SF	19	19	11.3	11.3
SN	55	74	32.7	44.0
SB	49	123	29.2	73.2
1F	1	124	0.6	73.8
1N	19	143	11.3	85.1
1B	19	162	11.3	96.4
2F				
2N	1	163	0.6	97.0
2B	4	167	2.4	99.4
3F				
3N				
3B	1	168	0.6	100.0
S	123	123	73.2	73.2
1	39	162	23.2	96.4
2	5	167	3.0	99.4
3	1	168	0.6	100.0
F	20	20	11.9	11.9
N	75	95	44.6	56.5
B	73	168	43.5	100.0

TABLE 10. (Continued)

10a. (Continued)

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
50												
51					3	163	1.8	97.0				
52					1	164	0.6	97.6				
53									2	151	1.2	89.9
54									2	153	1.2	91.1
55	1	166	0.6	98.8								
56												
57					1	165	0.6	98.2	1	154	0.6	91.7
58									1	155	0.6	92.3
59												
60									1	156	0.6	92.9
61												
62												
63												
64									1	157	0.6	93.5
65									1	158	0.6	94.0
66												
67									1	159	0.6	94.6
68												
69					1	166	0.6	98.8				
70									1	160	0.6	95.2
71									1	161	0.6	95.8
72												
73												
74												
75									1	162	0.6	96.4
76												
77												
78												
79												
80												
81-90					1	167	0.6	99.4	1	163	0.6	97.0
91-100	1	167	0.6	99.4	1	168	0.6	100.0				
101-110									2	165	1.2	98.2
111-120									1	166	0.6	98.8
121-180									1	167	0.6	99.4
181-240												
>240	1	168	0.6	100.0					1	168	0.6	100.0
≤ 10	125	125	74.4	74.4	51	51	30.4	30.4	25	25	14.9	14.9
> 10	43	168	25.6	100.0	117	168	69.6	100.0	143	168	85.1	100.0
≤ 30	158	158	94.0	94.0	136	136	81.0	81.0	109	109	64.9	64.9
> 30	10	168	6.0	100.0	32	168	19.0	100.0	59	168	35.1	100.0
≤ 60	166	166	98.8	98.8	165	165	98.2	98.2	156	156	92.9	92.9
> 60	2	168	1.2	100.0	3	168	1.8	100.0	12	168	7.1	100.0

TABLE 11. NOVEMBER 1980 SUMMARY OF RT, DT, D, IMP, AND XR (f, Rf, p, Rp)

11a. NOVEMBER 1980 / 192 FLARES

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
0	15	15	7.8	7.8	1	1	0.5	0.5				
1	29	44	15.1	22.9	2	3	1.0	1.6				
2	18	62	9.4	32.3	8	11	4.2	5.7				
3	14	76	7.3	39.6	8	19	4.2	9.9				
4	12	88	6.3	45.8	4	23	2.1	12.0	1	1	0.5	0.5
5	13	101	6.8	52.6	4	27	2.1	14.1	3	4	1.6	2.1
6	8	109	4.2	56.8	6	33	3.1	17.2	4	8	2.1	4.2
7	16	125	8.3	65.1	4	37	2.1	19.3	4	12	2.1	6.3
8	15	140	7.8	72.9	4	41	2.1	21.4	4	16	2.1	8.3
9	5	145	2.6	75.5	9	50	4.7	26.0	7	23	3.6	12.0
10	10	155	5.2	80.7	7	57	3.6	29.7	7	30	3.6	15.6
11	3	158	1.6	82.3	4	61	2.1	31.8	12	42	6.3	21.9
12	6	164	3.1	85.4	6	67	3.1	34.9	6	48	3.1	25.0
13	2	166	1.0	86.5	5	72	2.6	37.5				
14	1	167	0.5	87.0	5	77	2.6	40.1	2	50	1.0	26.0
15	2	169	1.0	88.0	6	83	3.1	43.2	2	52	1.0	27.1
16	3	172	1.6	89.6	7	90	3.6	46.9	7	59	3.6	30.7
17	1	173	0.5	90.1	8	98	4.2	51.0	6	65	3.1	33.9
18					6	104	3.1	54.2	10	75	5.2	39.1
19					6	110	3.1	57.3	3	78	1.6	40.6
20	1	174	0.5	90.6	5	115	2.6	59.9	3	81	1.6	42.2
21	1	175	0.5	91.1	4	119	2.1	62.0	5	86	2.6	44.8
22	1	176	0.5	91.7					2	88	1.0	45.8
23					3	122	1.6	63.5	3	91	1.6	47.4
24					2	124	1.0	64.6	5	96	2.6	50.0
25					1	125	0.5	65.1	4	100	2.1	52.1
26					2	127	1.0	66.1	1	101	0.5	52.6
27	1	177	0.5	92.2	3	130	1.6	67.7	2	103	1.0	53.6
28	1	178	0.5	92.7	3	133	1.6	69.3	6	109	3.1	56.8
29					4	137	2.1	71.4	6	115	3.1	59.9
30					2	139	1.0	72.4	4	119	2.1	62.0
31									2	121	1.0	63.0
32					1	140	0.5	72.9	2	123	1.0	64.1
33					2	142	1.0	74.0	3	126	1.6	65.6
34					2	144	1.0	75.0	2	128	1.0	66.7
35	1	179	0.5	93.2	3	147	1.6	76.6				
36					2	149	1.0	77.6	2	130	1.0	67.7
37									1	131	0.5	68.2
38	2	181	1.0	94.3	2	151	1.0	78.6	3	134	1.6	69.8
39	1	182	0.5	94.8	1	152	0.5	79.2	1	135	0.5	70.3
40	1	183	0.5	95.3	3	155	1.6	80.7	2	137	1.0	71.4
41					2	157	1.0	81.8	4	141	2.1	73.4
42	1	184	0.5	95.8	2	159	1.0	82.8	1	142	0.5	74.0
43					3	162	1.6	84.4	2	144	1.0	75.0
44									1	145	0.5	75.5
45					2	164	1.0	85.4	1	146	0.5	76.0
46					1	165	0.5	85.9	1	147	0.5	76.6
47	1	185	0.5	96.4	1	166	0.5	86.5	1	148	0.5	77.1
48									2	150	1.0	78.1
49					1	167	0.5	87.0	1	151	0.5	78.6

TABLE 11. (Continued)

11a. (Continued)

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
50									1	152	0.5	79.2
51					1	168	0.5	87.5				
52									1	153	0.5	79.7
53									1	154	0.5	80.2
54	1	186	0.5	96.9					1	155	0.5	80.7
55									3	158	1.6	82.3
56												
57					1	169	0.5	88.0	4	162	2.1	84.4
58									2	164	1.0	85.4
59					2	171	1.0	89.1				
60	2	188	1.0	97.9					1	165	0.5	85.9
61									1	166	0.5	86.5
62					1	172	0.5	89.6				
63					3	175	1.6	91.1	1	167	0.5	87.0
64					1	176	0.5	91.7				
65					1	177	0.5	92.2				
66												
67												
68	1	189	0.5	98.4								
69					1	178	0.5	92.7	2	168	1.0	88.0
70												
71												
72									2	170	1.0	89.1
73					1	179	0.5	93.2				
74									2	173	1.0	90.1
75												
76												
77												
78												
79									1	174	0.5	90.6
80												
81-90									2	176	1.0	91.7
91-100	1	190	0.5	99.0	4	183	2.1	95.8	3	179	1.6	93.2
101-110					4	187	2.1	97.4	1	180	0.5	93.8
111-120					2	189	1.0	98.4	3	183	1.6	95.8
121-180	1	191	0.5	99.5	1	190	0.5	99.0	5	188	2.6	97.9
181-240	1	192	0.5	100.0	1	191	0.5	99.5	2	190	1.0	99.0
>240					1	192	0.5	100.0	2	192	1.0	100.0
≤ 10	155	155	80.7	80.7	57	57	29.7	29.7	30	30	15.6	15.6
> 10	37	192	19.3	100.0	135	192	70.3	100.0	162	192	84.4	100.0
≤ 30	178	178	92.7	92.7	139	139	72.4	72.4	119	119	62.0	62.0
> 30	14	192	7.3	100.0	53	192	27.6	100.0	73	192	38.0	100.0
≤ 60	188	188	97.9	97.9	171	171	89.1	89.1	165	165	85.9	85.9
> 60	4	192	2.1	100.0	21	192	10.9	100.0	27	192	14.1	100.0

TABLE 11. (Concluded)

11b. NOVEMBER 1980 / 192 FLARES

X-RAY CLASS	f	Rf	p	Rp
C0				
C1	7	7	3.6	3.6
C2	20	27	10.4	14.1
C3	22	49	11.5	25.5
C4	16	65	8.3	33.9
C5	9	74	4.7	38.5
C6	9	83	4.7	43.2
C7	13	96	6.8	50.0
C8	8	104	4.2	54.2
C9	6	110	3.1	57.3
M1	39	149	20.3	77.6
M2	14	163	7.3	84.9
M3	11	174	5.7	90.6
M4	5	179	2.6	93.2
M5	2	181	1.0	94.3
M6	1	182	0.5	94.8
M7				
M8	3	185	1.6	96.4
M9	2	187	1.0	97.4
X1	1	188	0.5	97.9
X2	2	190	1.0	99.0
X3	1	191	0.5	99.5
X4				
X5				
X6				
X7				
X8				
X9	1	192	0.5	100.0
C	110	110	57.3	57.3
M	77	187	40.1	97.4
X	5	192	2.6	100.0

11c. NOVEMBER 1980 / 192 FLARES

IMP.	f	Rf	p	Rp
SF	17	17	8.9	8.9
SN	47	64	24.5	33.3
SB	44	108	22.9	56.3
1F	4	112	2.1	58.3
1N	24	136	12.5	70.8
1B	38	174	19.8	90.6
2F	1	175	0.5	91.1
2N	2	177	1.0	92.2
2B	15	192	7.8	100.0
3F				
3N				
3B				
S	108	108	56.3	56.3
1	66	174	34.4	90.6
2	18	192	9.4	100.0
3				
F	22	22	11.5	11.5
N	73	95	38.0	49.5
B	97	192	50.5	100.0

TABLE 12. DECEMBER 1980 SUMMARY OF RT, DT, D, IMP, AND XR (f, Rf, p, Rp)

12a. DECEMBER 1980 / 145 FLARES

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
0	6	6	4.1	4.1								
1	13	19	9.0	13.1	2	2	1.4	1.4				
2	18	37	12.4	25.5	2	4	1.4	2.8				
3	22	59	15.2	40.7	4	8	2.8	5.5				
4	19	78	13.1	53.8	1	9	0.7	6.2	1	1	0.7	0.7
5	10	88	6.9	60.7	4	13	2.8	9.0	2	3	1.4	2.1
6	13	101	9.0	69.7	2	15	1.4	10.3	1	4	0.7	2.8
7	7	108	4.8	74.5	6	21	4.1	14.5	1	5	0.7	3.4
8	7	115	4.8	79.3	4	25	2.8	17.2	3	8	2.1	5.5
9	4	119	2.8	82.1	3	28	2.1	19.3	8	16	5.5	11.0
10	5	124	3.4	85.5	4	32	2.8	22.1	2	18	1.4	12.4
11	2	126	1.4	86.9	9	41	6.2	28.3	5	23	3.4	15.9
12	2	128	1.4	88.3	5	46	3.4	31.7	5	28	3.4	19.3
13					5	51	3.4	35.2	2	30	1.4	20.7
14	3	131	2.1	90.3	5	56	3.4	38.6	4	34	2.8	23.4
15	2	133	1.4	91.7	3	59	2.1	40.7	3	37	2.1	25.5
16	1	134	0.7	92.4	9	68	6.2	46.9	4	41	2.8	28.3
17	1	135	0.7	93.1	3	71	2.1	49.0	6	47	4.1	32.4
18					4	75	2.8	51.7	4	51	2.8	35.2
19					1	76	0.7	52.4	3	54	2.1	37.2
20	1	136	0.7	93.8	8	84	5.5	57.9	3	57	2.1	39.3
21					3	87	2.1	60.0	6	63	4.1	43.4
22	1	137	0.7	94.5	2	89	1.4	61.4	5	68	3.4	46.9
23					4	93	2.8	64.1	4	72	2.8	49.7
24					2	95	1.4	65.5	3	75	2.1	51.7
25					6	101	4.1	69.7	2	77	1.4	53.1
26					3	104	2.1	71.7	2	79	1.4	54.5
27	1	138	0.7	95.2	5	109	3.4	75.2	5	84	3.4	57.9
28					1	110	0.7	75.9	3	87	2.1	60.0
29									3	90	2.1	62.1
30	1	139	0.7	95.9	2	112	1.4	77.2	5	95	3.4	65.5
31					1	113	0.7	77.9	2	97	1.4	66.9
32					1	114	0.7	78.6	2	99	1.4	68.3
33					1	115	0.7	79.3	2	101	1.4	69.7
34					2	117	1.4	80.7	1	102	0.7	70.3
35	1	140	0.7	96.6	3	120	2.1	82.8	2	104	1.4	71.7
36					3	123	2.1	84.8	4	108	2.8	74.5
37									1	109	0.7	75.2
38					1	124	0.7	85.5				
39	1	141	0.7	97.2					1	110	0.7	75.9
40									1	111	0.7	76.6
41					1	125	0.7	86.2	3	114	2.1	78.6
42					2	127	1.4	87.6	1	115	0.7	79.3
43					2	129	1.4	89.0	1	116	0.7	80.0
44					1	130	0.7	89.7				
45					2	132	1.4	91.0	2	118	1.4	81.4
46					1	133	0.7	91.7	2	120	1.4	82.8
47					2	135	1.4	93.1	1	121	0.7	83.4
48					1	136	0.7	93.8				
49					1	137	0.7	94.5	2	123	1.4	84.8

TABLE 12. (Continued)

12a. (Continued)

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
50									1	124	0.7	85.5
51	1	142	0.7	97.9	1	138	0.7	95.2				
52	1	143	0.7	98.6					2	126	1.4	86.9
53					1	139	0.7	95.9	1	127	0.7	87.6
54									3	130	2.1	89.7
55					1	140	0.7	96.6	3	133	2.1	91.7
56												
57												
58												
59					1	141	0.7	97.2	1	134	2.1	92.4
60					1	142	0.7	97.9	1	135	0.7	93.1
61					1	143	0.7	98.6	2	137	1.4	94.5
62									1	138	0.7	95.2
63												
64									1	139	0.7	95.9
65												
66												
67												
68									1	140	0.7	96.6
69												
70												
71												
72					1	144	0.7	99.3				
73												
74												
75												
76												
77												
78												
79												
80												
81-90	1	144	0.7	99.3					2	142	1.4	97.9
91-100	1	145	0.7	100.0								
101-110					1	145	0.7	100.0				
111-120									1	143	0.7	98.6
121-180									2	145	1.4	100.0
181-240												
>240												
≤ 10	124	124	85.5	85.5	32	32	22.1	22.1	18	18	12.4	12.4
>10 ≤ 20	21	145	14.5	100.0	113	145	77.9	100.0	127	145	87.6	100.0
>20 ≤ 30	139	139	95.9	95.9	112	112	77.2	77.2	95	95	65.5	65.5
>30 ≤ 60	6	145	4.1	100.0	33	145	22.8	100.0	50	145	34.5	100.0
>60	143	143	98.6	98.6	142	142	97.9	97.9	135	135	93.1	93.1
	2	145	1.4	100.0	3	145	2.1	100.0	10	145	6.9	100.0

TABLE 12. (Concluded)

12b. DECEMBER 1980 / 145 FLARES

X-RAY CLASS	f	Rf	p	Rp
C0				
C1	11	11	7.6	7.6
C2	35	46	24.1	31.7
C3	30	76	20.7	52.4
C4	12	88	8.3	60.7
C5	10	98	6.9	67.6
C6	8	106	5.5	73.1
C7	8	114	5.5	78.6
C8				
C9	3	117	2.1	80.7
M1	16	133	11.0	91.7
M2	4	137	2.8	94.5
M3				
M4	5	142	3.4	97.9
M5	2	144	1.4	99.3
M6				
M7	1	145	0.7	100.0
M8				
M9				
X1				
X2				
X3				
X4				
X5				
X6				
X7				
X8				
X9				
C	117	117	80.7	80.7
M	28	145	19.3	100.0
X				

12c. DECEMBER 1980 / 145 FLARES

IMP.	f	Rf	p	Rp
SF	24	24	16.6	16.6
SN	55	79	37.9	54.5
SB	30	109	20.7	75.2
1F	1	110	0.7	75.9
1N	15	125	10.3	86.2
1B	14	139	9.7	95.9
2F				
2N	1	140	0.7	96.6
2B	5	145	3.4	100.0
3F				
3N				
3B				
S	109	109	75.2	75.2
1	30	139	20.7	95.9
2	6	145	4.1	100.0
3				
F	25	25	17.2	17.2
N	71	96	49.0	66.2
B	49	145	33.8	100.0

TABLE 13. SUMMARY BY MONTH OF ≤ 10, ≤ 30, ≤ 60, Q_{50}, AND Q_{90}

	≤ 10			≤ 30			≤ 60			Q_{50}			Q_{90}			
	RT	DT	D	RT	DT	D	RT	DT	D	RT	DT	D	RT	DT	D	N
JAN	72.5	29.0	8.7	91.3	76.8	59.4	97.1	95.7	85.5	4.5	16.0	22.0	27.0	43.0	62.5	69
FEB	89.0	24.7	16.4	97.3	75.3	67.1	98.6	95.9	90.4	2.5	16.0	19.5	11.5	41.0	54.0	73
MAR	91.7	39.6	20.8	100.0	91.7	82.3	100.0	97.9	96.9	3.0	12.5	17.0	9.5	29.5	35.5	96
APR	82.7	28.8	21.2	99.0	78.8	65.4	100.0	97.1	93.3	3.0	15.0	19.0	12.5	41.0	53.0	104
MAY	83.0	33.9	20.5	98.2	81.3	68.8	100.0	95.5	92.0	2.0	15.0	18.0	16.0	39.0	51.0	112
JUN	85.0	40.0	27.5	95.0	81.7	75.8	99.2	96.7	94.2	3.0	13.0	18.0	16.0	45.0	53.0	120
JUL	74.7	20.3	10.1	92.4	64.6	50.6	100.0	89.9	83.5	4.0	21.5	29.0	21.0	57.0	69.0	79
AUG	81.6	29.9	13.8	93.1	74.7	59.8	97.7	94.3	88.5	3.0	18.0	24.5	17.0	40.0	62.0	87
SEP	83.7	35.6	23.1	100.0	80.8	70.2	100.0	93.3	90.4	2.5	15.0	19.0	14.5	44.0	59.0	104
OCT	74.4	30.4	14.9	94.0	81.0	64.9	98.8	98.2	92.9	4.0	14.5	21.5	21.0	38.0	54.0	168
NOV	80.7	29.7	15.6	92.7	72.4	62.0	97.9	89.1	85.9	4.5	17.0	24.0	17.0	59.0	74.0	192
DEC	85.5	22.1	12.4	95.9	77.2	65.5	98.6	97.9	93.1	3.5	17.0	23.0	13.5	43.5	54.5	145
YEAR	81.9	30.5	17.3	95.6	78.1	66.2	99.0	95.0	90.8	3.5	15.5	21.0	16.5	444.0	58.0	1349

TABLE 14. FLARE FREQUENCY BY MONTH

	f	p	Rf	Rp	FLARE DAILY RATE
JAN	69	5.1	69	5.1	2.23
FEB	73	5.4	142	10.5	2.52
MAR	96	7.1	238	17.6	3.10
APR	104	7.7	342	25.4	3.47
MAY	112	8.3	454	33.7	3.61
JUN	120	8.9	574	42.6	4.00
JUL	79	5.9	653	48.4	2.55
AUG	87	6.4	740	54.9	2.81
SEP	104	7.7	844	62.6	3.47
OCT	168	12.5	1012	75.0	5.42
NOV	192	14.2	1204	89.3	6.40
DEC	145	10.7	1349	100.0	4.68
TOTAL	1349				
AVG/MON	112.42	8.3			
AVG/DAY					3.69

TABLE 15. YEAR 1980 SUMMARY OF RT, DT, D, IMP, AND XR (f, Rf, p, Rp)

15a. YEAR 1980 / 1340 FLARES

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
0	112	112	8.3	8.3	6	6	0.4	0.4				
1	169	281	12.5	20.8	16	22	1.2	1.6				
2	184	465	13.6	34.5	31	53	2.3	3.9	2	2	0.1	0.1
3	171	636	12.7	47.1	29	82	2.1	6.1	2	4	0.1	0.3
4	111	747	8.2	55.4	31	113	2.3	8.4	8	12	0.6	0.9
5	87	834	6.4	61.8	42	155	3.1	11.5	39	51	2.9	3.8
6	73	907	5.4	67.2	52	207	3.9	15.3	24	75	1.8	5.6
7	69	976	5.1	72.3	58	265	4.3	19.6	32	107	2.4	7.9
8	53	1029	3.9	76.3	38	303	2.8	22.5	38	145	2.8	10.7
9	34	1063	2.5	78.8	49	352	3.6	26.1	47	192	3.5	14.2
10	42	1105	3.1	81.9	59	411	4.4	30.5	41	233	3.0	17.3
11	24	1129	1.8	83.7	48	459	3.6	34.0	52	285	3.9	21.1
12	18	1147	1.3	85.0	47	506	3.5	37.5	49	334	3.6	24.8
13	13	1160	1.0	86.0	53	559	3.9	41.4	31	365	2.3	27.1
14	22	1182	1.6	87.6	35	594	2.6	44.0	37	402	2.7	29.8
15	15	1197	1.1	88.7	43	637	3.2	47.2	33	435	2.4	32.2
16	15	1212	1.1	89.8	44	681	3.3	50.5	42	477	3.1	35.4
17	7	1219	0 5	90.4	43	724	3.2	53.7	47	524	3.5	38.8
18	10	1229	0.7	91.1	42	766	3.1	56.8	43	567	3.2	42.0
19	7	1236	0.5	91.6	29	795	2.1	58.9	33	600	2.4	44.5
20	12	1248	0.9	92.5	42	837	3.1	62.0	37	637	2.7	47.2
21	11	1259	0.8	93.3	23	860	1.7	63.8	37	674	2.7	50.0
22	5	1264	0.4	93.7	25	885	1.9	65.6	34	708	2.5	52.5
23	3	1267	0.2	93.9	26	911	1.9	67.5	21	729	1.6	54.0
24	6	1273	0.4	94.4	22	933	1.6	69.2	34	763	2.5	56.6
25	2	1275	0.1	94.5	24	957	1.8	70.9	21	784	1.6	58.1
26	2	1277	0.1	94.7	22	979	1.6	72.6	26	810	1.9	60.0
27	5	1282	0.4	95.0	20	999	1.5	74.1	18	828	1.3	61.4
28	4	1286	0.3	95.3	22	1021	1.6	75.7	23	851	1.7	63.1
29	2	1288	0.1	95.5	20	1041	1.5	77.2	18	869	1.3	64.4
30	2	1290	0.1	95.6	13	1054	1.0	78.1	24	893	1.8	66.2
31	2	1292	0.1	95.8	11	1065	0.8	78.9	19	912	1.4	67.6
32	5	1297	0.4	96.1	15	1080	1.1	80.1	25	937	1.9	69.5
33	1	1298	0.1	96.2	15	1095	1.1	81.2	24	961	1.8	71.2
34	3	1301	0.2	96.4	12	1107	0.9	82.1	15	976	1.1	72.3
35	2	1303	0.1	96.6	15	1122	1.1	83.2	14	990	1.0	73.4
36	1	1304	0.1	96.7	13	1135	1.0	84.1	15	1005	1.1	74.5
37	2	1306	0.1	96.8	8	1143	0.6	84.7	10	1015	0.7	75.2
38	4	1310	0.3	97.1	10	1153	0.7	85.5	13	1028	1.0	76.2
39	4	1314	0.3	97.4	11	1164	0.8	86.3	15	1043	1.1	77.3
40	2	1316	0.1	97.6	10	1174	0.7	87.0	14	1057	1.0	78.4
41	3	1319	0.2	97.8	10	1184	0.7	87.8	15	1072	1.1	79.5
42	1	1320	0.1	97.9	8	1192	0.6	88.4	13	1085	1.0	80.4
43					14	1206	1.0	89.4	12	1097	0.9	81.3
44	2	1322	0.1	98.0	7	1213	0.5	89.9	8	1105	0.6	81.9
45					9	1222	0.7	90.6	11	1116	0.8	82.7
46					7	1229	0.5	91.1	11	1127	0.8	83.5
47	2	1324	0.1	98.1	7	1236	0.5	91.6	9	1136	0.7	84.2
48					6	1242	0.4	92.1	8	1144	0.6	84.8
49	1	1325	0.1	98.2	7	1249	0.5	92.5	11	1155	0.8	85.6

TABLE 15. (Continued)

15a. (Continued)

TIME	RISE-TIME				DECAY-TIME				DURATION			
	f	Rf	p	Rp	f	Rf	p	Rp	f	Rf	p	Rp
50					1	1250	0.1	92.7	6	1161	0.4	86.1
51	2	1327	0.1	98.4	7	1257	0.5	93.2	4	1165	0.3	86.4
52	1	1328	0.1	98.4	1	1258	0.1	93.3	5	1170	0.4	86.7
53					4	1262	0.3	93.6	10	1180	0.7	87.5
54	1	1329	0.1	98.5	3	1265	0.2	93.8	7	1187	0.5	88.0
55	1	1330	0.1	98.6	2	1267	0.1	93.9	11	1198	0.8	88.8
56	1	1331	0.1	98.7	3	1270	0.2	94.1	3	1201	0.2	89.0
57					5	1275	0.4	94.5	8	1209	0.6	89.6
58					1	1276	0.1	94.6	6	1215	0.4	90.1
59					4	1280	0.3	94.9	6	1221	0.4	90.5
60	4	1335	0.3	99.0	2	1282	0.1	95.0	4	1225	0.3	90.8
61	1	1336	0.1	99.0	5	1287	0.4	95.4	7	1232	0.5	91.3
62					2	1289	0.1	95.6	5	1237	0.4	91.7
63	1	1337	0.1	99.1	3	1292	0.2	95.8	5	1242	0.4	92.1
64					2	1294	0.1	95.9	3	1245	0.2	92.3
65					4	1298	0.3	96.2	5	1250	0.4	92.7
66					1	1299	0.1	96.3	1	1251	0.1	92.7
67					1	1300	0.1	96.4	4	1255	0.3	93.0
68	1	1338	0.1	99.2	1	1301	0.1	96.4	2	1257	0.1	93.2
69					4	1305	0.3	96.7	4	1261	0.3	93.5
70					2	1307	0.1	96.9	2	1263	0.1	93.6
71					1	1308	0.1	97.0	2	1265	0.1	93.8
72					1	1309	0.1	97.0	4	1269	0.3	94.1
73					3	1312	0.2	97.3	4	1273	0.3	94.4
74					1	1313	0.1	97.3	2	1275	0.1	94.5
75					3	1316	0.2	97.6	3	1278	0.2	94.7
76	1	1339	0.1	99.3	3	1319	0.2	97.8	3	1281	0.2	95.0
77					1	1320	0.1	97.9	1	1282	0.1	95.0
78									1	1283	0.1	95.1
79					1	1321	0.1	97.9	1	1284	0.1	95.2
80					1	1322	0.1	98.0	3	1287	0.2	95.4
81-90	2	1341	0.1	99.4	4	1326	0.3	98.3	12	1299	0.9	96.3
91-100	4	1345	0.3	99.7	7	1333	0.5	98.8	9	1308	0.7	97.0
101-110					6	1339	0.4	99.3	12	1320	0.9	97.9
111-120	1	1346	0.1	99.8	5	1344	0.4	99.6	9	1329	0.7	98.5
121-180	1	1347	0.1	99.9	2	1346	0.1	99.8	13	1342	1.0	99.5
181-240	1	1348	0.1	99.9	1	1347	0.1	99.9	2	1344	0.1	99.6
>240	1	1349	0.1	100.0	2	1349	0.1	100.0	5	1349	0.4	100.0
≤10	1105	1105	81.9	81.9	411	411	30.5	30.5	233	233	17.3	17.3
>10	244	1349	18.1	100.0	938	1349	69.5	100.0	1116	1349	82.7	100.0
≤30	1290	1290	95.6	95.6	1054	1054	78.1	78.1	893	893	66.2	66.2
>30	59	1349	4.4	100.0	295	1349	21.9	100.0	456	1349	33.8	100.0
≤60	1335	1335	99.0	99.0	1282	1282	95.0	95.0	1225	1225	90.8	90.8
>60	14	1349	1.0	100.0	67	1349	5.0	100.0	124	1349	9.2	100.0

TABLE 15. (Concluded)

15b. YEAR 1980 / 1340 FLARES

X-RAY CLASS	f	Rf	p	Rp
C0	6	6	0.4	0.4
C1	148	154	11.0	11.4
C2	272	426	20.2	31.6
C3	201	627	14.9	46.5
C4	126	753	9.3	55.8
C5	76	829	5.6	61.5
C6	67	896	5.0	66.4
C7	66	962	4.9	71.3
C8	42	1004	3.1	74.4
C9	44	1048	3.3	77.7
M1	142	1190	10.5	88.2
M2	62	1252	4.6	92.8
M3	26	1278	1.9	94.7
M4	18	1296	1.3	96.1
M5	13	1309	1.0	97.0
M6	6	1315	0.4	97.5
M7	7	1322	0.5	98.0
M8	9	1331	0.7	98.7
M9	3	1334	0.2	98.9
X1	5	1339	0.4	99.3
X2	5	1344	0.4	99.6
X3	4	1348	0.3	99.9
X4				
X5				
X6				
X7				
X8				
X9	1	1349	0.1	100.0
C	1048	1048	77.7	77.7
M	286	1334	21.2	98.9
X	15	1349	1.1	100.0

15c. YEAR 1980 / 1340 FLARES

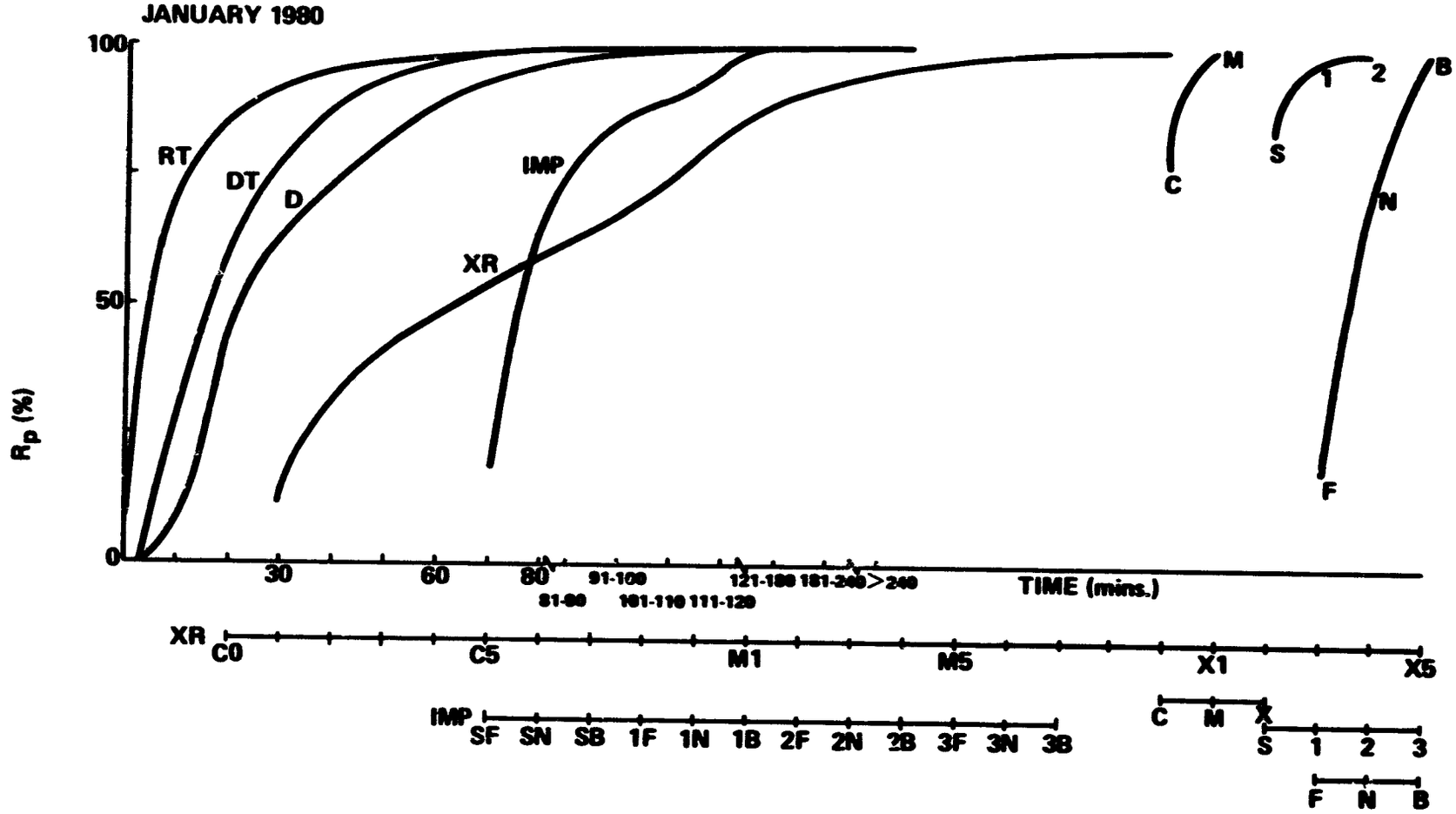
IMP.	f	Rf	p	Rp
SF	208	208	15.4	15.4
SN	457	665	33.9	49.3
SB	300	965	22.2	71.5
1F	17	982	1.3	72.8
1N	127	1109	9.4	82.2
1B	183	1292	13.6	95.8
2F	2	1294	0.1	95.9
2N	11	1305	0.8	96.7
2B	43	1348	3.2	99.9
3F				
3N				
3B	1	1349	0.1	100.0
S	965	965	71.5	71.5
1	327	1292	24.2	95.8
2	56	1348	4.2	99.9
3	1	1349	0.1	100.0
F	227	227	16.8	16.8
N	595	822	44.1	60.9
B	527	1349	39.1	100.0

TABLE 16. LATITUDINAL SUMMARY BY MONTH (f, p)

		0-9°						10-19°						20-29°					
		N		S		N+S		N		S		N+S		N		S		N+S	
	#	f	p	f	p	f	p	f	p	f	p	f	p	f	p	f	p	f	p
JAN	69	7	10.1	7	10.1	14	20.3	19	27.5	31	44.9	50	72.5	2	2.9			2	2.9
FEB	73	11	15.1	7	9.6	18	24.7	17	23.3	31	42.5	48	65.8	3	4.1	4	5.5	7	9.6
MAR	96	11	11.5	1	1.0	12	12.5	24	25.0	12	12.5	36	37.5	15	15.6	33	34.4	48	50.0
APR	104	1	1.0	12	11.5	13	12.5	26	25.0	30	28.8	56	53.8	19	18.3	1	1.0	20	19.2
MAY	112	3	2.7	5	4.5	8	7.1	11	9.8	53	47.3	64	57.1	2	1.8	36	32.1	38	33.9
JUN	120			4	3.3	4	3.3	19	15.8	48	40.0	67	55.8	8	6.7	35	29.2	43	35.8
JUL	79			9	11.4	9	11.4	2	2.5	37	46.8	39	49.4	21	25.6	9	11.4	30	38.0
AUG	87	7	8.0	10	11.5	17	19.5	56	64.4	3	3.4	59	67.8	4	4.6	7	8.0	11	12.6
SEP	104	7	6.7	20	19.2	27	25.0	46	44.2	20	19.2	66	63.5	6	5.8	1	1.0	7	6.7
OCT	158	9	5.4	22	13.1	31	18.5	48	28.6	62	36.9	110	65.5	11	6.5	13	7.7	24	14.3
NOV	192	28	14.6	12	6.3	40	20.8	59	30.7	73	38.0	132	68.8	19	9.9	1	0.5	20	10.4
DEC	145	26	17.9	13	9.0	39	26.9	51	35.2	27	18.6	78	53.8	10	6.9	17	11.7	27	18.6
SUBTOTAL	1349	110		122		232		378		427		805		120		157		277	
MON. AVG.		9.17		10.17		19.33		31.50		35.58		67.08		10.00		13.08		23.08	
PERCENT		8.2		9.0		17.2		28.0		31.7		59.7		8.9		11.6		20.5	

TABLE 16. (Concluded)

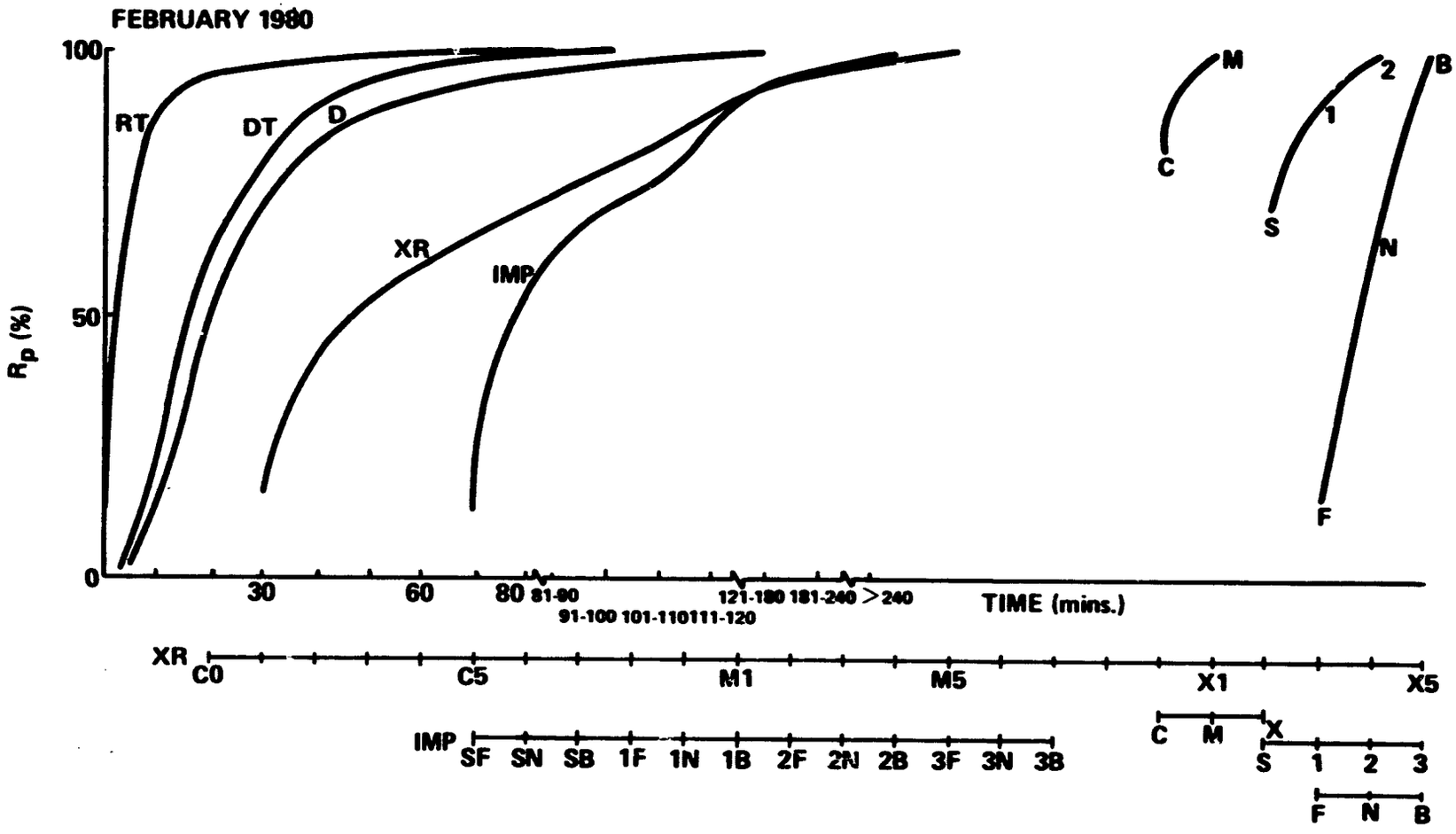
		≥30°									
		N		S		N+S		N		S	
	#	f	p	f	p	f	p	f	p	f	p
JAN	69			3	4.3	3	4.3	28	40.6	41	59.4
FEB	73							31	42.5	42	57.5
MAR	96							50	52.1	46	47.9
APR	104	1	1.0	14	13.5	15	14.4	47	45.2	57	54.8
MAY	112			2	1.8	2	1.8	16	14.3	96	85.7
JUN	120	1	0.8	5	4.2	6	5.0	28	23.3	92	76.7
JUL	79			1	1.3	1	1.3	23	29.1	56	70.9
AUG	87							67	77.0	20	23.0
SEP	104			4	3.8	4	3.8	59	56.7	45	43.3
OCT	168			3	1.8	3	1.8	68	40.5	100	59.5
NOV	192							106	55.2	86	44.8
DEC	145			1	0.7	1	0.7	87	60.0	58	40.0
SUBTOTAL	1349	2		33		35		610		739	
MON. AVG.		0.17		2.75		2.92		50.83		61.58	
PERCENT		0.1		2.4		2.6		45.2		54.8	



69 FLARES

RT: $\bar{x}$ = 11.26, s = 17.61; Q_{50} = ~ 4.5 ; Q_{90} = ~ 27.0
DT: $\bar{x}$ = 22.94, s = 22.72; Q_{50} = ~ 16.0 ; Q_{90} = ~ 43.0
D: $\bar{x}$ = 34.20, s = 35.05; Q_{50} = ~ 22.0; Q_{90} = ~ 63.0

Figure 1. January 1980 summary chart (Rp, $\bar{x}$, s, Q_{50}, Q_{90}).



73 FLARES

RT: $\bar{x}$ = 6.42, s = 12.06; Q_{50} = ~ 25; Q_{90} = ~ 11.5

DT: $\bar{x}$ = 21.90, s = 17.14; Q_{50} = ~ 16.0; Q_{90} = ~ 41.0

D : $\bar{x}$ = 28.33, s = 25.25; Q_{50} = ~ 19.5; Q_{90} = ~ 54.0

Figure 2. February 1980 summary chart (Rp, $\bar{x}$, s, Q_{50}, Q_{90}).

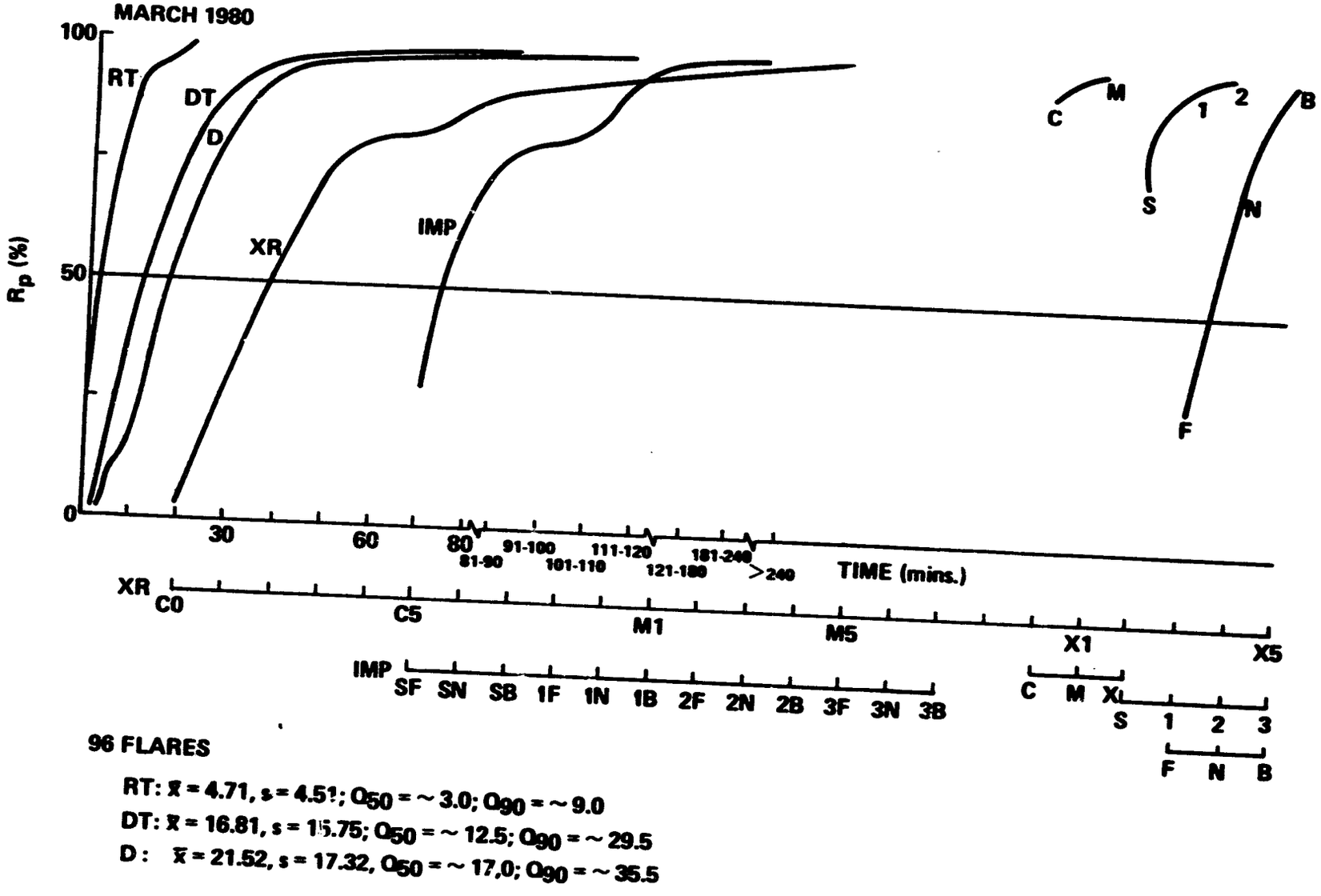


Figure 3. March 1980 summary chart (Rp, $\bar{x}$, s, Q_{50}, Q_{90}).

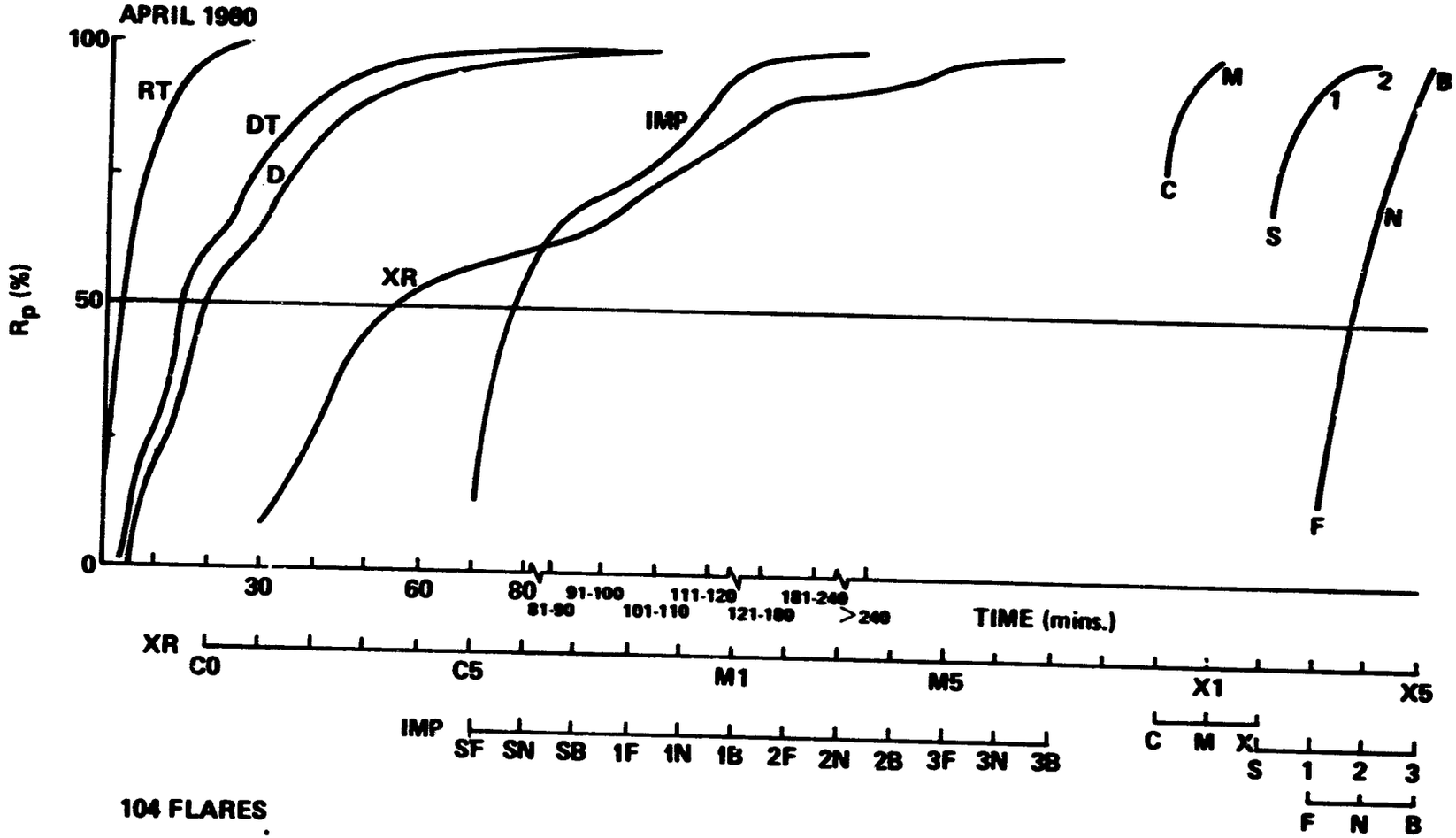
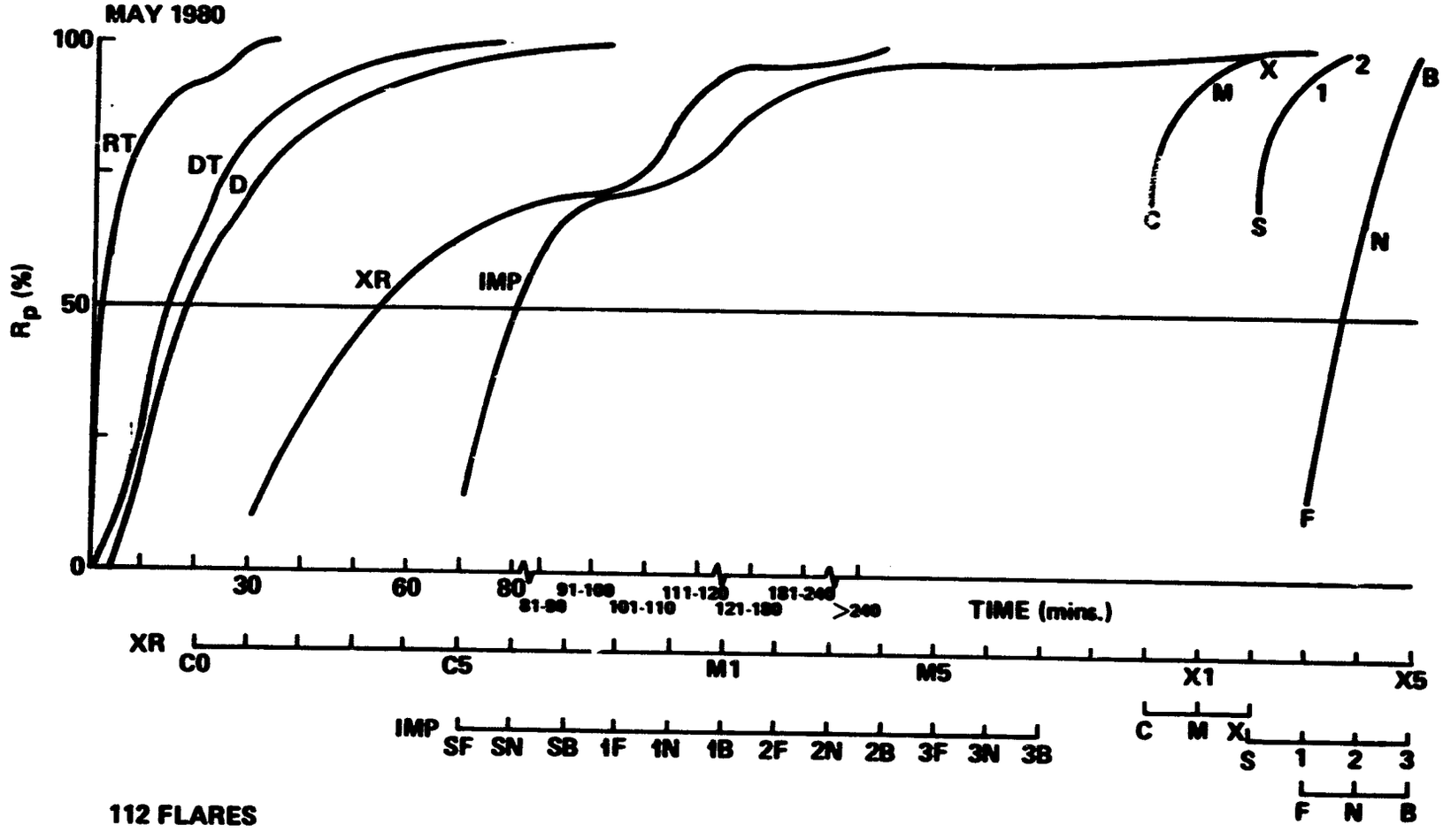


Figure 4. April 1980 summary chart (Rp, $\bar{x}$, s, Q_{50}, Q_{90}).



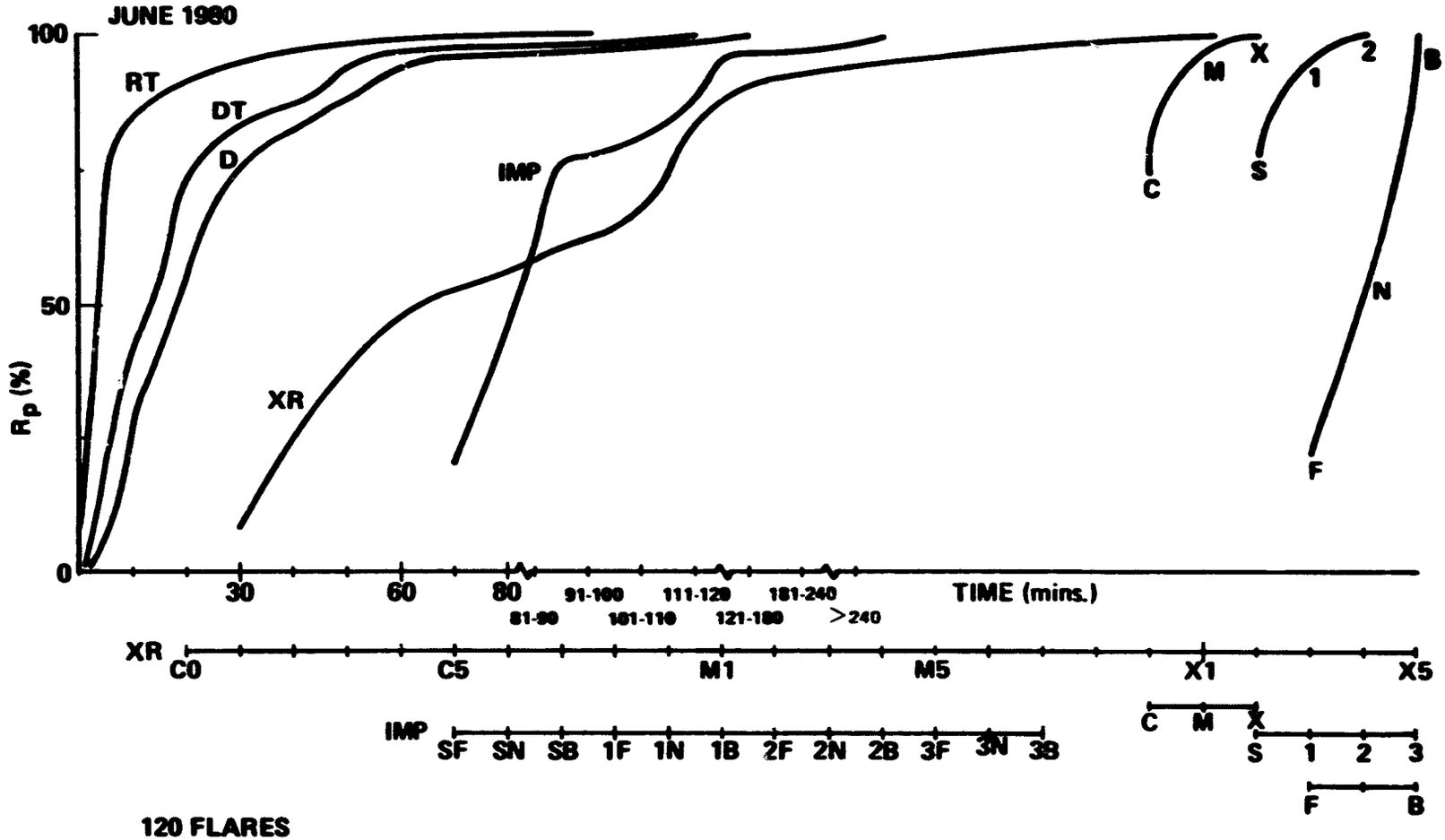
112 FLARES

RT: $\bar{x} = 5.96$, $s = 7.50$; $Q_{50} = \sim 2.0$; $Q_{90} = \sim 16.0$

DT: $\bar{x} = 19.88$, $s = 15.24$; $Q_{50} = \sim 15.0$; $Q_{90} = \sim 39.0$

D: $\bar{x} = 25.75$, $s = 32.50$; $Q_{50} = \sim 18.0$; $Q_{90} = \sim 51.0$

Figure 5. May 1980 summary chart (Rp, $\bar{x}$, s, Q_{50}, Q_{90}).



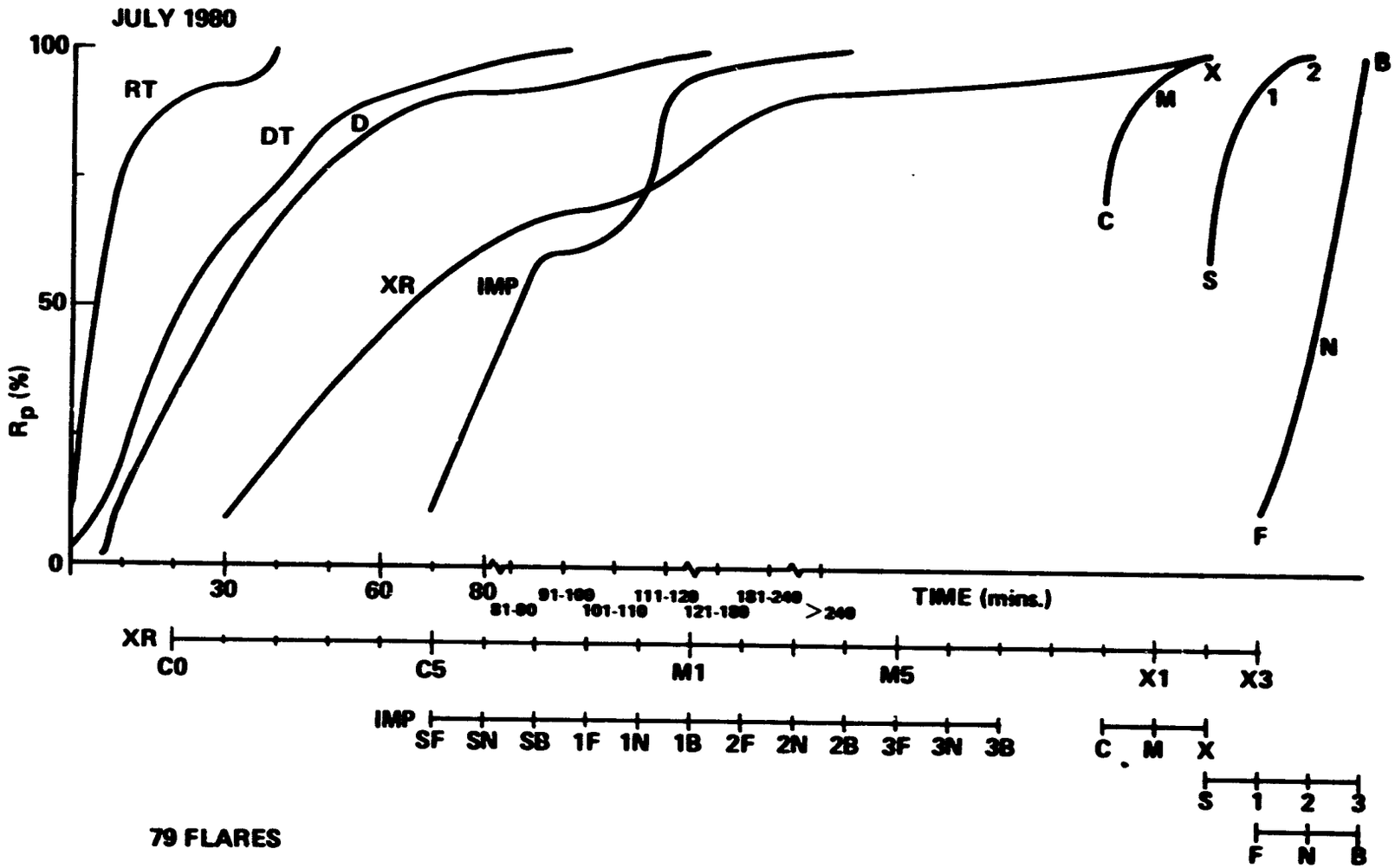
120 FLARES

RT: $\bar{x}$ = 7.41, s = 12.68 ; Q_{50} = ~ 3.0 ; Q_{90} = ~ 16.0

DT: $\bar{x}$ = 19.11, s = 19.99 ; Q_{50} = ~ 13.0 ; Q_{90} = ~ 45.0

D: $\bar{x}$ = 26.52, s = 28.14 ; Q_{50} = ~ 18.0 ; Q_{90} = ~ 53.0

Figure 6. June 1980 summary chart (Rp, $\bar{x}$, s, Q_{50}, Q_{90}).



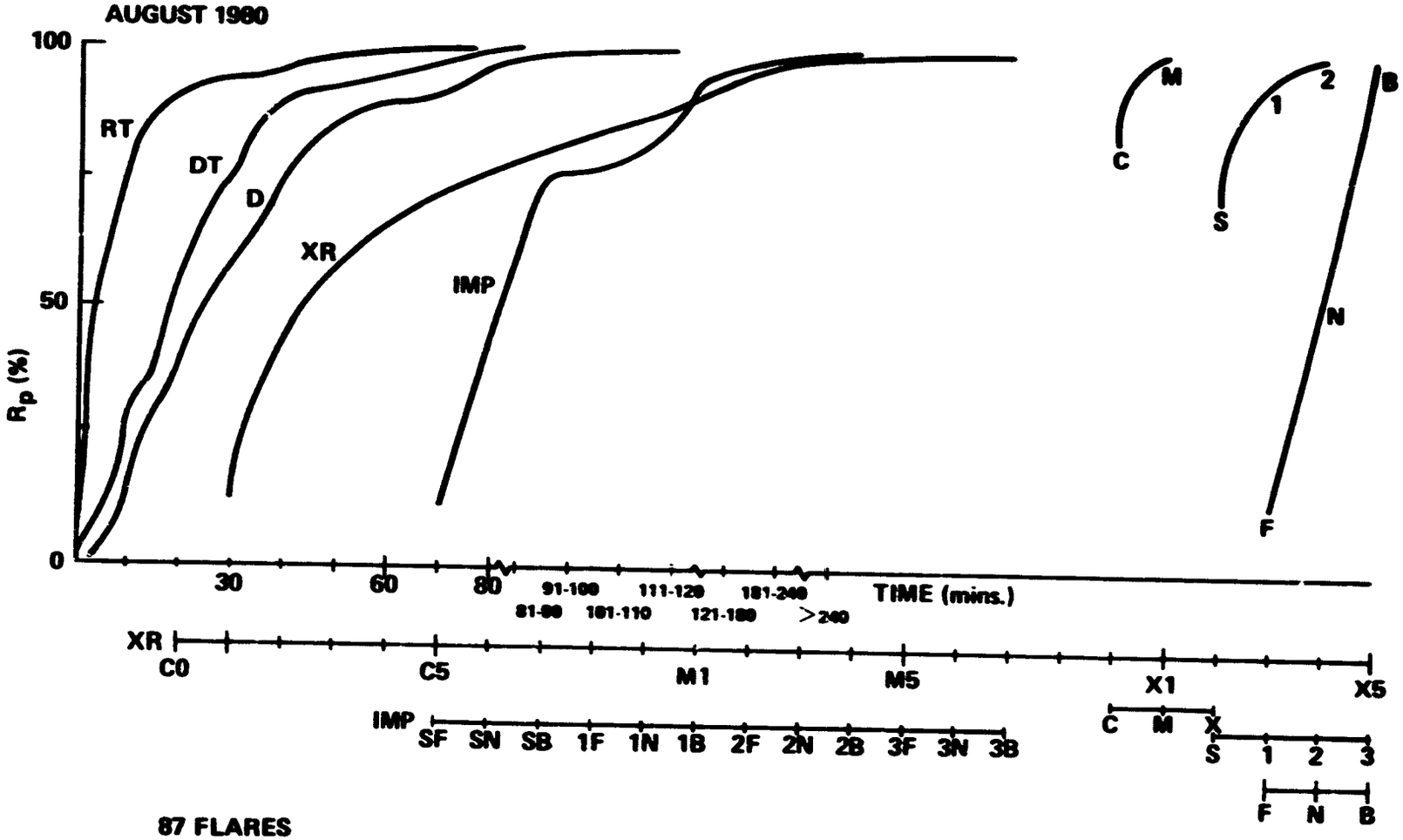
79 FLARES

RT: $\bar{x} = 8.14$, $s = 12.81$; $Q_{50} = \sim 4.0$; $Q_{90} = \sim 21.0$

DT: $\bar{x} = 28.78$, $s = 36.27$; $Q_{50} = \sim 21.5$; $Q_{90} = \sim 57.0$

D: $\bar{x} = 36.92$, $s = 45.90$; $Q_{50} = \sim 29.0$; $Q_{90} = \sim 69.0$

Figure 7. July 1980 summary chart (R_p, $\bar{x}$, s, Q_{50}, Q_{90}).



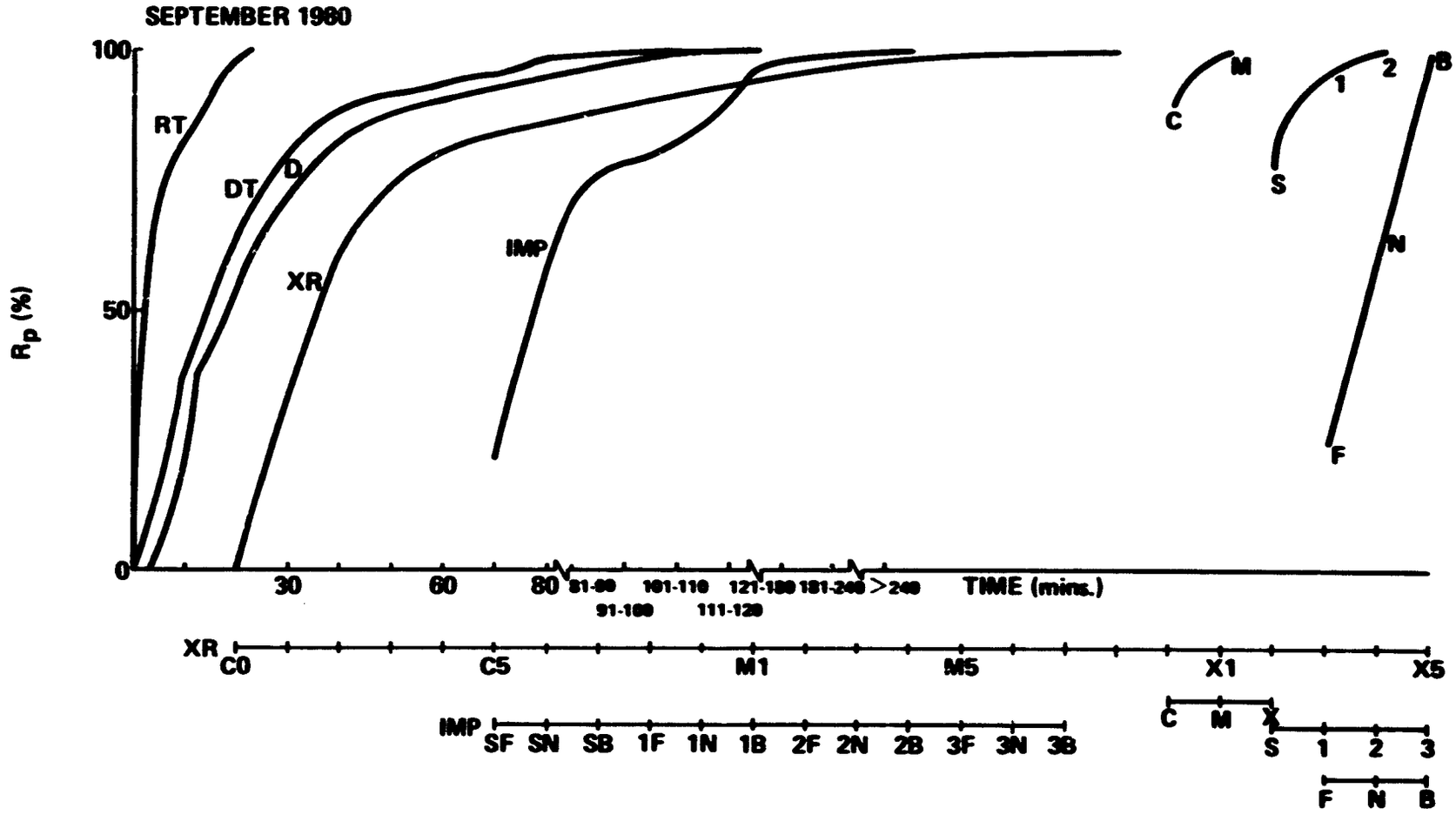
87 FLARES

RT: $\bar{x}$ = 8.43, s = 15.25 ; Q_{50} = ~ 3.0 ; Q_{90} = ~ 17.0

DT: $\bar{x}$ = 22.33 , s = 28.07 ; Q_{50} = ~ 18.0 ; Q_{90} = ~ 40.0

D: $\bar{x}$ = 30.78, s = 37.80; Q_{50} = ~ 24.5 ; Q_{90} = ~ 62.0

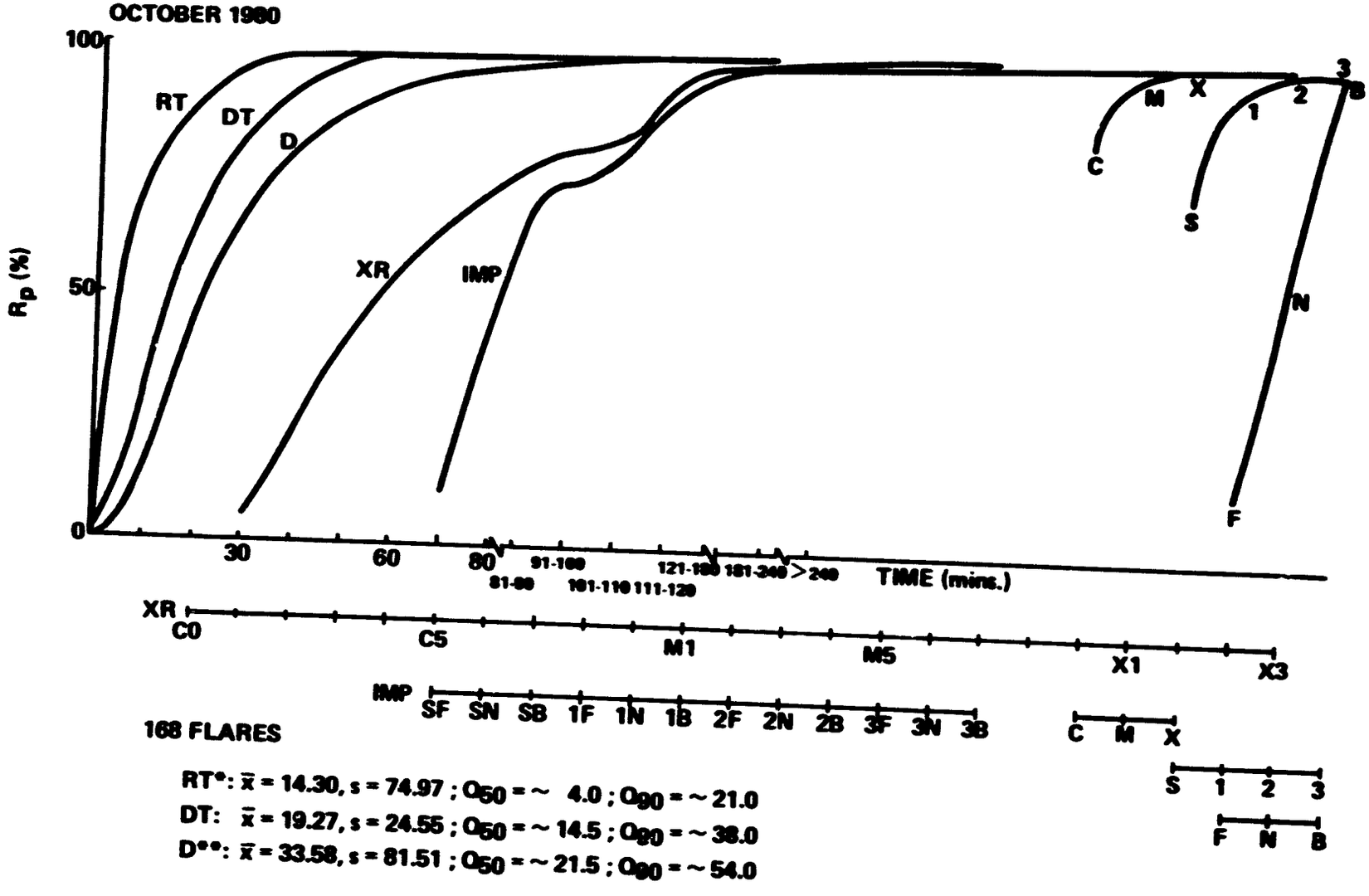
Figure 8. August 1980 summary chart (R_p, $\bar{x}$, s, $Q_{s\,o}$, $Q_{9\,o}$).



104 FLARES

RT: $\bar{x}$ = 5.28, s = 7.74 ; Q_{50} = ~ 2.5 ; Q_{90} = ~ 14.5
DT: $\bar{x}$ = 21.10, s = 29.22 ; Q_{50} = ~ 15.0 ; Q_{90} = ~ 44.0
D: $\bar{x}$ = 26.36, s = 36.28 ; Q_{50} = ~ 19.0 ; Q_{90} = ~ 59.0

Figure 9. September 1980 summary chart (Rp, $\bar{x}$, s, Q_{50}, Q_{90}).



168 FLARES

RT*: $\bar{x}$ = 14.30, s = 74.97 ; Q_{50} = ~ 4.0 ; Q_{90} = ~ 21.0

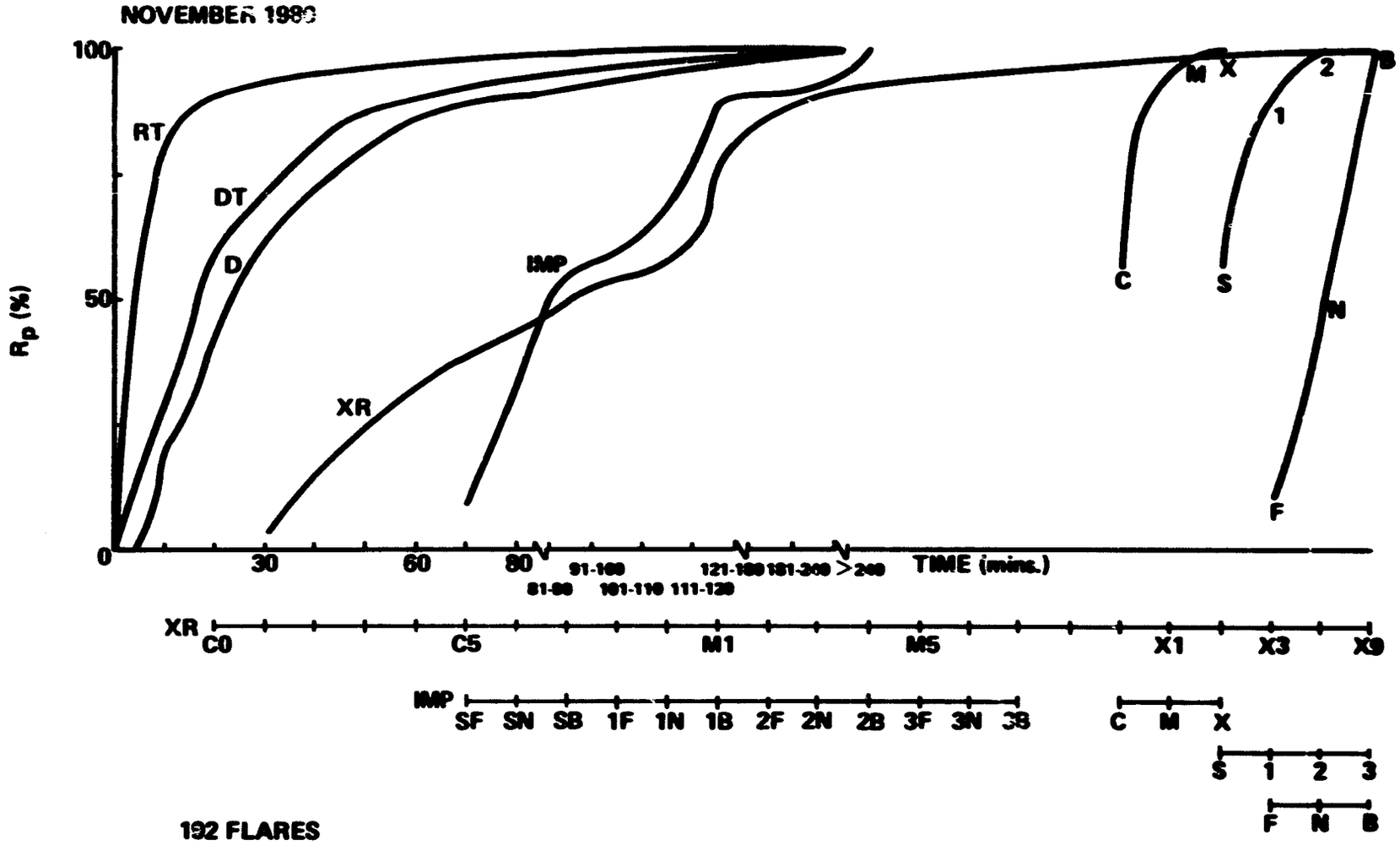
DT: $\bar{x}$ = 19.27, s = 24.55 ; Q_{50} = ~ 14.5 ; Q_{90} = ~ 38.0

D**: $\bar{x}$ = 33.58, s = 81.51 ; Q_{50} = ~ 21.5 ; Q_{90} = ~ 54.0

* INCLUDES 1 EVENT WITH RT = 953 MINS; DELETING THAT EVENT YIELDS MEAN OF 8.68 AND STANDARD DEVIATION OF 14.69.

** INCLUDES 1 EVENT WITH D = 955 MINS; DELETING THAT EVENT YIELDS MEAN OF 28.06 AND STANDARD DEVIATION OF 35.00

Figure 10. October 1980 summary chart (Rp, $\bar{x}$, s, Q_{50}, Q_{90}).



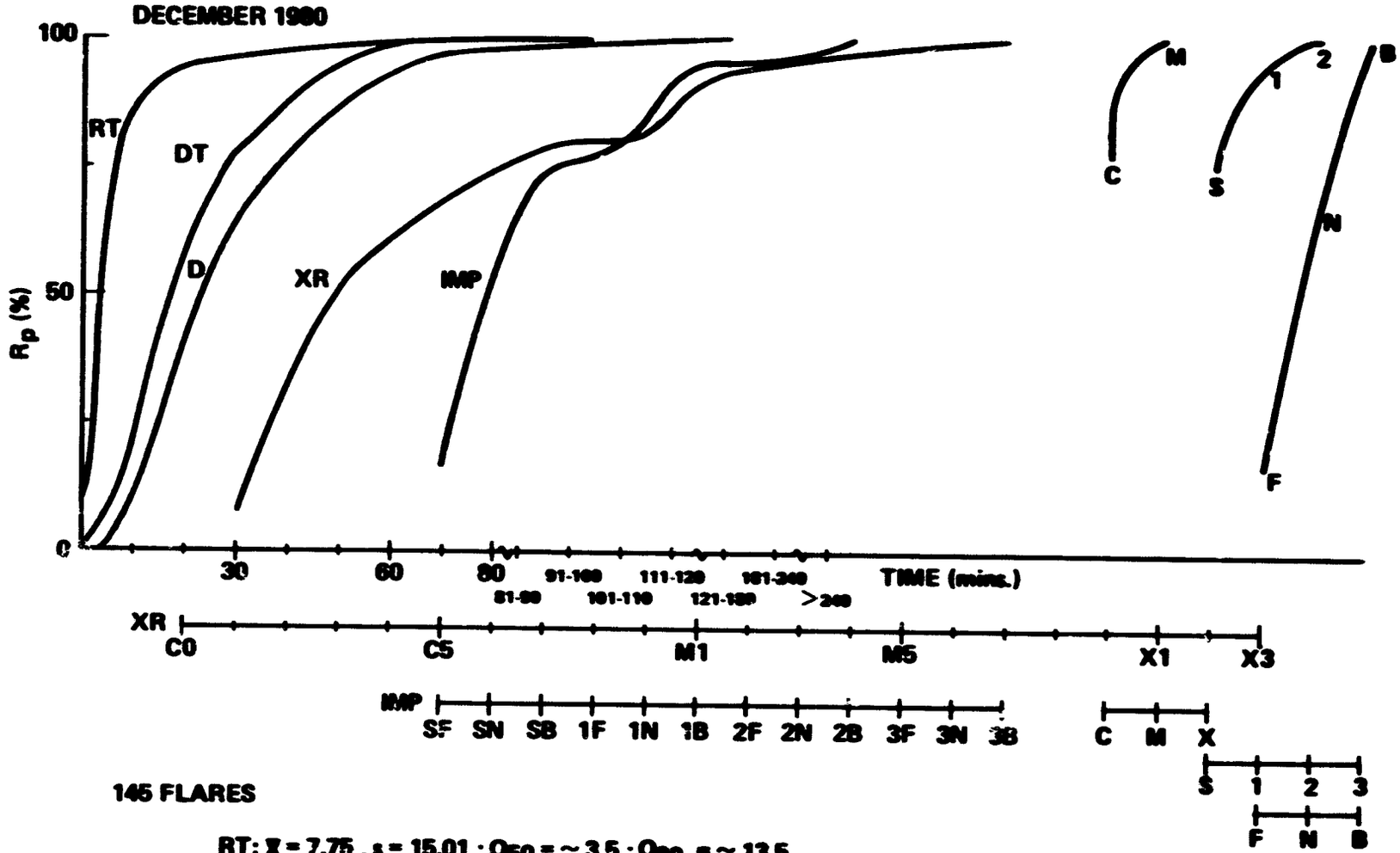
192 FLARES

RT: $\bar{x} = 10.40$, $s = 24.89$; $Q_{50} = \sim 4.5$; $Q_{90} = \sim 17.0$

DT: $\bar{x} = 27.71$, $s = 42.89$; $Q_{50} = \sim 17.0$; $Q_{90} = \sim 58.0$

D: $\bar{x} = 38.11$, $s = 58.50$; $Q_{50} = \sim 24.0$; $Q_{90} = \sim 74.0$

Figure 11. November 1980 summary chart (Rp, $\bar{x}$, s, Q_{50}, Q_{90}).



145 FLARES

RT: $\bar{x}$ = 7.75 , s = 15.01 ; Q_{50} = ~ 3.5 ; Q_{90} = ~ 13.5

DT: $\bar{x}$ = 22.01 , s = 27.17 ; Q_{50} = ~ 17.0 ; Q_{90} = ~ 43.5

D: $\bar{x}$ = 29.77 , s = 36.92 ; Q_{50} = ~ 23.0 ; Q_{90} = ~ 84.5

Figure 12. December 1980 summary chart (Rp, $\bar{x}$, s, $Q_{s\bullet}$, $Q_{9\bullet}$).

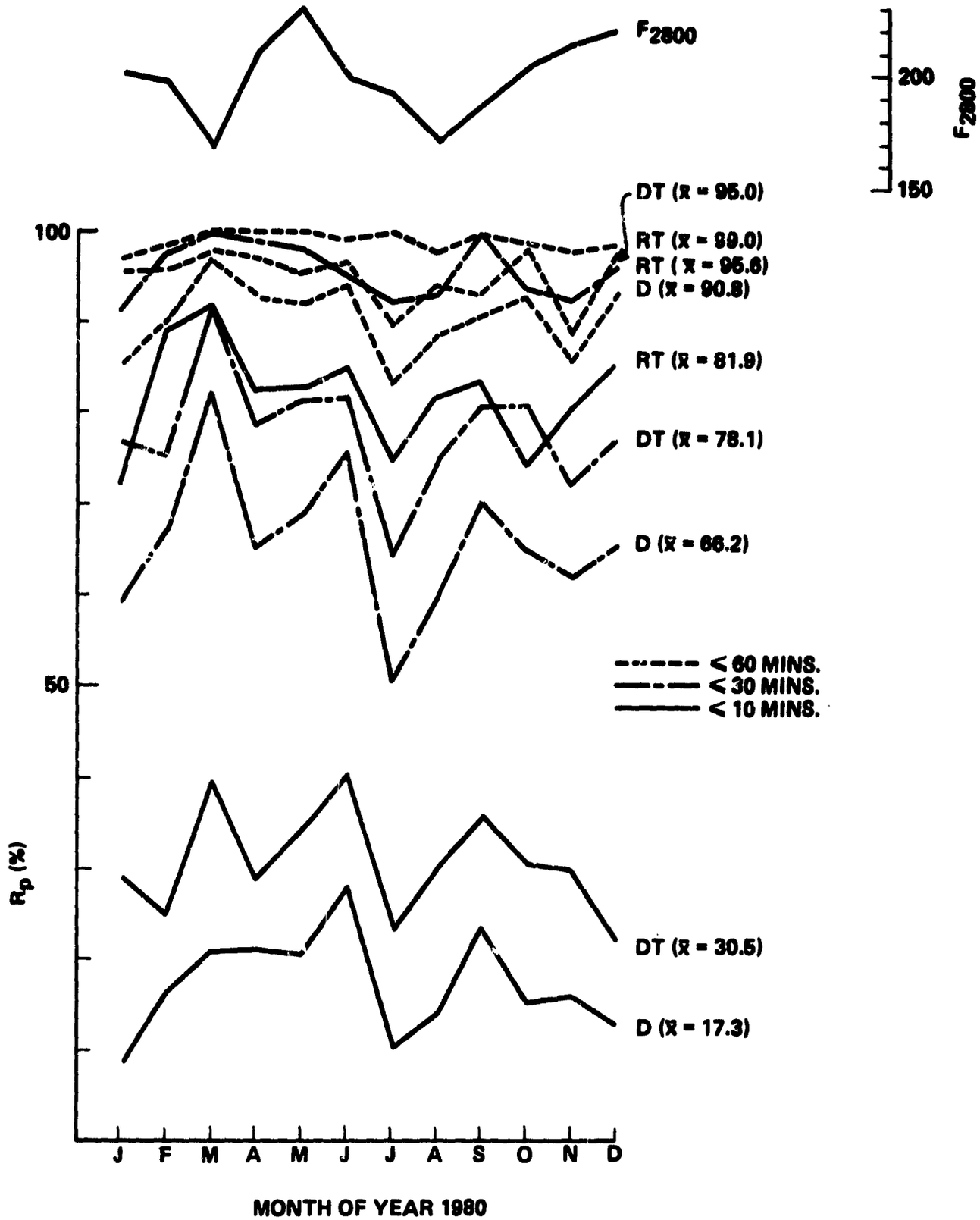


Figure 13. Relative monthly percent ≤ 10, ≤ 30, and ≤ 60 min.

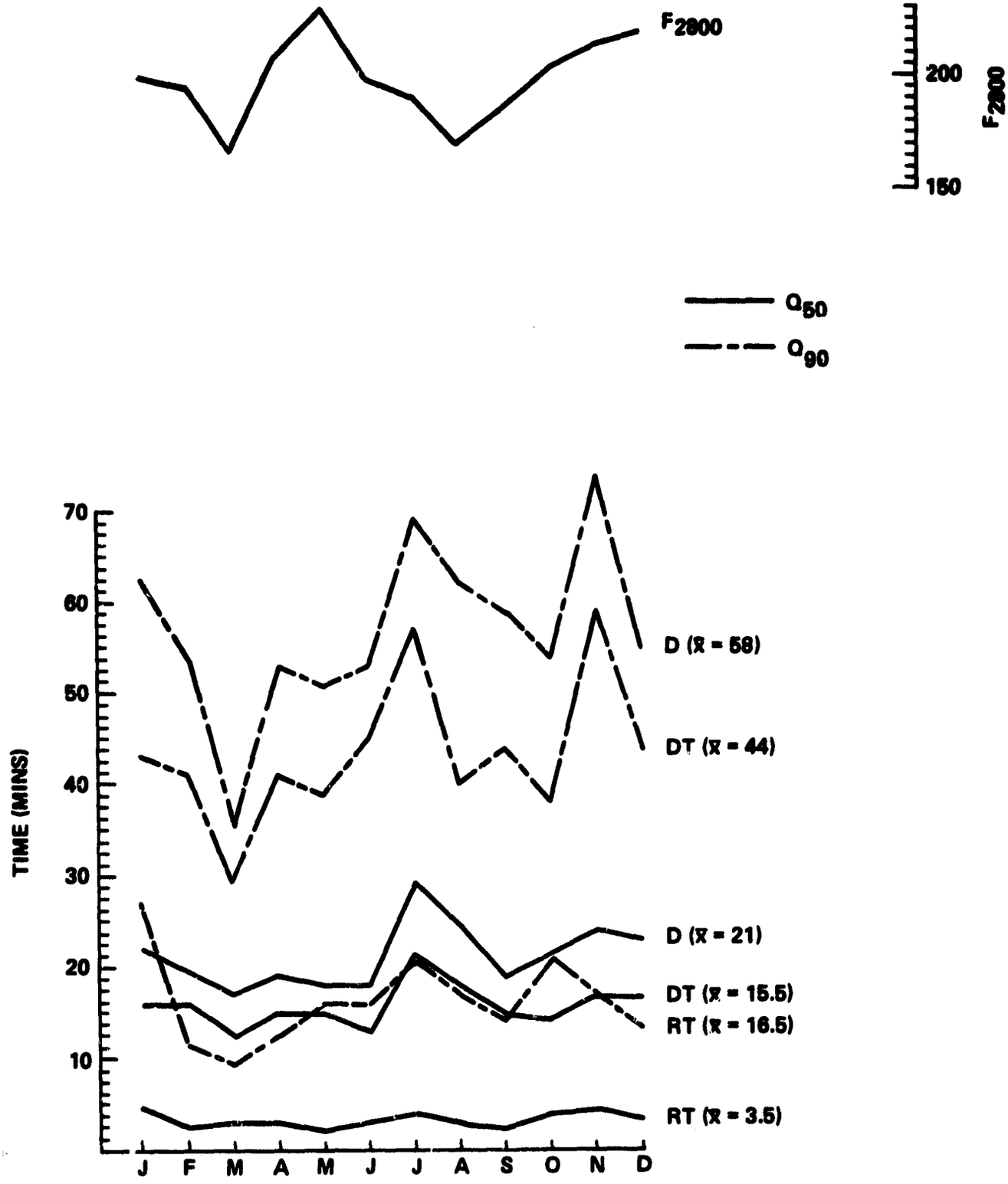
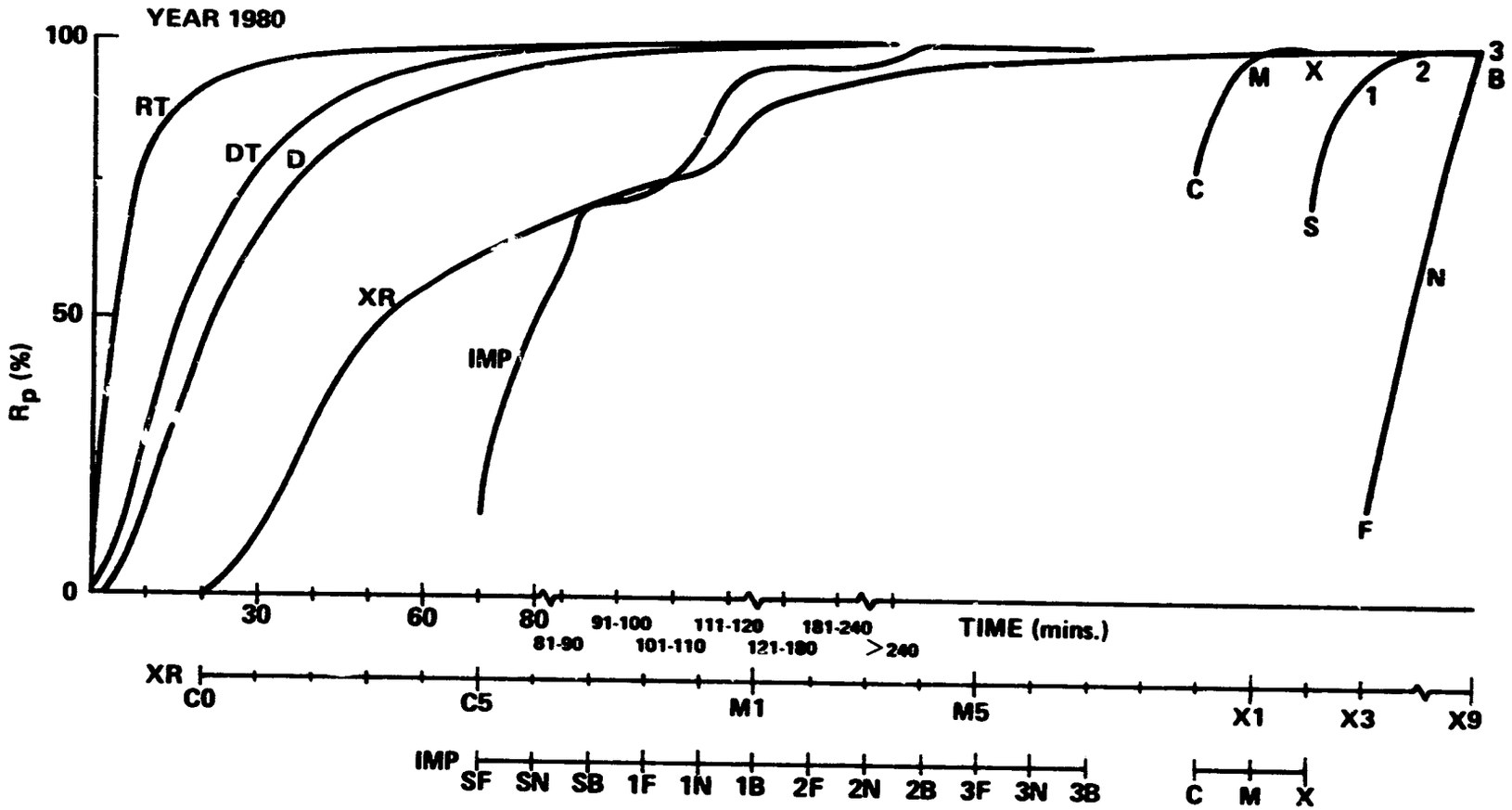


Figure 14. Q_{50} and Q_{90} time values by month.



1349 FLARES

RT*: $\bar{x}$ = 8.36 , s = 30.13 ; Q_{50} = ~ 3.5 ; Q_{90} = ~ 16.5
DT: $\bar{x}$ = 22.10, s = 31.00 ; Q_{50} = ~ 15.5 ; Q_{90} = ~ 44.0
D: $\bar{x}$ = 30.45, s = 48.84 ; Q_{50} = ~ 21.0 ; Q_{90} = ~ 58.0**

*** INCLUDES 1 EVENT WITH RT = 953 MINS; DELETING THAT EVENT YIELDS MEAN OF 7.66 AND STANDARD DEVIATION OF 15.31**

**** INCLUDES 1 EVENT WITH D = 955 MINS; DELETING THAT EVENT YIELDS MEAN OF 29.77 AND STANDARD DEVIATION OF 41.36**

Figure 15. Year 1980 summary chart (Rp, $\bar{x}$, s, Q_{50}, Q_{90}).

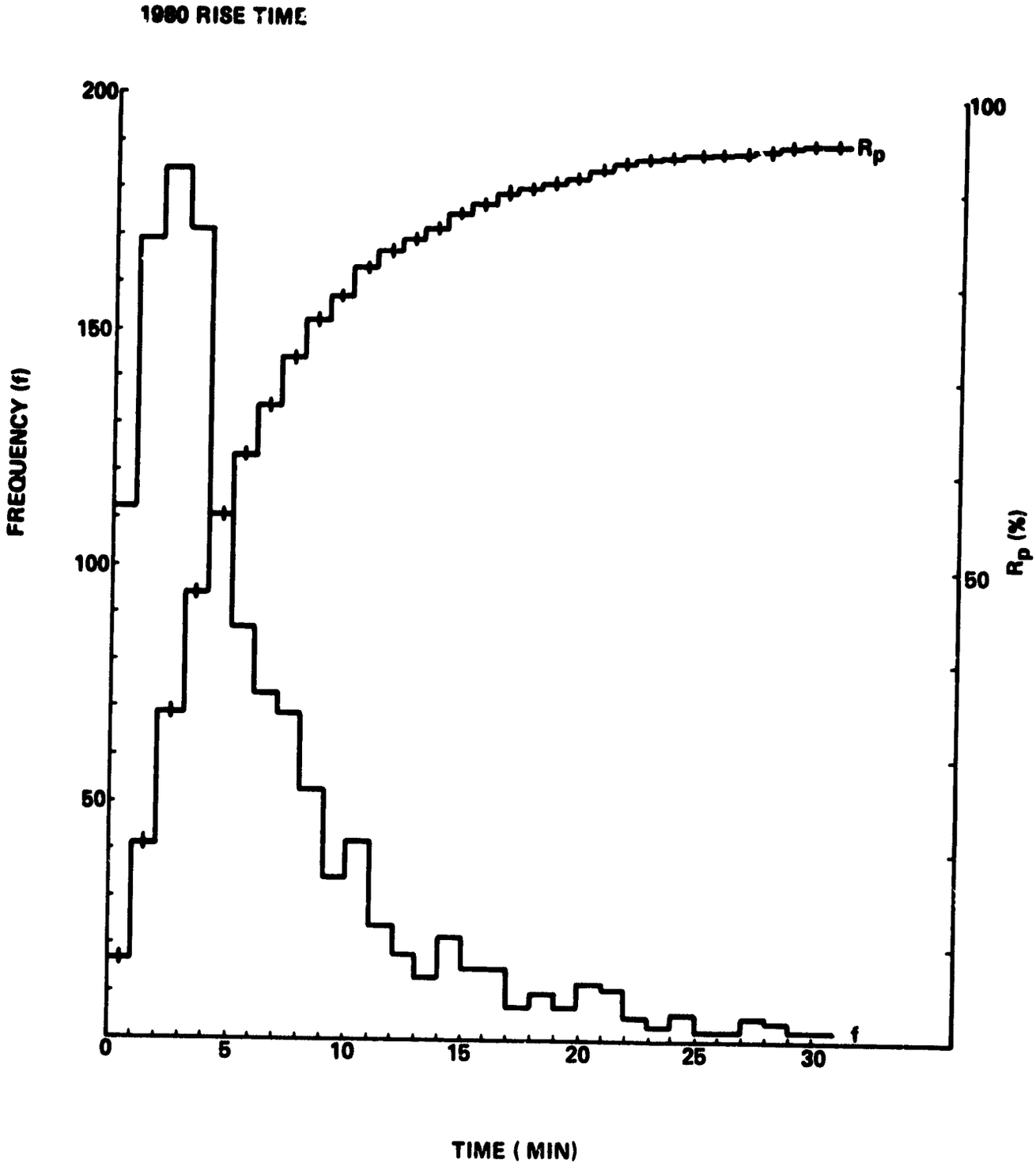


Figure 16. RT frequency distribution and Rp.

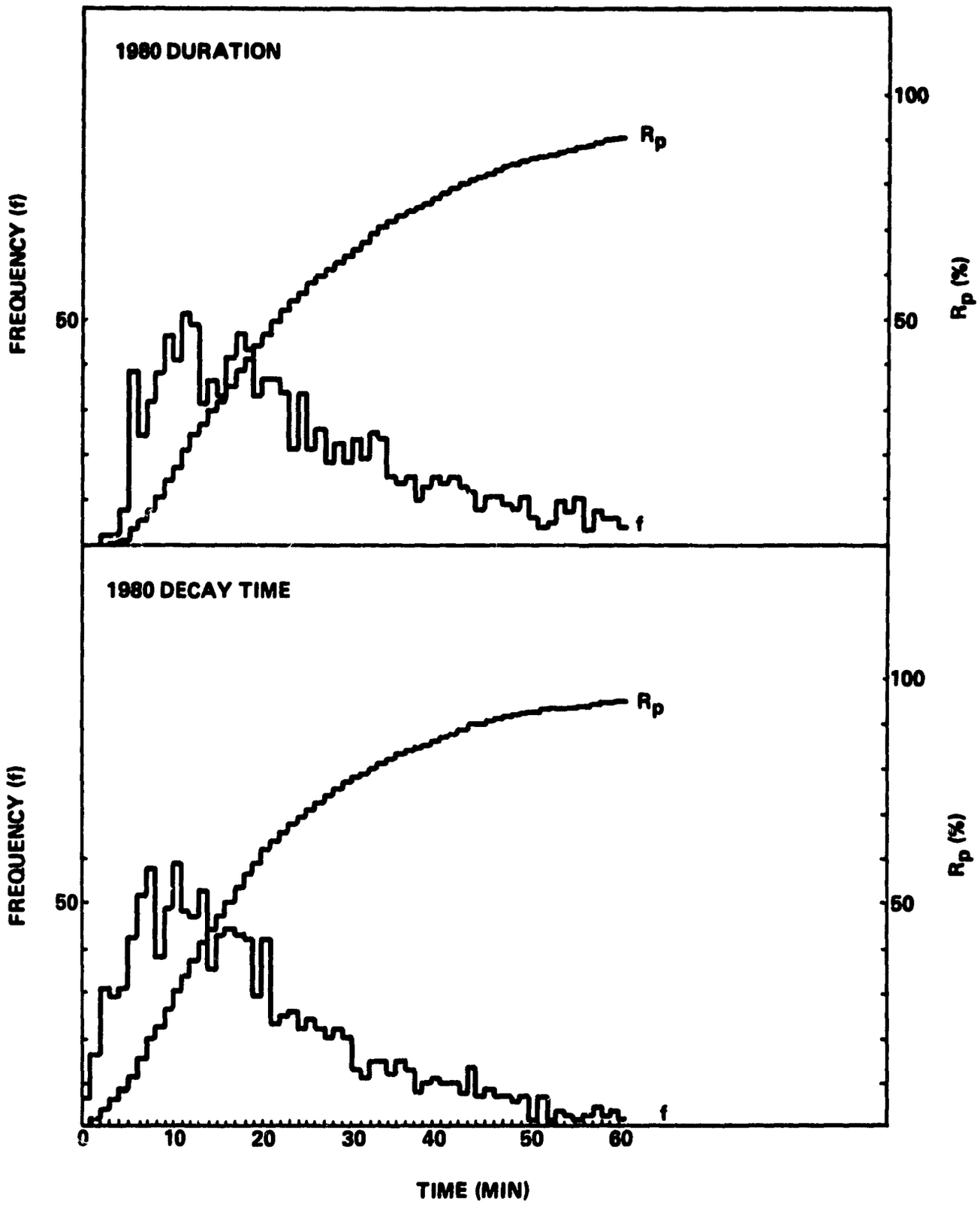


Figure 17. DT and D frequency distribution and Rp.

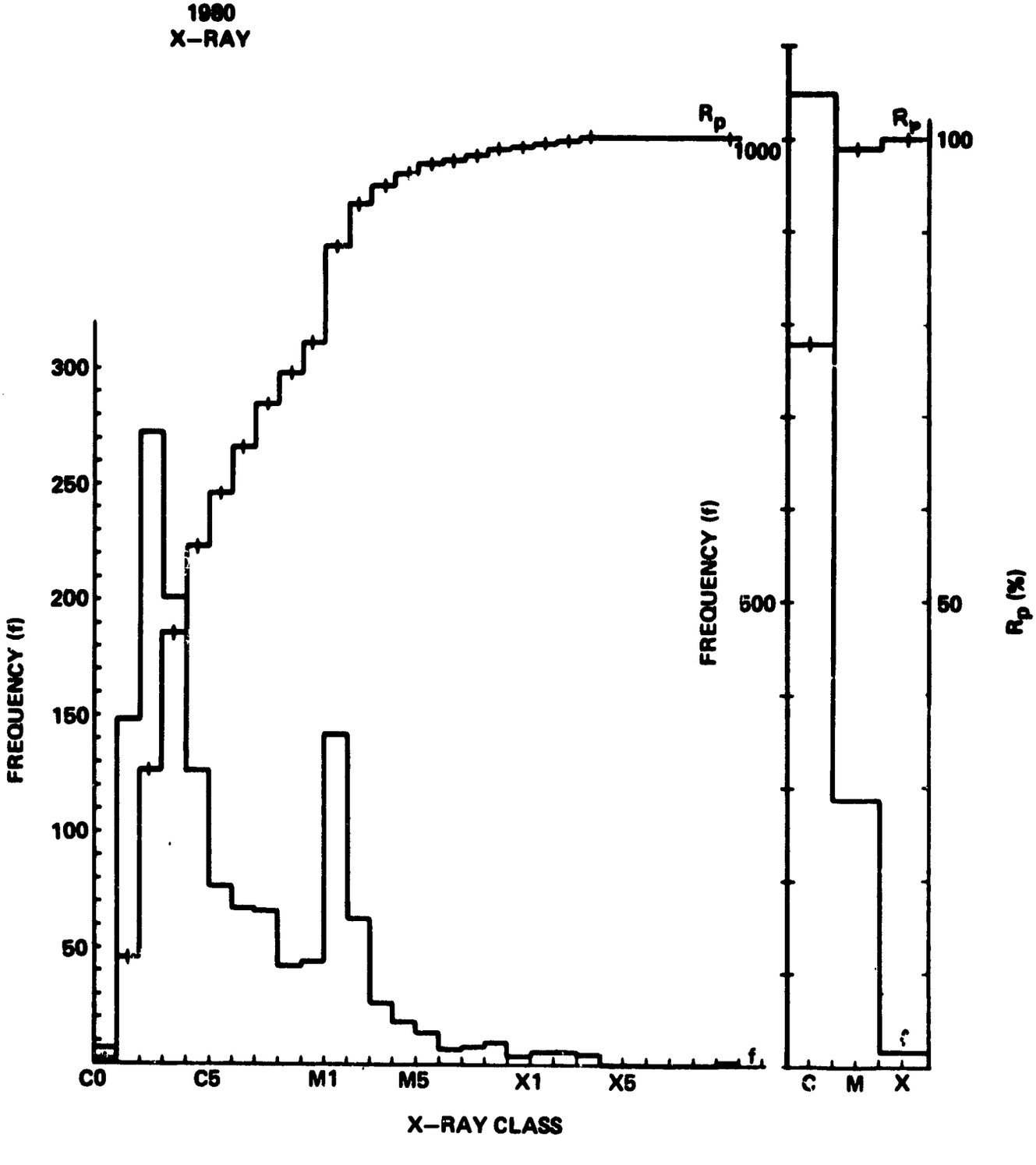


Figure 18. XR frequency distribution and Rp.

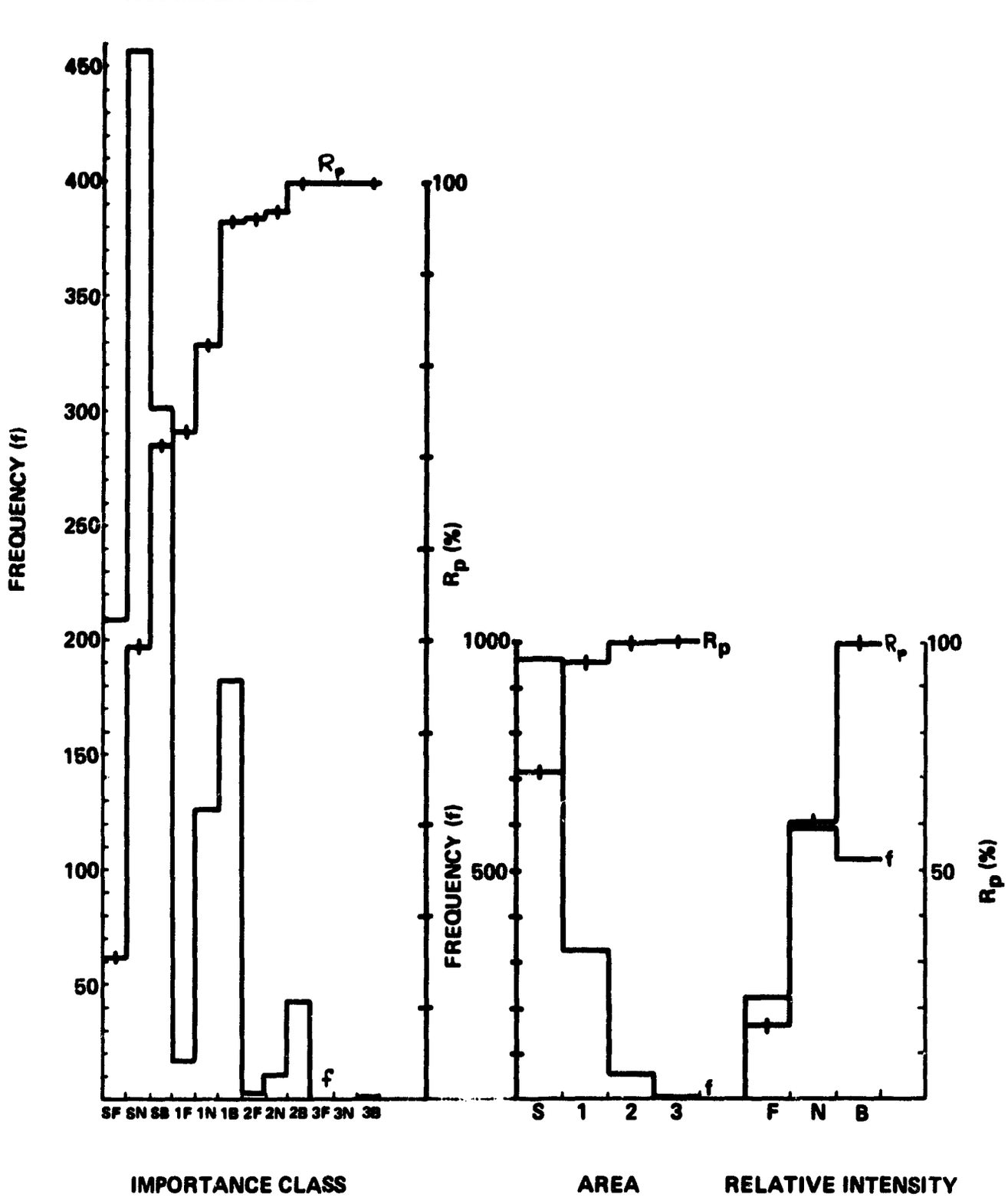


Figure 19. IMP frequency distribution and Rp.

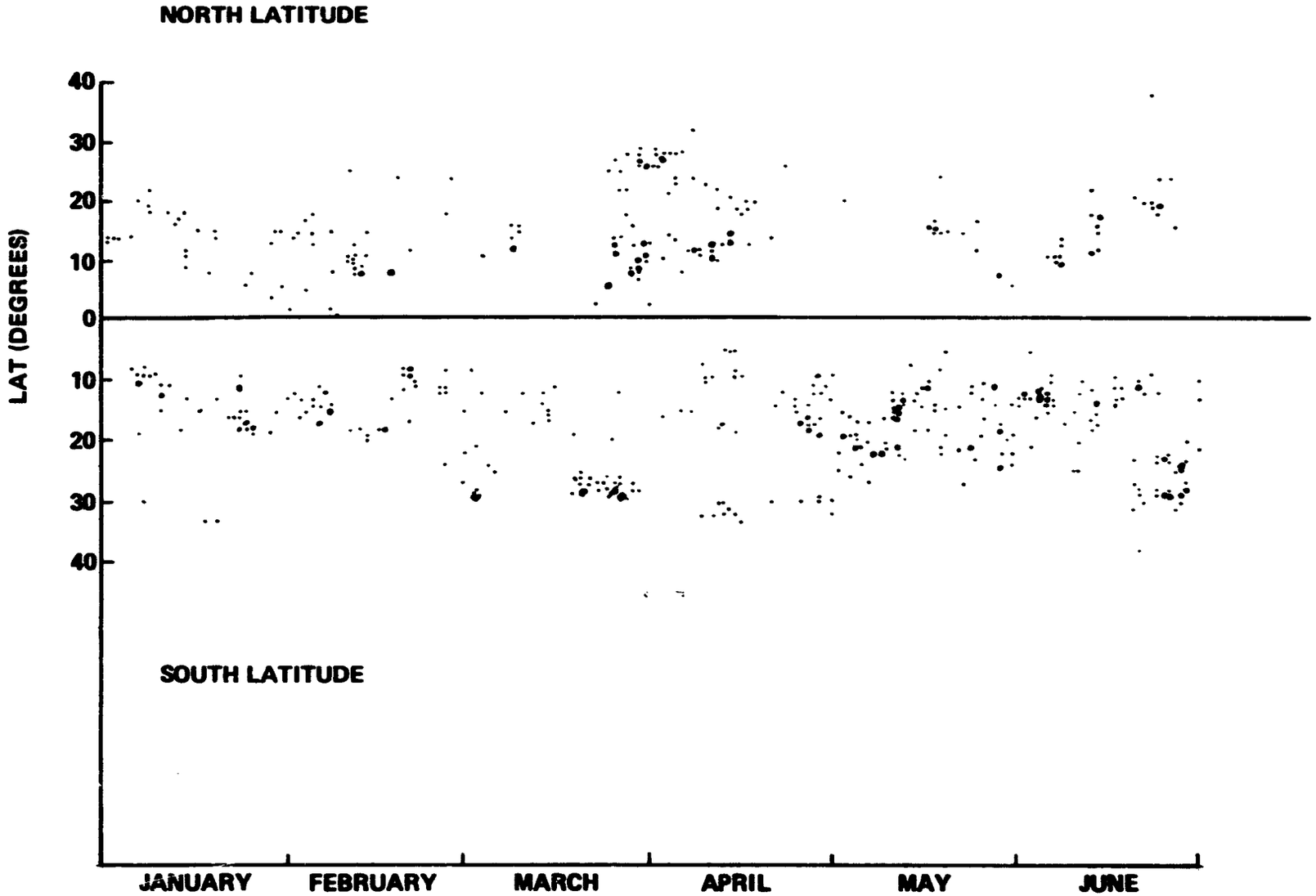


Figure 20. Latitude position distribution versus time.

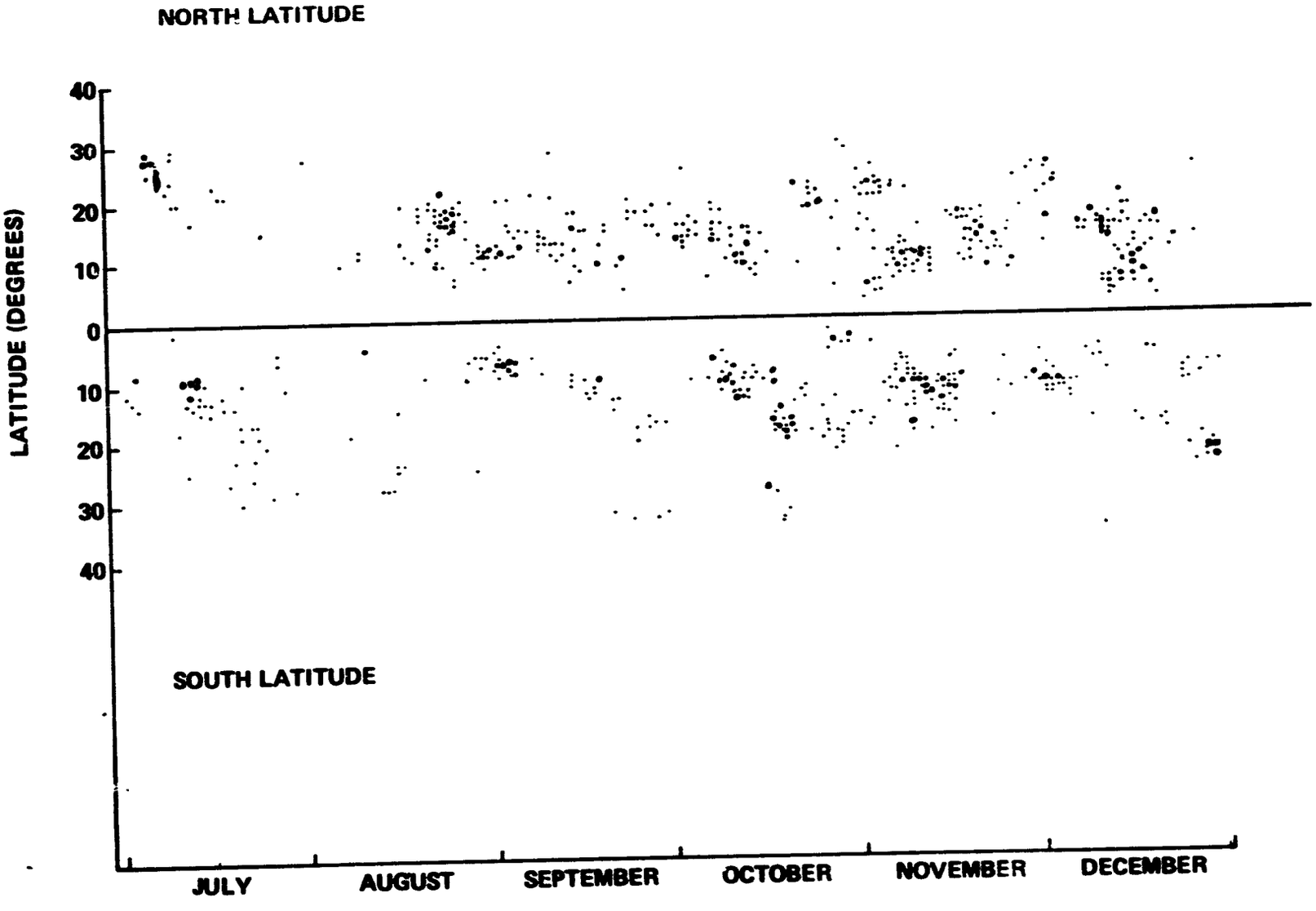


Figure 20. (Concluded).

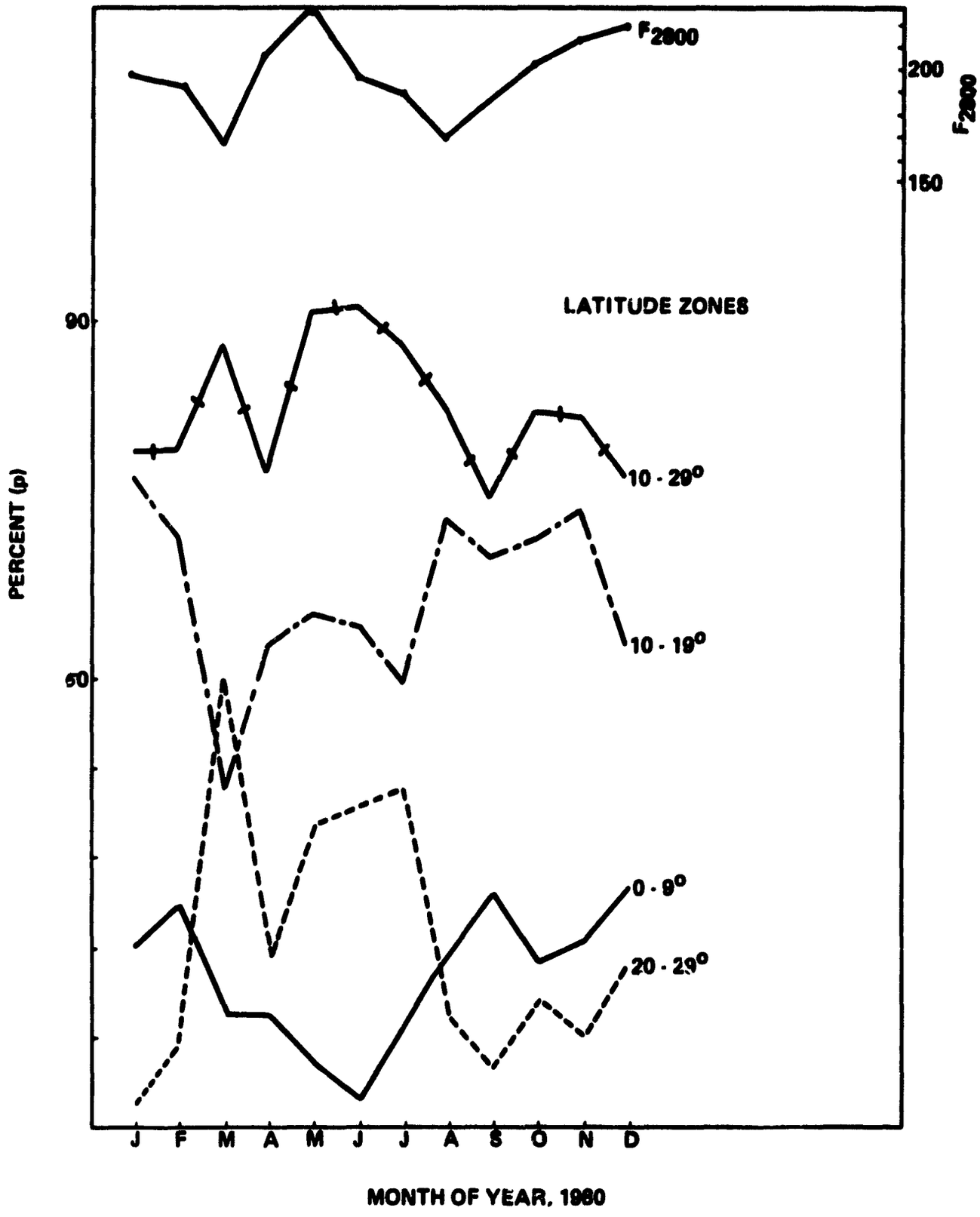


Figure 21. Latitude-zone relative monthly percent variations.

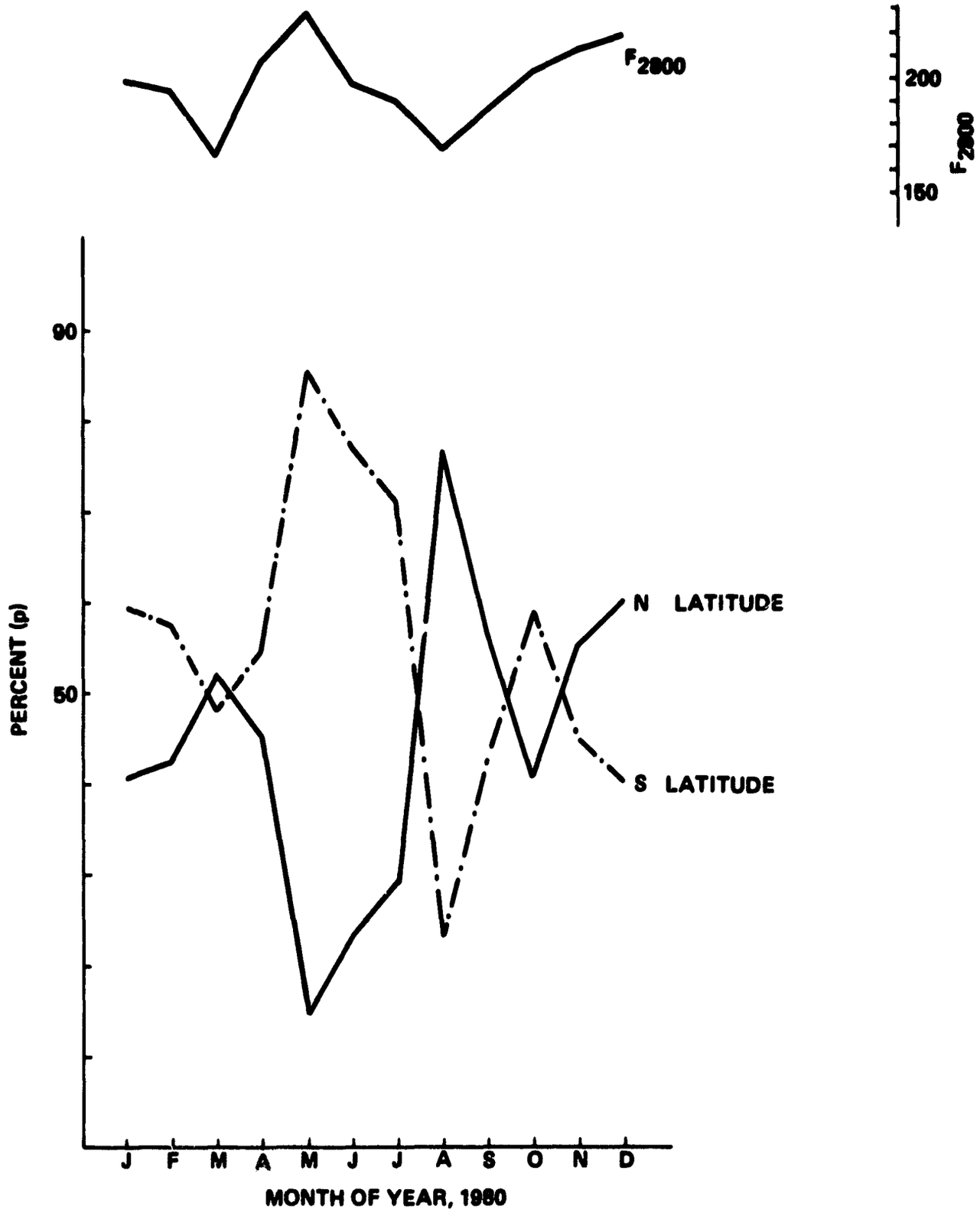


Figure 22. Hemispheric relative monthly percent variations.

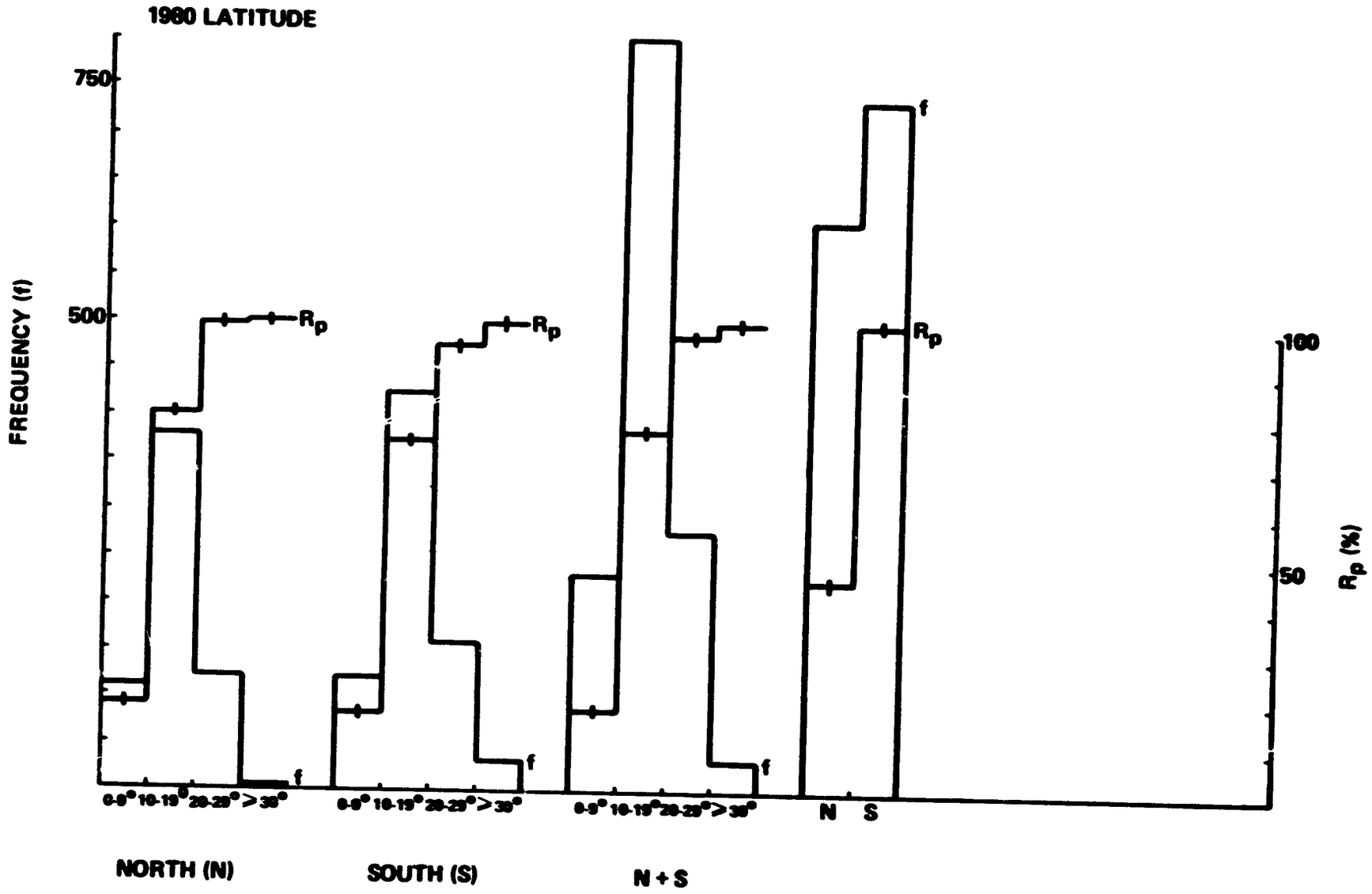


Figure 23. Latitude frequency distribution and Rp.

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APPENDIX: DATA BASE

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
JAN.						
1-1434	5	18	23	N14	SN	C1
1-1747	27	38	65	N13	1N	M1
2-0330	12	38	50	N14	SN	C2
3-0050	4	17	21	N14	SF	C9
5-1746	32	11	43	S08	SN	C3
5-1856	21	12	33	N14	SB	C4
6-0620	2	14	16	N20	SN	C8
6-1237	0	10	10	S10	SF	C2
6-1359	2	18	20	S10	SN	C5
6-1821	2	9	11	S10	SF	C2
6-1842	1	4	5	S19	SN	C4
6-2130	14	26	40	S09	1B	M9
7-0245	5	10	15	S09	SN	C6
7-1213	63	18	81	S08	SB	M1
7-2130	5	7	12	S30	SF	C9
8-0410	6	32	38	N22	1B	M1
8-1518	20	24	44	N18	SN	C6
8-1708	12	28	40	S09	SN	C7
8-2027	1	21	22	N19	SN	C4
9-0005	25	33	58	S09	1B	M7
10-0347	1	12	13	S15	SN	C2
10-0448	29	33	62	S11	1B	M6
10-2150	3	7	10	S11	1N	C6
11-1248	4	53	57	N18	SN	C8
11-1356	2	41	43	S11	SB	M1
12-0308	7	12	19	N16	1N	M1
13-1449	1	15	16	N17	SN	C3
13-1619	6	14	20	S18	1B	M2
14-0620	5	10	15	N12	1N	M3
14-12[illegible]	2	9	11	S13	SN	C4
14-1657	15	15	30	N09	SF	M1
14-1840	7	14	21	N18	SF	C8
14-2220	2	38	40	N11	SF	C8
16-0018	7	10	17	N15	SN	C4
16-1351	8	12	20	S15	SN	C2
17-1753	4	57	61	S33	SF	C2
18-0630	5	28	34	N08	SN	C1
19-1520	4	7	11	S33	SF	C1
19-1702	3	28	31	N14	SN	C3
19-1810	0	18	18	S13	SN	C1
19-1906	4	18	22	N15	SN	C1
21-1808	1	17	18	S16	SN	C1
22-1940	16	6	22	S16	SF	C7
23-0756	2	4	6	S11	SN	C2
23-1252	7	9	16	S[illegible]	SB	C4
23-1607	6	3	9	S09	SF	C2
23-1703	8	6	14	S18	SN	C1
23-1722	4	10	14	S11	SN	C2
23-1733	1	23	24	S15	SB	C4
23-1930	9	24	33	S18	SN	C3
23-2223	3	9	12	S16	SN	C1

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
24-1201	24	43	67	S17	SB	C2
24-1341	3	21	24	S15	SN	C3
24-1418	2	36	38	S17	SN	C2
24-1503	60	48	108	S18	SB	M1
24-1900	36	9	45	N06	1N	C3
25-1446	1	16	17	N08	SB	C5
25-1601	7	68	75	S18	SB	M1
25-1637	44	22	66	S18	SB	C6
25-1917	111	147	258	S19	2B	M7
28-1334	2	16	18	S19	SN	C5
28-1539	4	11	15	N13	SF	C4
28-1852	14	30	44	N04	SN	C8
29-1644	10	6	16	S15	SN	M3
29-2114	0	7	7	N15	SF	C7
30-1537	4	69	73	N15	SN	C2
30-1735	14	44	58	N06	SB	C9
31-0440	5	20	25	S13	1N	M1
31-1150	0	20	20	N02	SB	C9
FEB.						
32-0341	14	37	51	N14	2N	M1
32-1451	12	40	52	S12	SN	C2
33-1241	5	10	15	S16	SB	C3
33-1415	1	6	7	S13	SN	C2
33-2035	0	8	8	N15	SF	C2
34-0014	2	9	11	N17	SF	C2
34-0103	3	12	15	N05	SN	C2
34-1338	21	75	96	S15	1B	M5
35-0452	0	10	10	S14	SN	C2
35-0503	0	17	17	N13	SN	C7
35-1351	7	34	41	N15	2N	M1
35-1709	6	18	24	N18	1B	M1
35-1812	0	61	61	S13	SN	M1
36-0748	2	16	18	S17	SB	C5
36-1727	0	38	38	S17	1B	M3
36-2041	4	12	16	S11	SB	C8
36-2307	6	43	49	S14	SN	C7
37-1605	2	10	12	S12	SN	C7
37-1721	[illegible]	33	62	S12	1B	M1
38-1448	2	3	5	N08	SF	C2
38-1455	1	18	19	S15	SN	C2
38-1611	1	4	5	S14	SN	C3
38-1645	2	20	22	S15	SB	C8
38-1653	15	54	69	N15	2B	C9
38-1901	5	28	33	N02	SB	C4
39-1457	6	32	38	N01	SN	C4
41-0429	1	16	17	N25	1N	C5
41-1528	10	98	108	S18	2B	M2
41-1852	5	20	25	N10	1B	C6
41-2329	2	31	33	N11	SB	M1
42-0718	4	13	17	N08	1B	C7
42-1638	5	20	25	N10	SB	M1

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
42-1922	9	5	14	N09	SN	C5
42-2037	1	19	20	N13	1B	M4
42-2120	8	25	33	N10	SF	C4
42-2329	2	31	33	N11	SB	C2
43-1427	8	18	26	S18	SN	C2
43-1642	60	49	109	N08	SB	C3
43-2044	5	34	39	N08	1B	C4
43-2120	82	58	140	N09	SB	C6
44-0303	6	30	36	S20	2F	C8
44-0418	2	13	15	N15	SN	C6
44-0730	2	5	7	N11	SN	C2
44-1426	0	16	16	S19	SN	C4
46-1652	8	15	23	S18	SN	C2
47-0258	8	24	32	S18	SN	C1
47-1645	0	12	12	S18	SN	C1
48-0310	8	15	23	N08	1N	C1
48-0843	2	13	15	N08	SB	C
48-1920	6	7	13	S13	SN	C2
49-2029	6	20	26	N24	1N	C1
50-1526	1	16	17	S09	SN	C1
50-2027	14	33	47	S11	1N	C3
50-2254	1	16	17	S08	SN	C1
51-0002	0	19	19	S09	SF	C2
51-1130	1	11	12	S17	SF	C1
51-1753	5	19	24	S08	SN	C3
51-2016	2	35	37	S08	1B	C7
51-2137	1	6	7	N12	SF	C1
51-2253	4	6	10	S09	1B	C2
52-0321	1	27	28	S11	1B	C3
52-1712	1	12	13	S10	SN	C1
56-1523	10	6	16	S12	SF	C5
56-1950	5	16	21	S11	SF	C7
57-0028	2	23	25	S11	SN	C2
57-0321	1	9	10	S08	SN	C2
57-0358	3	15	18	S24	SN	C3
57-1625	2	7	9	S12	SN	C1
57-1749	8	23	31	N18	SN	M1
58-1930	2	6	8	N24	SF	C1
60-1441	4	28	32	S22	1B	M1
60-1637	2	8	10	S27	SN	C1
60-2013	3	13	16	S15	1N	C3
MAR						
61-0100	15	13	28	S08	SF	C2
62-0243	0	6	6	S29	SN	C2
62-1221	3	20	23	S21	SN	C1
62-1634	3	19	22	S28	SB	M2
62-1903	2	8	10	S29	SN	C2
63-1853	5	13	18	N11	1F	C2
63-2218	6	6	12	S12	SN	C2
64-0344	8	28	36	S24	1N	C4
65-1437	3	13	16	S25	SN	C1

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
67-1930	3	4	7	S15	SF	C1
68-0052	1	4	5	N14	SF	C1
68-1229	6	39	45	N12	SF	C1
68-1427	1	13	14	N12	SF	C1
68-1559	10	24	34	N16	SN	C1
69-1743	2	22	24	N16	SF	C3
69-2352	5	5	10	N15	SF	C2
70-2026	7	46	53	S12	1N	C3
72-1434	6	3	9	S17	SF	C0
73-1432	0	6	6	S14	SF	C0
73-1914	3	10	13	S12	SF	C0
74-0016	4	13	17	S16	SN	C2
74-0102	5	19	24	S15	SF	C0
74-2259	3	10	13	S17	SF	C1
75-2212	7	25	32	S11	1N	C1
78-1336	5	13	18	S29	SN	C1
78-1530	4	7	11	S26	SN	C3
78-1830	9	23	32	S19	SF	C1
79-0523	6	16	22	S26	SN	C2
79-1438	3	29	32	S25	SN	C3
79-1730	9	21	30	S27	SN	C4
80-0549	3	18	21	S27	1N	C3
80-1450	1	15	16	S28	SF	C1
80-1904	2	15	17	S28	SF	C2
81-0132	6	17	23	S26	1N	C1
81-2030	3	11	14	S27	SF	C1
82-1505	3	6	9	N03	SF	C1
82-1828	2	13	15	S28	SN	C1
82-2320	3	9	12	S27	SF	C2
83-1657	5	13	18	S27	1B	C7
84-0218	9	17	26	S26	SN	C3
84-0607	11	23	34	S28	SN	C1
84-1526	3	2	5	N06	SN	C1
84-1533	11	7	18	N06	SN	C2
84-2116	0	6	6	N25	SN	C2
85-0145	10	23	33	N13	1N	C4
85-0425	5	15	20	S20	1B	C7
85-0543	9	20	29	N12	SN	C3
85-1220	1	4	5	N12	SF	C2
85-1351	5	21	26	N27	SF	C2
85-1450	4	9	13	S28	SF	C1
85-1717	2	6	8	N14	SN	C2
85-1737	3	8	11	S28	SN	C2
85-2053	0	18	18	S27	SN	C5
85-2103	0	27	27	N13	SF	C1
86-0002	5	24	29	N14	1B	C6
86-0513	9	48	57	N22	2N	C3
86-1329	5	19	24	S29	SB	C9
86-1420	1	9	10	S29	SB	C4
86-1456	21	1	22	S12	SF	C1
86-2204	1	10	11	N25	SN	C2
86-2255	9	29	38	S27	SB	C3

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
86-2256	4	30	34	S26	1N	C3
86-2339	3	16	19	S29	SB	C3
87-0214	0	43	43	N18	SF	C1
87-1233	20	73	93	N28	SN	M2
87-1838	1	118	119	N22	1B	M5
88-0303	3	19	22	S28	SN	C1
88-0340	3	9	12	S27	SN	C2
88-0517	3	10	13	N08	SN	C2
88-0636	4	15	19	N16	1N	C3
88-1959	5	38	43	N13	1B	M2
88-2051	19	5	24	N08	SN	C4
88-2158	3	19	22	N09	1B	M4
89-0043	3	7	10	N28	SB	C6
89-0102	18	44	62	N27	1B	C6
89-0329	3	8	11	N08	SN	C2
89-0514	5	11	16	N09	SB	C4
89-0555	3	6	9	N09	1B	C5
89-0942	16	8	24	N07	SB	M1
89-1443	4	8	12	N10	SB	C8
89-1530	0	12	12	S28	SF	C3
89-1816	1	2	3	N26	SF	C2
89-1846	1	12	13	N10	SF	C1
89-2041	10	16	26	N29	SN	C3
89-2133	0	22	22	N27	SN	C3
90-0157	3	11	14	N26	SF	C2
90-0303	0	5	5	N26	SN	C2
90-1409	0	5	5	N26	SN	C2
90-1618	2	10	12	N13	SN	C3
90-1838	8	9	17	N10	SB	C3
90-2049	1	4	5	N11	SN	C1
90-2238	7	21	28	N13	1N	C6
90-2346	1	24	25	N11	SF	C2
91-0030	1	27	28	N13	SB	C7
91-0051	0	12	12	N03	SB	C7
91-1707	1	4	5	N26	SB	C3
APR.						
92-1320	1	4	5	N28	SF	C1
92-1524	2	10	12	N29	1N	C2
92-1801	0	6	6	N26	SF	C2
93-0032	0	6	6	N11	SF	C1
93-1121	1	76	77	N27	SN	C2
93-1327	11	47	58	N27	SB	C3
93-1358	0	16	16	S16	SF	C1
93-1653	11	14	25	N28	SN	C2
94-1523	3	7	10	N21	SF	C1
94-2041	2	37	39	N15	SB	C8
94-2251	3	6	9	N28	SN	C1
95-0025	4	10	14	N23	SB	C2
95-0104	7	24	31	N14	SN	C3
95-1016	3	12	15	N28	SB	C5
95-1457	11	261	272	N24	2B	M6
96-0343	3	6	9	S15	SN	M2

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
96-1532	20	66	86	N08	1B	M5
96-1850	0	13	13	N28	SN	C4
97-0404	14	32	46	N12	1B	M5
98-0207	2	4	6	N12	SF	C5
98-0326	3	11	14	N32	1F	C5
98-0518	20	42	62	N12	1B	M8
98-1342	0	5	5	S15	SN	C4
98-1652	3	5	8	N24	SN	C5
99-0114	4	15	19	S32	SB	M1
99-0303	7	40	47	N12	1B	M4
99-0502	9	14	23	N11	SN	C9
99-1202	4	5	9	S07	SF	C2
100-0409	2	7	9	S09	SN	C3
100-0446	1	5	6	N23	SN	C2
100-0516	1	15	16	S10	1B	M1
101-0245	6	29	35	S09	SB	C8
101-0437	5	17	22	N13	SN	C2
101-0914	9	22	31	N12	1N	M4
101-1246	6	31	37	N11	SN	C2
101-1659	3	14	17	N13	SB	C2
101-1722	2	30	32	N11	1B	M3
101-2152	10	43	53	S32	1N	C7
102-0050	2	5	7	N22	SN	C3
102-0630	11	8	19	N19	SN	C5
102-1726	1	18	19	S30	SF	C9
102-1822	0	6	6	S18	SN	C3
102-2259	8	10	18	N10	1N	M1
103-0058	7	25	32	N13	1F	C6
103-0206	14	15	29	S32	SN	C4
103-1338	2	12	14	S17	SN	C3
103-1426	6	7	13	S30	SN	C3
103-2225	5	11	16	S05	1B	M2
103-2244	12	29	41	S17	2B	M1
104-1109	4	38	42	N15	1B	C4
104-1232	0	14	14	S05	SN	C3
104-1244	2	18	20	N15	SB	C3
104-1419	7	17	24	N15	SN	C3
104-1652	2	22	24	N14	SN	C3
104-1729	6	21	27	N21	SN	C3
104-1933	3	12	15	N14	SN	C6
104-2127	6	23	29	S31	SN	C4
105-0148	5	6	11	S09	SN	C3
105-0216	0	7	7	N19	SN	C4
105-0408	4	22	26	S08	SN	C3
105-1154	2	6	8	S05	SN	C3
105-2004	31	45	76	S18	1B	C7
105-2021	11	28	39	S32	1N	C9
106-0203	3	27	30	S33	1B	M1
106-1509	3	46	49	N18	1B	M8
106-1934	2	13	15	S09	SF	C2
107-0056	8	13	21	N19	1B	M1
107-0404	6	27	33	N20	SN	C6

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
107-0537	7	37	44	N13	1N	C3
108-0430	23	33	56	N20	1N	C7
111-1956	1	6	7	N14	SF	C2
111-2133	5	12	17	S30	1N	C3
112-1909	1	13	14	S14	SN	C3
113-0524	6	14	20	S12	SF	C8
113-2245	3	42	45	N26	SN	C2
115-0550	3	37	40	S13	SN	C2
115-0929	3	8	11	S15	SN	C1
115-1759	16	55	71	S14	SN	C4
116-1729	18	29	47	S17	1F	C2
116-2023	8	24	32	S17	SN	C3
116-2248	18	49	67	S30	SN	C2
117-0059	3	15	18	S16	1N	C7
117-0254	0	8	8	S18	SF	C1
117-0330	15	27	42	S18	SB	M2
117-0934	7	25	32	S14	SB	C8
117-1511	2	8	10	S16	SN	C3
117-2032	0	34	34	S17	1B	M5
118-0109	1	11	12	S17	SN	C1
118-0252	0	7	7	S12	SN	C4
118-1304	1	16	17	S11	SN	C2
119-0043	2	4	6	S16	SN	C2
119-0335	9	26	35	S30	SN	C2
119-1204	0	16	16	S09	SB	C8
119-1228	12	27	39	S29	1B	M2
119-1535	0	15	15	S09	SN	C3
119-1704	3	39	42	S12	SB	C9
119-2040	0	15	15	S14	SB	C9
119-2104	5	54	59	S14	SN	C8
120-1257	2	13	15	S11	SN	M2
120-2010	2	13	15	S32	SF	C9
121-0350	20	10	30	S32	1F	C8
121-0545	3	17	20	S30	1N	C9
121-1126	2	3	5	S09	SF	M2
121-2022	2	18	20	S13	SN	M2
MAY						
122-1816	14	35	49	S25	1B	C5
122-1851	24	26	50	S22	1B	X3
123-0034	2	9	11	N20	SF	C5
123-1139	2	29	31	S19	SN	C5
123-1445	10	49	59	S19	SN	C6
123-1722	28	14	42	S15	SB	C6
123-2047	1	14	15	S19	SN	C3
124-0141	24	39	63	S19	1B	C2
124-1239	25	77	102	S26	1N	M2
124-1749	6	20	26	S16	1N	M1
125-1508	2	5	7	S20	SB	C3
125-1825	5	10	15	S17	SN	C3
125-2105	2	2	4	S19	SN	C3
125-2206	0	6	6	S21	SF	C2
125-2336	4	5	9	S21	SN	C3

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
126-1439	5	12	17	S21	SB	C4
126-1930	2	26	28	S24	1F	C2
127-1153	4	20	24	S27	SF	C2
127-1811	0	20	20	S17	1N	C4
127-1836	1	13	14	S20	SF	C3
128-1318	2	17	19	S22	1B	M4
128-1456	1	8	9	S22	SB	C7
128-2047	1	6	7	S22	SN	C2
129-0058	0	14	14	S22	SB	M2
129-1127	2	16	18	S22	SB	M1
129-1341	4	57	61	S22	SB	M1
129-1936	2	12	14	S22	SB	M2
130-0711	3	34	37	S21	1B	M7
130-1119	1	6	7	S16	SF	C1
130-1522	4	13	17	S20	SN	C2
130-1944	5	16	21	S31	SF	C1
130-2022	32	48	80	S30	1N	M3
131-1117	16	1	17	S13	1B	M1
131-1320	1	10	11	S16	SN	C1
131-1757	1	6	7	S14	SN	C4
131-1952	1	12	13	S12	SB	C5
131-2021	2	6	8	S15	SB	C5
132-0117	4	9	13	S14	1N	C1
132-0410	4	13	17	S21	1N	M1
132-1149	0	17	17	S16	SN	C2
132-1253	2	18	20	S21	1N	C9
132-1401	2	9	11	S16	SN	C2
132-1512	1	21	22	S15	SB	C8
132-1655	1	8	9	S15	SB	C7
132-1827	1	9	10	S15	SN	C1
132-1854	0	10	10	S14	SN	C3
132-2130	27	5	32	S22	SF	C7
133-0254	1	8	9	S13	1N	C4
133-1340	0	8	8	S23	SF	C2
133-1422	2	10	12	S13	SB	C3
133-1528	2	3	5	S12	SN	C2
134-0211	1	10	11	S07	SF	C1
135-1254	4	18	22	S12	1B	M2
135-1507	13	28	41	S13	SN	C1
135-1905	16	4	20	S18	2N	M1
136-0102	3	6	9	S14	1N	C3
136-1544	9	22	31	S11	1N	C2
137-0102	3	9	12	S11	SN	C6
137-0306	0	23	23	S10	SF	C4
137-1338	3	69	72	N16	SN	C2
137-1929	3	5	8	S18	SF	C2
137-2208	26	61	87	S11	1B	M2
137-2315	7	11	18	N16	SN	C4
138-0145	3	5	8	S14	SN	C3
138-0206	8	26	34	N16	1N	C6
138-0539	14	17	31	S15	2N	C7
138-0734	7	13	20	N15	SB	M3

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
138-1015	3	12	15	N17	SB	M1
138-2135	2	37	39	N16	SF	C2
139-0104	4	29	33	N15	1B	M3
139-0820	1	32	33	S08	SB	C4
139-1254	3	8	11	S21	SN	C3
139-1345	9	10	19	S22	SF	C2
139-1624	0	23	23	N24	SN	C2
140-0045	0	6	6	S15	SF	C2
140-0538	3	17	20	S05	1N	C5
140-1517	5	16	21	S19	SF	C4
140-1609	1	24	25	N15	SN	C2
142-1446	4	23	27	S21	SB	C4
142-2051	9	26	35	S14	2B	X1
143-0654	2	29	31	S27	SB	C3
143-2058	4	5	9	N15	1N	M2
144-1339	20	35	55	S21	SN	C4
144-1442	1	15	16	S21	SN	C4
144-2029	4	44	48	S07	SN	C2
144-2143	3	2	5	S06	1B	M1
145-0019	2	14	16	S23	SN	C2
145-0047	5	27	32	N17	1N	C5
145-1357	1	16	17	N12	SN	C2
146-0128	9	28	37	S16	1N	M1
146-1329	2	14	16	S13	SF	C2
146-1410	3	23	26	S19	SN	C3
146-1727	3	17	20	S10	SN	C4
148-1600	3	9	12	S14	SB	C6
148-2105	0	18	18	S11	SB	C5
148-2334	33	36	69	S11	SN	M1
149-0214	2	19	21	S22	1N	M2
149-1312	6	34	40	N08	SB	C4
149-1528	1	44	45	N08	SN	C3
149-1553	5	21	26	S24	SN	C9
149-1705	13	35	48	S18	1B	M3
149-1924	27	62	89	S18	2B	X1
149-2153	12	31	43	S24	1B	M2
149-2332	12	61	73	S17	2B	M6
150-0514	4	10	14	S20	SN	M1
151-0020	1	16	17	S14	SN	C3
151-0118	2	5	7	S22	SF	C2
151-1046	10	41	51	S19	SN	C4
151-1249	15	24	39	S24	SN	C1
151-2052	1	11	12	N06	SB	C1
152-0744	1	23	24	S13	SB	C2
152-1551	1	7	8	S14	SN	C1
JUNE						
153-1349	3	8	11	S13	SN	C3
153-1518	6	15	21	S12	SB	C9
153-1650	5	3	8	S12	SB	C7
154-0900	23	7	30	S21	SB	M1
154-1156	95	70	165	S05	SN	C9
154-2129	8	59	67	S13	SB	M2

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
155-0014	4	12	16	S16	SN	C9
155-0103	26	13	39	S13	1N	M1
155-0211	2	7	9	S13	SF	C8
155-0802	4	4	8	S12	1N	M2
155-1139A	3	7	10	S13	SB	M1
155-1139B	28	5	33	S13	1B	M3
155-1413	1	25	26	S13	SB	C9
155-2128	6	70	76	S12	1B	M7
156-0227	6	6	12	S13	SF	C7
156-0654	2	32	34	S14	SB	M6
156-1454	2	8	10	S13	SN	C4
156-1645	3	11	14	S12	SN	C2
156-1742	3	25	28	S12	SB	C7
156-2257	4	13	17	S14	1B	X2
156-2317	51	53	104	S11	1B	C9
157-0025	1	20	21	S15	SF	M1
157-0300	0	20	20	N11	SF	C5
157-0421	2	6	8	S10	1F	C5
157-0446	8	16	24	S12	SN	C6
157-0645	2	9	11	S09	SB	C6
157-2341	3	3	6	S13	1N	C3
158-1143	0	2	2	S14	SB	C3
158-1250	2	6	8	S13	SF	C2
158-1401	37	17	54	N11	SB	C9
158-2114	17	13	30	N10	SB	M1
159-0119	1	4	5	N13	SB	M2
159-0312	3	7	10	N14	SB	M7
159-1755	16	22	38	N11	SN	C2
159-1953	1	7	8	N10	SF	C1
159-2005	34	25	59	N10	SF	C2
160-1655	6	57	63	S17	1B	M1
161-0011	0	5	5	S15	SF	C1
161-0316	1	7	8	S25	SF	C1
162-0302	4	33	37	S10	SF	C5
162-0521	2	7	9	S25	SF	C1
162-1407	5	21	26	S20	SN	C2
162-1950	0	21	21	S12	SF	C2
164-0037	1	17	18	S18	SB	C2
164-0308	4	5	9	N22	SF	C2
164-0600	1	20	21	S16	SB	C2
164-1517	1	8	9	S11	SB	C4
164-1640	2	45	47	N12	SN	C2
164-2207	1	15	16	N12	SN	C4
164-2326	2	15	17	N18	SN	C1
165-0120	3	10	13	N18	SF	C2
165-0250	7	11	18	S14	SB	C2
165-0518	2	5	7	S15	SN	C7
165-0623	3	2	5	S17	SN	C2
165-0811	4	12	16	S14	1B	C7
165-1247	6	10	16	N12	SN	C2
165-1405	13	46	59	N18	SB	C8
165-1548	1	13	14	N15	SN	C1

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
165-1648	17	9	26	N16	SN	C?
168-1023	2	10	12	S13	SB	C1
168-1949	4	17	21	S11	SF	C2
168-2110	1	4	5	S14	SF	C2
168-2310	4	8	12	S09	1N	C2
169-0012	10	3	13	S11	SN	C9
169-1318	2	9	11	S13	SF	C1
171-1121	2	13	15	S31	SF	C3
171-1836	6	20	26	S27	1B	M1
171-1949	8	2	10	S23	2B	M2
171-2334	4	14	18	N21	SF	C3
172-0056	6	11	17	S11	SN	C3
172-0256	3	18	21	S11	SF	C3
172-0445	7	48	55	S10	1N	C4
172-1200	6	21	27	S28	1B	C5
172-1540	21	11	32	S29	SB	C4
172-2010	1	4	5	S38	SF	C3
173-0003	56	109	165	S12	2N	M2
173-0117	8	35	43	N20	1B	X2
173-1738	6	14	20	S30	SF	C5
174-1304	9	39	48	S09	2B	C9
174-1317	4	43	47	N19	SB	M1
174-1858	6	50	56	N38	SB	M1
174-2153	3	32	35	N20	1B	C4
175-0000	47	119	166	S28	SN	C4
175-0122	3	20	23	N24	SN	C4
175-0217	1	12	13	N20	SN	M2
175-0338	3	7	10	S23	SB	C8
175-0625	2	17	19	S12	SB	C9
175-1235	9	2	11	N20	SB	M1
175-2121	6	47	53	S22	SN	C6
175-2253	21	22	43	S29	1B	C4
175-2334	6	4	10	N18	1B	M4
176-1256	7	1	8	S20	1N	C9
176-1336	5	39	44	S23	SN	C9
176-1522	1	54	55	S29	SB	M1
176-1957	2	45	47	S23	1B	M1
177-0047	3	19	22	S22	SB	C6
177-0657	2	31	33	N24	SB	C8
177-1238	3	3	6	S28	SB	C7
177-1521	3	14	17	S23	SF	C3
177-1550	4	19	23	S29	1B	M4
177-1900	1	4	5	S29	SF	C5
178-0120	0	7	7	S25	SB	C2
178-1717	2	7	9	N16	SB	C3
178-1947	0	29	29	S31	SN	C4
178-2149	0	21	21	S29	SF	C2
179-0113	1	24	25	S29	2N	M1
179-1346	3	7	10	S30	SB	C4
179-1454	4	15	19	S29	SN	C1
179-1615	2	20	22	S25	SB	M6
179-2108	2	7	9	S25	SN	C3

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
179-2109	11	10	21	S25	SN	C3
179-2320	6	12	18	S24	1N	C2
180-0319	3	15	18	S20	SN	M1
180-0746	5	22	27	S27	SB	M1
180-1110	3	2	5	S23	1B	M1
180-1421	1	4	5	S28	SN	C4
180-2301	0	14	14	S28	SB	C3
182-1521	11	19	30	S21	SB	C9
182-1734	24	2	26	S10	SB	C3
182-1944	5	18	23	S13	SB	C4
JULY**						
183-1622	7	42	49	S12	1B	X2
184-0137	3	8	11	S13	SF	C1
185-0021	2	14	16	S09	1B	C4
185-0124	12	10	22	S09	1B	C3
185-0252	8	12	20	S20	SN	C2
185-2135	11	1	12	S14	SF	C2
187-0015	7	46	53	N28	SB	C5
187-0156	13	49	62	N27	1B	C7
187-0739	3	41	44	N25	SB	M2
187-1523	38	76	114	N27	1B	C1
187-1550	18	37	55	N27	1B	M1
187-2223	24	2	26	N28	1B	M8
188-0422	0	12	12	N27	SN	M2
188-0447	3	5	8	N27	SB	M2
189-1129	22	16	38	N26	SB	M2
189-1251	38	75	113	N25	SN	C2
189-1453	37	71	108	N25	SB	C1
190-1901	3	11	14	N22	SB	C2
191-1222	0	9	9	N29	SB	C7
191-1321	5	6	11	N28	SN	C3
191-1516	0	6	6	N24	SN	C5
191-2120	39	90	129	S02	SF	C2
191-2206	2	6	8	N20	SF	C2
192-1033	2	51	53	S18	1B	C4
192-1406	5	17	22	N20	SN	C3
196-0150	3	37	40	S10	SN	C4
196-0822	3	17	20	S13	1B	X1
197-1826	1	26	27	S13	1B	C4
197-2241	7	21	28	S15	SB	C4
198-2148	4	31	35	N23	1F	C3
199-0542	21	47	68	S12	1B	M3
199-1332	3	25	28	N21	SN	C3
199-2157	1	12	13	S14	SN	C3
200-1449	2	7	9	S27	SN	C1
200-2157	3	43	46	N21	1N	C4
201-1706	5	29	34	S14	1B	C3
201-2318	4	28	32	S23	1N	C1
202-1218	3	61	64	S30	1B	C5
202-1434	2	13	15	S17	SN	C2
202-1919	6	67	73	S19	1B	M1
202-2251	7	17	24	S10	1N	C6

*Time in minutes **See ADDENDUM

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
204-0115	7	18	25	S17	SN	C2
204-0304	11	25	36	S26	1N	C3
204-2254	11	30	41	S23	SN	C8
205-0058	0	85	85	S17	2B	M8
205-1701	0	22	22	S19	SN	C6
206-0005	3	14	17	N15	SF	C3
206-0901	4	29	33	S21	SB	C6
207-1541	1	19	20	S29	SF	C5
208-0117	3	38	41	S05	1N	C6
208-1730	3	100	103	S07	1B	C3
209-1444	2	29	31	S11	SF	C1
211-1257	5	56	61	S28	1N	C7
213-2243	14	26	40	N27	1N	C1
AUG.						
219-0551	3	24	27	N10	SN	C2
220-2000	1	7	8	S19	SN	C2
222-1422	6	25	31	N11	SN	C1
222-2341	3	8	11	N12	SN	C4
223-0205	5	9	14	S05	SN	C1
223-0605	2	7	9	S05	SN	C1
225-0549	17	86	103	S28	SB	C6
226-1250	6	64	70	S28	2B	M3
227-2310	3	17	20	S28	SN	C1
228-0111	9	25	34	S25	SN	C1
228-1219	4	20	24	S15	SN	C2
228-1546	1	18	19	S24	SN	C2
229-0240	8	22	30	N13	SN	C2
229-1503	8	41	49	N19	SF	C2
229-1806	0	16	16	S24	SF	C2
230-1845	4	30	34	N11	SF	C2
231-0154	2	10	12	N10	SF	C2
232-0343	3	7	10	N18	SB	C1
232-0651	5	30	35	N17	SN	C2
232-1524	7	16	23	N19	1N	C3
233-0302	10	11	21	S09	SN	C1
234-0346	2	10	12	N15	SN	C1
234-1310	4	17	21	N12	1N	C4
234-1335	15	33	48	N19	SB	M1
234-1740	4	24	28	N14	SN	C2
234-1845	10	19	29	N12	1B	C8
234-1854	8	45	53	N20	2B	M7
235-0238	14	24	38	N18	SN	C2
235-0300	2	39	41	N09	SB	C2
235-0344	8	36	44	N17	SN	C3
235-0516	2	34	36	N09	1B	C9
235-0828	3	8	11	N09	1B	C8
235-1417	5	41	46	N19	SB	C5
235-1644	10	32	42	N14	SN	C3
235-1714	10	53	63	N10	1N	C7
235-2122	7	32	39	N13	2B	M2
236-0000	3	33	36	N18	1B	C6
236-0440	7	5	12	N09	SB	C3

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
236-1052	2	17	19	N21	SB	C4
236-1201	2	20	22	N21	SB	C6
236-1450	1	10	11	N17	SN	C4
236-2047	2	22	24	N16	SB	C5
236-2126	3	0	3	N16	1B	M2
237-0024	2	26	28	N17	SN	C1
237-0429	61	40	101	N18	1B	C3
237-0818	13	74	87	N18	1B	C8
237-1606	7	65	72	N17	SB	M1
237-1824	0	30	30	N16	SB	C8
237-1905	44	31	75	N15	1B	M2
237-2206	4	11	15	N16	1B	M1
238-0130	9	32	41	N19	SB	C3
238-0216	41	15	56	N18	SB	C7
238-0401	1	9	10	N07	SN	C2
238-0446	2	25	27	N17	SB	C3
238-0633	3	2	5	N18	SB	C9
238-1022	2	13	15	N06	SB	C2
238-1229	34	31	65	N18	SB	M1
238-1852	76	0	76	N15	1B	C2
238-2058	3	10	13	N15	SF	C2
238-2121	2	9	11	N16	SF	C2
238-2135	20	19	39	N16	SN	C6
239-0009	2	22	24	N18	SN	C5
239-1345	23	14	37	N20	1B	C6
240-1139	1	4	5	N17	SN	C4
240-1332	2	20	22	S07	SB	M1
240-1711	18	20	38	S10	SF	C3
240-1758	41	1	42	N14	1F	C2
241-0341	9	7	16	N10	SB	C3
241-1158	0	5	5	S06	SN	C2
241-2012	1	15	16	S25	SF	C4
242-0615	12	24	36	S06	SN	C3
242-1220	3	17	20	N12	SB	C2
242-1708	3	10	13	S08	SN	C1
242-1759	11	15	26	N11	SN	C2
242-2022	3	5	8	N13	SF	C2
243-0305	0	19	19	N11	SB	C2
243-0535	4	15	19	N12	SB	C1
243-0555	14	26	40	N09	SB	C3
243-0626	0	9	9	N11	SN	C4
243-0646	3	9	12	S06	SN	C2
243-0803	5	33	38	N11	SB	C5
243-1243	2	45	47	N11	1B	C6
244-0013	5	23	28	N12	SN	C2
244-0753	9	1	10	S08	1B	C3
244-1249	C	7	7	N12	SB	M2
244-1325	[illegible]	73	78	S05	2B	M5
244-2022	2	15	17	N12	SF	C2
SEPT.						
245-0130	1	25	26	N13	SN	C2
245-0205	0	7	7	S07	SN	C1

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
245-0227	2	15	17	S10	SN	C2
245-0416	3	11	14	S04	SN	C2
245-0519	5	2	7	S07	SB	C7
245-1301	1	16	17	N20	SB	C7
245-1347	1	21	22	S06	SN	C1
245-1618	3	39	42	N11	SN	C2
245-1855	1	18	19	S10	SN	C2
246-0641	15	40	55	S07	SB	C8
246-1311	2	22	24	S07	SB	C4
246-1630	1	28	29	N11	SB	C4
246-1805	1	36	37	N11	SB	C4
247-0100	2	2	4	S09	SF	C1
247-0137	2	12	14	N11	SN	C1
247-0211	1	11	12	N20	SF	C2
247-0317	2	13	15	N16	SF	C2
247-0353	21	44	65	S07	1B	M2
247-0634	3	18	21	S07	SF	C2
247-0845	0	7	7	S08	SF	C3
247-1356	5	30	35	N15	1N	C5
247-1421	9	22	31	S08	SN	C4
247-1627	21	75	96	S07	SN	C2
247-1906	24	60	84	S08	1B	C6
248-0152	18	79	97	S07	2B	M6
248-1528	3	7	10	N14	SF	C1
248-1624	4	6	10	N11	SN	C2
248-1719	0	19	19	S07	SN	C2
248-2135	3	23	26	S09	SN	C3
248-2214	6	1	7	S09	1B	M2
249-0012	1	3	4	N15	SN	C1
249-0218	10	14	24	N12	SB	C4
249-1429	2	9	11	N12	SF	C2
250-0144	10	25	35	N15	1N	C2
251-0319	3	9	12	N21	SB	C3
251-2004	10	12	22	S06	SF	C2
252-0503	1	20	21	N15	SB	M3
252-0523	4	76	80	S09	2B	M8
252-1816	3	10	13	N13	SN	C1
252-1910	3	17	20	N12	1B	M1
252-2204	5	8	13	N14	SN	C2
253-0022	1	11	12	N13	SN	C1
253-0146	2	14	16	N14	SB	C2
254-0648	14	4	18	N13	SN	C2
254-0729	3	115	118	N20	SB	C2
254-2129	9	2	11	N28	SN	C2
254-2148	16	19	35	N11	1B	M1
255-0144	7	26	33	N10	SB	C4
255-1524	3	6	9	N13	SN	C1
256-0507	1	32	33	N11	SB	C1
256-0547	3	2	5	N13	SB	C8
257-0201	3	18	21	N18	SN	C2
257-0521	3	10	13	S11	SF	C1
257-0843	2	24	26	N06	SF	C1

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
257-1309	0	4	4	S10	SF	C1
257-1855	1	9	10	S09	SF	C1
258-0007	7	12	19	N18	1F	C1
258-0300	3	5	8	N15	SN	C1
258-0551	4	19	23	N09	SN	C1
258-1128	3	22	25	N15	SB	C1
258-1429	0	5	5	N12	SF	C2
259-0729	2	18	20	S10	1B	C2
259-0845	2	11	13	N08	1B	C3
259-1140	2	9	11	N15	SB	C2
260-0835	3	8	11	N15	SF	C0
260-2041	8	65	73	S13	SB	C2
260-2203	6	15	21	S12	SN	C1
261-0653	17	48	65	S12	SN	C3
261-1800	20	80	100	S11	1B	C3
262-0119	14	22	36	S10	SN	C1
262-0556	4	29	33	S10	SF	C1
262-1731	2	7	9	N09	SF	C0
262-1756	6	44	50	N09	1N	C3
262-2009	0	7	7	N13	SF	C1
263-0723	2	10	12	N16	1F	C1
263-0819	2	15	17	N15	SN	C1
263-1542	13	35	48	S10	SF	C2
264-0112	1	4	5	S32	SN	C1
264-0618	17	25	42	S13	1N	C2
264-2010	0	26	26	S15	SF	C3
265-0110	10	20	30	N09	SN	C1
265-0533	11	28	39	S13	SN	C3
266-0040	0	5	5	N10	SF	C1
266-0739	3	10	13	N10	1B	M1
266-1603	16	43	59	N05	1B	C2
267-0222	3	36	39	N18	SN	C3
267-0439	2	22	24	N20	SB	M1
267-0550	1	11	12	S33	SF	C2
267-0655	1	5	6	N17	SB	C1
268-0503	6	12	18	S20	SF	C1
268-0728	7	43	50	N18	1B	M1
268-1631	5	20	25	S18	1N	C5
270-0805	4	3	7	N16	1B	C2
270-0859	3	11	14	S18	SN	C1
270-1521	1	6	7	N18	SN	C2
270-1747	3	28	31	S16	SN	C2
271-0120	1	7	8	N19	SB	C6
271-0158	2	3	5	S33	SF	C2
271-1353	0	10	10	S17	SB	C2
271-2142	6	7	13	N16	SN	C4
272-0433	2	10	12	N14	SN	C3
273-1255	15	28	43	S32	SN	C1
273-2221	14	35	49	S17	1N	M1
274-1800	15	65	80	N19	1B	M2
OCT.						
275-0021	4	20	24	N13	SB	C2

*Time in minutes

C-2

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
275-1212	1	40	41	N16	SN	C2
275-1505	3	11	14	N13	SN	C2
276-0145	13	5	18	S20	SF	M1
276-0311	3	14	17	N12	SB	C1
276-0530	19	17	36	N14	1N	C2
276-0745	4	33	37	N16	SF	C2
276-1705	0	19	19	N25	SN	C2
276-2154	6	0	6	N13	1B	M1
277-0746	4	13	17	N15	SF	C2
277-0817	7	27	34	N14	SN	C4
277-2112	10	36	46	S10	SN	C1
277-2200	18	46	64	N17	1N	C3
278-0249	2	18	20	N14	SN	C2
278-2122	0	33	33	N16	SF	C1
280-0121	3	8	11	N07	SN	C6
280-0409	3	9	12	S10	SN	C5
281-0204	1	7	8	N15	SF	C1
281-0922	8	10	18	S07	1B	M1
281-1133	0	10	10	N13	SN	C3
281-1414	1	3	4	S07	SN	M1
281-1421	11	43	54	N13	1B	M1
281-1502	10	11	21	N18	SN	C5
281-1602	6	23	29	N19	SN	M1
281-2120	100	1	101	N16	2B	C6
281-2305	7	7	14	N14	2B	M5
282-0124	19	13	32	S10	SN	M2
282-1123	34	36	70	N13	1B	M1
282-1313	2	6	8	S09	SN	C3
282-1533	4	41	45	N16	1B	C8
282-1648	15	69	84	N18	1N	M1
282-1910	4	27	31	S12	1N	C5
282-1939	1	13	14	S05	SF	C3
282-2134	19	1	20	S10	1N	C3
283-0231	11	29	40	N10	SB	C4
283-1124	3	2	5	S10	1B	M8
283-1749	1	21	22	S10	SB	C4
283-1951	7	35	42	S10	1B	M1
283-2335	1	10	11	S07	SN	C1
284-0034	1	35	36	N12	SF	C4
284-0123	4	15	19	N15	SB	C3
284-0301	9	51	60	N14	SN	C3
284-0631	14	31	45	S08	1B	C5
284-1049	2	28	30	S09	1B	M1
284-1126	3	2	5	S08	SB	C6
284-1500	13	13	26	S11	SN	C3
284-1702	13	20	33	S11	SN	C5
284-2103	3	37	40	S12	SB	C4
285-0223	10	36	46	S12	SB	C5
285-0339	20	51	71	S13	1B	M2
285-0453	55	51	106	S13	SB	C5
285-0815	1	11	12	S13	SB	C7
285-1726	22	32	54	S08	1B	C7
285-1927	1	5	6	N11	SN	C2

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
285-2016	5	13	18	N09	SB	C7
285-2218	6	13	19	N10	SN	C4
285-2344	4	11	15	N10	SB	C8
286-0140	0	13	13	S09	SN	C3
286-0157	2	2	4	S13	SB	C6
286-0709	14	18	32	N09	1B	C7
286-0927	5	9	14	S13	SN	C4
286-1519	4	17	21	N15	SB	C8
286-1553	1	18	19	S12	SN	C7
286-1821	0	6	6	S10	SF	C4
286-2042	1	8	9	N09	SN	C3
286-2259	32	16	48	N11	SN	C7
287-0407	10	39	49	S13	2B	M2
287-0618	3	15	18	N14	SB	C4
287-0719	32	100	132	N12	SB	C7
287-0941	6	4	10	N12	1B	M2
287-1926	30	16	46	S08	SN	C6
287-1956	4	12	16	N08	1N	C5
287-2018	16	29	45	N15	1N	C5
287-2040	40	2	42	S10	1N	C4
288-0008	5	14	19	N07	SB	C5
288-0214	953	2	955	N09	2N	C2
288-0542	31	81	112	S09	3B	X3
289-0230	1	18	19	S10	SN	C3
289-0835	2	6	8	N14	SB	M2
290-0116	2	25	27	N11	SF	C3
290-1318	1	22	23	S28	SN	C3
290-1400	2	33	35	S28	SB	C4
290-1404	49	26	75	S28	1B	C3
291-0024	0	11	11	S29	SN	C3
291-0257	2	7	9	S11	SF	C2
291-1445	14	3	17	S09	SF	C2
291-1615	2	17	19	S09	SB	C6
291-1633	5	26	31	S16	SN	M1
291-1731	7	17	24	S11	SF	C3
291-1749	9	13	22	S18	SN	C5
291-2003	12	23	35	S17	1B	C8
291-2106	28	0	28	S17	1N	C5
291-2326	11	11	22	S19	SB	C6
292-0012	7	17	24	S18	SB	C4
292-0142	2	18	20	S18	SF	C8
292-0236	4	21	25	S15	SN	C7
292-0330	0	40	40	S18	1N	C9
292-1354	18	16	34	S18	SF	C2
292-1457	7	11	18	S19	SB	C6
292-1627	2	19	21	S34	SN	C3
292-1819	18	13	31	S17	SB	C9
292-1934	4	28	32	S18	SB	C6
292-2129	2	9	11	S15	SF	M1
292-2244	4	26	30	S33	SB	C2
292-2330	4	10	14	S18	SN	C4
293-0303	2	8	10	S19	SN	C3

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
293-0538	7	13	20	S18	SB	C6
293-0640	3	12	15	S19	SB	C3
293-0713	2	5	7	S32	SN	C2
293-0856	21	8	29	S20	SB	C3
293-0939	0	10	10	S20	SB	M1
294-0405	0	18	18	S17	SB	C3
294-0446	5	12	17	S18	SB	C5
294-0632	0	9	9	S18	SN	C2
294-0901	2	10	12	S19	1N	C6
294-1516	5	52	57	S14	SN	C2
294-1831	3	5	8	S17	SB	M1
295-0002	1	19	20	N22	SB	C4
295-0035	2	26	28	S12	1F	C3
295-0537	1	7	8	S18	SN	C1
295-0912	10	3	13	N22	SF	C2
295-1529	6	47	53	N09	1N	C2
296-0203	22	0	22	S11	SN	C2
296-0455	19	39	58	S13	1B	C4
296-1527	6	27	33	N18	SB	C2
297-0000	6	3	9	N22	1B	M1
297-0230	1	10	11	S19	SF	C1
297-0446	11	15	26	N21	SB	C2
297-0736	5	34	39	N20	1B	M3
297-1414	41	24	65	N18	SN	C2
297-1553	4	13	17	N18	SB	C7
298-2220	10	57	67	N21	SB	C3
299-0535	7	39	46	N19	SB	M1
299-0802	19	34	53	N19	SN	C6
299-0942	8	20	28	N19	2B	X3
299-1836	7	25	32	S20	1N	C3
299-2213	1	12	13	S15	SB	C2
300-0432	4	9	13	S05	SN	C1
300-0715	2	3	5	S18	SN	C1
300-1437	3	11	14	S20	SB	C3
300-1728	1	24	25	S19	SF	C2
300-1826	0	32	32	S18	SN	C2
300-2210	0	7	7	S20	SB	C2
300-2241	2	6	8	S02	SF	C5
301-0106	19	23	42	S13	1N	C3
301-0155	21	28	49	N16	1N	C6
301-0722	8	4	12	S04	SB	C4
301-1638	7	23	30	S04	SN	C4
301-1723	4	41	45	S22	SN	C7
301-2045	5	11	16	N05	SN	C4
301-2147	16	27	43	S19	1N	C4
302-0213	13	14	27	S20	SN	C3
302-0353	2	15	17	S04	SN	C3
302-0425	7	20	27	S19	SN	C3
302-0930	8	7	15	N29	SB	C4
302-1607	2	12	14	N11	SN	C2
302-2024	5	15	20	N19	SN	C2
302-2218	8	8	16	S21	1N	M1

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
303-0605	13	12	25	S18	SN	M1
303-1137	5	7	12	S04	SB	C9
303-1526	10	6	16	N28	SB	C9
304-0203	4	26	30	S03	SB	C3
304-0310	10	22	32	S03	SN	C4
304-0722	4	18	22	S16	1N	C4
305-0206	1	1	2	S16	SB	C5
305-0649	2	22	24	N21	SB	C3
305-0716	3	11	14	N24	1N	C3
305-1221	18	28	46	N14	1B	C3
NOV.						
306-0129	7	9	16	N03	SN	C3
306-1342	12	17	29	N22	SN	C3
306-1918	3	29	32	N17	1B	M1
306-2338	4	14	18	N20	SN	C2
307-0207	4	19	23	N20	SB	C6
307-1057	3	35	38	N22	SB	C6
307-1304	2	10	12	S04	SN	C2
307-1345	35	20	55	S18	SN	C3
307-1603	2	16	18	N25	SN	C2
307-1655	0	10	10	N16	SB	C3
307-1905	5	12	17	S17	SN	C3
307-2230	11	17	28	N05	SN	C2
307-2330	8	12	20	N22	SN	C1
307-2355	7	24	31	N05	1B	M1
308-0147	1	10	11	N14	SF	C3
308-0159	8	33	41	N11	1B	M3
308-0309	13	14	27	N23	SN	C5
308-0331	10	23	33	N04	1B	M3
308-0752	9	14	23	N20	SB	C4
308-1352	6	34	40	N06	2B	M1
308-1520	40	18	58	N22	SN	C2
309-0107	8	18	26	N04	1N	C9
309-0732	2	19	21	N21	SB	C9
309-1104	3	29	32	N20	SB	M1
309-1246	2	23	25	N06	1B	C7
309-1429	39	101	140	N22	1B	M1
309-1813	3	6	9	S11	SN	C3
310-0247	1	9	10	S12	SB	C4
310-1057	9	49	58	S14	SB	M2
310-1603	38	59	97	N08	1B	M2
310-1711	0	16	16	S10	SN	C8
310-2226	8	3	11	N11	1B	M4
311-0025	1	4	5	N22	SF	C8
311-0105	7	36	43	N10	SB	M1
311-0340	8	40	48	S12	2B	X9
311-0624	5	36	41	S22	1B	M1
311-0648	3	43	46	N09	1B	M3
311-1620	204	115	319	N06	2B	M5
311-1620	68	251	319	S09	2B	M4
311-1818	0	28	28	S08	SB	M3
311-2145	0	186	186	N21	SN	C9

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
311-2226	8	21	29	N11	1B	M3
312-0156	10	69	79	N07	2B	X2
312-0417	8	19	27	S11	1B	M1
312-0450	0	12	12	S10	SN	M2
312-0727	1	38	39	N12	SB	M1
312-0934	2	27	29	S06	SB	M1
312-1127	8	3	11	S11	SB	M1
312-1256	8	41	49	N08	1B	M2
312-1427	11	63	74	N13	1B	M4
312-1440	60	9	69	S07	SB	C7
312-1726	16	65	81	N08	2B	M3
313-0120	0	38	38	N10	SB	C7
313-0421	1	16	17	N11	SN	C5
313-0459	4	2	6	N12	SB	C7
313-0717	1	73	74	N10	1B	M1
313-0902	1	27	28	S07	1N	C9
313-1125	1	17	18	S15	SB	C6
313-1333	4	1	5	N08	2B	X3
313-1447	7	11	18	S09	1B	M2
313-1618	2	5	7	S08	SN	C4
313-1728	2	7	9	S10	SF	C4
313-1956	12	41	53	N21	1N	M1
313-2054	0	4	4	N09	SB	C4
314-0052	10	62	72	S18	2B	M1
314-0203	2	9	11	S13	SB	C4
314-0237	4	7	11	S10	SB	C6
314-0330	54	91	145	S15	1F	M1
314-0355	2	18	20	S19	1N	C7
314-0402	5	16	21	N11	SB	M1
314-0904	4	10	14	S09	SF	C3
314-1230	12	26	38	S18	SN	C2
314-1329	1	18	19	S11	SN	C3
314-1526	10	26	36	S18	1N	C3
314-1621	3	9	12	S14	SN	C3
314-1711	7	34	41	S11	SN	C5
314-1912	17	28	45	N08	1N	C6
314-2145	2	15	17	N07	SN	C3
315-0000	60	0	60	S11	1F	C2
315-0301	7	91	98	N10	SB	C7
315-0805	7	114	121	S12	1B	M1
315-0854	1	10	11	N10	SB	M1
315-1140	1	100	101	S11	SB	M8
315-1608	8	106	114	N15	1N	M1
315-2152	6	3	9	N09	SB	C7
315-2305	0	11	11	S10	SF	C4
316-0217	0	29	29	N10	SF	C4
316-0516	5	13	18	S12	SN	C5
316-0627	1	4	5	S13	SN	M1
316-0718	7	16	23	S12	SB	M1
316-0906	12	40	52	N10	2B	M9
316-1006	2	42	44	S11	1B	M3
316-1405	42	8	50	S12	1N	M2

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
316-1430	175	35	210	S12	1F	M2
316-1724	1	9	10	S13	1B	M1
316-1731	13	101	114	S11	2B	M4
316-1909	0	19	19	N11	SN	C8
316-1921	93	63	156	S13	1B	M3
316-2042	6	1	7	N10	1N	M1
316-2336	5	12	17	S12	1N	M1
317-0236	16	5	21	S13	1B	M1
317-0403	3	9	12	N08	SF	C7
317-0446	4	2	6	N10	2B	X2
317-0706	9	15	24	S12	1N	C8
317-1153	1	13	14	N11	SN	C4
317-1212	1	7	8	N09	SB	C7
317-1323	1	17	18	N11	SF	C3
317-1338	1	33	34	S19	SF	C3
317-1642	20	16	36	S14	1B	M1
317-1832	2	9	11	N07	SN	C6
317-2228	15	42	57	S13	1B	M3
318-0031	6	57	63	S11	1B	M9
318-1732	12	13	25	S10	SN	M1
318-1837	47	40	87	S16	2B	M4
319-0217	12	16	28	S14	2F	C6
319-0353	1	20	21	S11	1N	C9
319-0455	1	6	7	S11	SN	C6
319-0641	6	6	12	S12	1N	M2
319-1539	5	94	99	S16	2B	M2
319-1829	21	20	41	S15	1B	M2
319-2213	3	27	30	S14	SB	C8
319-2352	7	47	54	S14	1B	M6
320-0727	0	15	15	S12	SF	M1
320-1302	10	45	55	N17	1B	M2
320-1336	5	64	69	S16	SB	M1
320-1540	10	101	111	S12	1B	X1
320-1802	0	24	24	S13	SB	M1
320-2109	5	11	16	S11	1B	C8
320-2146	2	7	9	S10	1N	M1
321-0048	7	17	24	S14	1B	M2
321-0113	4	6	10	S10	1F	M1
321-0505	2	13	15	S06	SN	M1
321-0530	5	25	30	S11	2N	M3
321-0859	5	3	8	N16	2B	M8
321-1008	1	23	24	S12	SB	M1
321-1330	4	43	47	S12	SN	C8
321-1735	7	10	17	S18	1N	C4
322-0543	15	19	34	N17	1B	M1
322-0918	6	2	8	N16	SB	M1
322-1134	8	17	25	N16	SN	C4
322-1338	1	21	22	S10	SB	M5
322-1546	1	8	9	S10	SF	C3
322-1753	10	21	31	N17	SB	C4
322-2023	4	29	33	N10	SF	C4
323-0210	9	63	72	N16	SB	C6

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
323-0447	3	15	18	N12	1B	M3
323-0954	9	2	11	N17	SB	M2
323-1141	5	32	37	N14	1B	M1
323-1306	1	8	9	N09	SB	C5
324-0027	28	5	33	N17	1N	C3
324-0146	6	13	19	N09	2N	C9
324-0330	10	20	30	N12	1N	C8
324-0845	7	17	24	N16	SB	C4
324-1608	5	11	16	N11	SF	C2
324-2120	27	2	29	N14	1N	C7
325-0128	7	15	22	N13	SN	C4
325-0437	8	3	11	N13	1N	M1
325-0804	8	3	11	N13	1B	M3
325-1527	0	43	43	N15	SN	C1
325-2046	2	59	61	N15	SN	C2
326-0301	3	14	17	N14	SN	C1
326-0321	2	8	10	N1[illegible]	SN	C2
326-0620	14	2	16	N18	SB	C5
326-0744	0	21	21	N12	SB	C7
326-2100	10	6	16	N16	SN	C2
327-0102	8	20	28	N08	1F	C2
327-0533	11	46	57	S17	1B	M1
327-1529	1	5	6	N08	SN	C2
327-1657	22	35	57	N11	SN	C1
328-1314	4	14	18	N13	SN	C2
328-1729	1	28	29	S11	SF	C/
328-1752	3	162	165	N11	1B	C2
328-1842	3	45	48	N13	SF	M2
328-2153	3	39	42	N12	SB	C7
329-0402	10	30	40	S07	1N	C5
329-0704	6	12	18	N11	SF	C2
330-0445	1	6	7	N15	1N	C2
330-1713	0	30	30	N08	SN	C3
330-2036	4	51	55	S12	1B	C5
330-2103	7	18	25	N14	1N	C5
331-0756	7	2	9	N09	SB	C4
331-1846	3	9	12	N09	SN	C3
331-1925	38	19	57	N23	SB	C1
332-2053	1	17	18	N18	SB	C2
333-0537	5	3	8	S11	1N	C3
333-2256	16	12	28	N24	SN	C2
334-0057	2	18	20	S10	SN	C3
334-1439	2	4	6	S10	SN	C1
334-2348	1	15	16	N25	SF	C3
335-0109	8	2	10	S06	1N	C2
335-1236	7	3	10	N20	SB	C3
335-1435	1	10	11	S11	SN	C1
DEC.						
336-0011	2	16	18	S12	SN	C3
336-0314	10	25	35	N24	SF	C1
336-0421	1	23	24	N21	SN	C2
336-0451	8	25	33	S08	SN	C3

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
336-0600	6	25	31	N12	SN	C2
336-0626	1	28	29	S11	SB	C4
336-1255	8	15	23	S11	SF	C1
336-1802	4	48	52	S13	SN	C3
336-1924	7	27	34	S11	SB	C4
337-0335	3	20	23	N25	SF	C1
337-0424	1	14	15	N25	SN	C1
337-0536	52	3	55	S13	1B	M1
337-0736	3	6	9	N16	SB	C7
337-0806	10	7	17	N16	SN	C2
337-1120	3	49	52	S11	SB	M7
337-1825	95	36	131	S12	SN	C3
337 2008	7	23	30	S09	SF	C4
338-0000	6	35	41	S11	1B	C7
338-0133	5	20	25	S11	SB	C2
338-1454	3	10	13	N22	SF	C2
338-1910	2	25	27	S12	SN	C2
338-2138	2	21	23	N23	SN	C1
338-2242	14	13	27	N22	SF	C2
339-0117	1	16	17	S11	SN	C2
339-1852	11	43	54	S12	SN	C2
340-0154	7	14	21	S13	SN	C2
340-0443	2	2	4	S11	1N	C2
340-0614	4	35	39	S14	SN	C1
341-0007	3	14	17	S11	SN	C1
342-0139	3	34	37	N15	1N	C3
342-0340	5	11	16	N15	SF	C2
342-0532	8	47	55	N14	1B	M1
343-0709	9	27	36	N14	SN	C3
343-1914	90	47	137	N15	SN	C3
343-2126	2	14	16	S06	SN	C1
344-0309	20	41	61	S07	SN	C1
344-1533	4	2	6	S17	SN	C2
344-1544	11	51	62	N17	SN	C3
344-1708	51	38	89	N17	SN	C1
344-2142	4	18	22	N17	SN	C2
345-0312	1	8	9	N16	SB	C3
345-0536	9	45	54	N15	SN	C2
345-1306	3	42	45	S05	1N	C3
345-1723	4	45	49	S07	SN	C2
346-0005	15	26	41	N15	SN	C7
346-0807	2	5	7	N14	SB	C4
346-1431	22	6	28	N15	SF	C2
346-1531	1	60	61	N14	SN	C5
346-1553	0	11	11	S09	SF	C6
346-1720	7	11	18	N13	SN	C3
346-1910	0	13	13	N13	SN	C4
346-1915	8	13	21	N05	SF	M1
346-2222	3	20	23	N15	SB	M1
346-2304	9	11	20	N06	SF	M1
347-0017	4	46	50	N05	1N	M4
347-0349	4	16	20	N05	SF	C6

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
347-0500	2	24	26	N06	1B	M4
347-0600	10	20	30	N15	SF	C3
347-0754	4	23	27	S35	SN	C3
347-0833	7	5	12	N04	SF	C6
347-1540	3	17	20	N03	SB	M1
347-1548	7	15	22	N14	1N	M1
347-1616	4	17	21	N17	SF	C7
347-1654	9	72	81	N13	1B	M2
347-2107	6	18	24	N13	SB	M1
348-0129	6	16	22	N11	SN	C3
348-0433	10	36	46	N15	1N	C9
348-0919	3	7	10	N07	SN	C9
348-2339	6	16	22	N04	SN	C4
349-0221	4	13	17	N09	1N	C3
349-0304	2	20	22	N16	SB	M1
349-0904	4	10	14	N18	SN	C4
349-0944	5	27	32	N06	SB	C6
349-1311	4	11	15	N05	SN	C4
349-1404	6	11	17	N15	1N	C4
349-1505	3	12	15	N20	1N	C5
349-1611	6	21	27	N15	SN	C6
349-1735	17	36	53	N05	1B	M1
349-1932	2	10	12	N06	SB	C3
349-2203	35	33	68	N10	SB	C9
350-0005	3	16	19	N18	SN	C4
350-1828	12	106	118	N15	1N	M1
350-1920	7	25	32	N11	2B	M5
351-0059	3	26	29	N05	SB	C5
351-0145	2	7	9	N08	1B	M1
351-0432	3	5	8	N08	SN	C4
351-0805	4	4	8	N09	1B	M2
351-0909	3	9	12	N06	SB	C5
351-0942	30	11	41	N06	2B	M4
351-1149	5	42	47	N12	2B	M5
351-1427	27	22	49	N09	1B	M4
351-1432	5	12	17	S17	SB	M1
351-1919	3	27	30	N13	SB	C6
351-2024	0	12	12	N08	SN	C6
352-0844	3	8	11	N10	SB	C7
352-1206	3	61	64	N10	2B	M4
352-1634	2	34	36	N15	SN	C3
352-1822	8	22	30	S18	SN	M1
353-0124	3	11	14	N11	1F	C2
353-0140	4	31	35	N07	1B	M2
353-0228	3	11	14	S06	1N	C2
353-1908	14	17	31	N07	SN	C5
353-2229	1	8	9	N16	SF	C2
354-0105	2	10	12	N12	SF	C2
354-0232	5	13	18	S06	1B	C5
354-0439	6	3	9	N15	SF	C3
354-2012	2	43	45	N05	1N	C5
355-0009	2	19	21	N15	SN	C2

*Time in minutes

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
355-0227	1	7	8	N16	SN	C2
355-0517	1	9	10	N16	SN	C2
355-0729	0	14	14	N03	SF	C2
355-1637	1	18	19	N16	SN	C3
355-1701	5	24	29	S18	1B	C4
356-0400	2	16	18	S19	SB	C3
356-1343	6	30	36	S[illegible]	SF	C2
357-1258	8	20	28	N11	SN	C3
358-0050	8	35	43	N13	2N	C7
358-0632	12	30	42	N13	1N	C3
359-0251	4	12	16	S10	SN	C3
359-1244	4	26	30	S09	SB	C3
359-1542	1	25	26	S11	SF	C2
360-0225	16	20	36	S11	1N	C7
360-0716	2	9	11	S08	SB	C3
360-1354	5	23	28	S22	1B	C2
361-0624	1	8	9	S25	SN	C2
362-0543	5	16	21	S20	1N	C2
362-1804	6	53	59	S10	SN	C2
363-1905	3	21	24	S22	SB	M1
363-2122	15	12	27	S22	SB	C3
363-2306	6	5	11	S24	SN	C2
363-2342	0	55	55	S23	SB	C5
363-2348	14	32	46	S08	SB	C6
364-0150	6	3	9	S21	SF	C3
364-0323	3	18	21	S24	SN	C3
364-0422	4	15	19	S23	1B	C5
364-0600	0	16	16	S22	SF	C3
364-0722	4	7	11	S24	SN	C3
364-0851	6	27	33	S23	SB	C5
364-1238	39	1	40	S22	2B	M2
364-1423	10	44	54	S23	SN	M1
364-1617	2	7	9	S22	SB	C7
364-2029	4	1	5	S24	SB	C2
365-0724	2	3	5	S08	SB	C2
366-0602	1	59	60	N25	SF	C2
366-0816	5	20	25	N13	SN	C1

*Time in minutes

ADDENDUM

FLARE	RISE-TIME*	DECAY-TIME*	DURATION*	LATITUDE	IMPORTANCE	X-RAY CLASS
193-1052	3	23	26	S25	SB	C5
193-1150	16	16	32	S10	SN	C4
193-1238	20	32	52	S10	1B	C8
193-1513	1	17	18	S10	SB	C4
193-1639	5	31	36	S10	1B	M3
193-1851	8	29	37	S10	2B	X1
193-2138	39	56	95	S08	2B	M5
193-2318	3	12	15	S10	SB	C9
194-0215	8	17	25	S10	SB	M1
194-1059	4	40	44	N17	1B	M1
194-1110	2	49	51	S14	SB	M4
194-1338	7	1	8	S10	SB	M1
194-1400	2	13	15	S10	SN	M1
194-1541	2	22	24	S10	1B	M3
194-1721	15	42	57	S09	1B	C7
194-1823	1	18	19	S12	SB	M2
194-1923	10	20	30	S12	SN	C5
194-2044	0	7	7	S10	SN	C3
195-0603	0	9	9	S15	SF	C5
195-1431	7	4	11	S12	SN	C6
195-1451	31	1	32	S09	SB	C6
195-1634	0	13	13	S10	SN	C2
195-1718	0	51	51	S10	SB	M2
195-1753	11	10	21	S09	SB	C6
195-1914	7	56	63	S13	SB	C9

*Time in minutes

APPROVAL

STATISTICAL ASPECTS OF THE 1980 SOLAR FLARES – I. DATA BASE, FREQUENCY DISTRIBUTIONS, AND OVERVIEW REMARKS

By Robert M. Wilson

The information in this report has been reviewed for technical content. Review of any information concerning Department of Defense or nuclear energy activities or programs has been made by the MSFC Security Classification Officer. This report, in its entirety, has been determined to be unclassified.

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