

ANALYTICAL STUDIES OF SOHO HALLOWEEN STORMS DATA

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Energetic and eruptive activities have occurred during the period 19 October - 10 November, 2003 (so-called Halloween storms). Again these storms appeared one year later, during the period 3- October - 13 November, 2004. It is considered a second peak during the decline phase of cycle 23. There were two eruptive solar proton flares which were released on 26 and 28 October 2003, where the last one was the most eruptive flare recorded since 1976 with importance X17/4B. The aim of this study is to follow the morphological and magnetic changes of the active region before, during and after the high energetic flares were produced. Also, applying the cumulative summation curves method for the different indices of the active region and geomagnetic indices by using data measurements by SOHO. The results are promising and can be used for proton flares and Geomagnetic Storms prediction, few days before their occurrence. The reasons of release of these Eruptive Storms (so called Halloween storms), has been also discussed, and during the decline phase of cycle23.