

AN IMPROVED PREDICTION FOR THE SOLAR CYCLE 24

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Using a combined method, the strength and epochs for the next 24th solar cycle are predicted. This method consists of three parts: (1) the calculation of the asymmetry of the duration of the ascending and descending solar cycle parts, (2) the correlation of the relative sunspot numbers in and around solar activity minima and the following activity maxima and (3) the method of the autoregressive moving average model (ARMA) applied to the relative sunspot number data measured up to now. Our data sets comprise yearly, corrected yearly, monthly and smoothed monthly relative sunspot number values. A cross correlation analysis with different time lags in the activity minimum for the method (2) is performed. With these combined procedures we estimate a lower amplitude of the next solar maximum in comparison to the previous one.

Sun, activity

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