Recurrent Surge Activity from Active Region NOAA 6368

Wahab Uddin, V. K. Verma & M. C. Pande
Uttar Pradesh State Observatory, Naini Tal 263 129, India.

We report here a study of 8 solar surges observed in Hα emissions on the west solar limb in active region (AR) NOAA 6368 on 26, 27 and 28 November 1990. Three surges were observed on 26 November of durations 35, 86 and 40 min at time intervals of 20 and 25 min respectively for successive events. Two solar surges of durations 56 and 101 min on 27 November at an interval of 10 min in same AR. Three surges were also observed on 28 November of durations 25, 138 and 95 mins at time intervals of 10 and 20 min respectively for successive events. Using photographic observations, we have studied the morphological behaviour and estimated the height, mass, radial velocity and mechanical energies associated with the 8 surges. The X-ray and radio data observed during the surges are also included in the study. The various parameters estimated from the observed data are discussed in the light of solar surge theories.

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Mass Transfer and Surge Activity of 14 May 1993

V. K. Verma & Wahab Uddin
Uttar Pradesh State Observatory, Manora Peak, Naini Tal 263 129, India.

An analysis of the mass transfer from the quiescent prominence to nearby active center and two solar surges observed in H-alpha emissions during 01:30–05:00 UT (14 May 1993) are presented here. The mass transfer from the quiescent prominence to the nearby active center X took place with an average velocity of 134 km/s for 55 min during. During this period, the prominence lost its 75% mass which transferred to the nearby active center X. The two surges ejected from the active center Y which is about 5 arcmin distance from the active center X. The two surges attain maximum heights/velocity $37 \times 10^3$ km/160 km/s and $77 \times 10^3$ km/300 km/s, respectively. In the paper we have also estimated height, mass, mechanical energy and magnetic field associated with all surges. The parameters obtained for the mass transfer from prominence and two surges are discussed in the light of existing theories.

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On the Periodicity of Solar Wind Phenomena

V. K. Verma & G. C. Joshi
Uttar Pradesh State Observatory, Manora Peak, Naini Tal 263 129, India.

We have investigated the rate of occurrence of solar wind phenomena observed between 1972–1984 using power spectrum analysis. The data have been taken from the

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