

Catalogue of solar prominences 1987 - 1993

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Abstract. The method of characterizing solar prominences used in the catalogue, based on the Lomnický Peak coronal station observations over the period 1967-1986 is described. In future the data will not be published in the previous form, however, all data will be available on PC diskettes from the authors.

Key words: the Sun – solar prominences

1. Observations and results

Standard prominence photographic observations (around the entire solar limb once a day were introduced at the Lomnický Peak coronal station in 1967. Originally, this type of observation was made for the purpose of "Solnechnyje dannye". The heliographic position, height, brightness (relative) and area were derived for each prominence by drawing from the photographic negative. These data were published in the above journal in a graphical form together with the brightness data.

Later, after a large amount of observational material had been collected, we decided to publish the data in the form of a catalogue (Rušin et al. 1986). The catalogue has the form shown the Table 1:

Table 1. A sample of the catalogue

1	2	3	4	5	6	7	8	9	10	11
...
2151	69	6	19.21	1549	241	+22 E	2	20	3	30
2152	69	6	19.21	1549	241	+05 E	1	40	1	30
2153	69	6	19.21	1549	241	-06 E	3	30	1	50
...

The first column gives the number of the prominence (running from the beginning of observation); the second, third and fourth columns give the time of the observation (year, month, day and decimal fraction thereof); the fifth column

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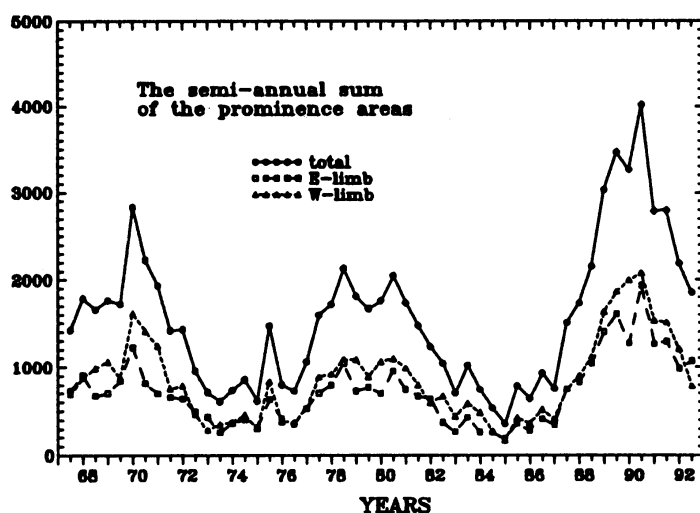


Figure 1. Semi-annual sum of the prominence areas corrected for number of observational days

gives the number of Carringtons rotation; the sixth column the Carrington heliographic longitude of the prominence; the seventh column the heliographic latitude of the prominence center for the given limb (E or W); the eighth column the width of the prominence in degrees (at the solar limb); the prominence height (in arcsec) above the solar limb is given in the ninth column; the tenth column gives the estimated brightness of the prominence on a three-grade scale (the estimation is made during the observation); the eleventh column gives the prominence area. The unit is 1 degree in positional angle times 1 arcsec in height (this value can easily be transformed into standard units, e.g. millionths of the solar surface area, using factor 0.173).

The data for the period 1967-1986 are given in the catalogue mentioned. Since 1987, such data are available on authors' PC diskettes. We would like to remind the reader that data published earlier are also available on the diskettes.

The data can be used, e.g., to study the distribution of prominences over a solar activity cycle according to different criteria. For example, Figure 1 shows the total prominence area over the entire period of our observations derived from semi-annual averages. The data are corrected for the number of observation days.

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References

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