

GOES X-class flares on NOAA10486 and 10488

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From 28 October to 3 November 2003, five X-class flares and twelve M-class flares occurred. Most of the flares were produced on NOAA10488 and NOAA10486. NOAA10488 was in the north-hemisphere and NOAA10486 is was in the south-hemisphere. The longitudes of the active regions are similar.

The all five X-class flares during the period show the formation of X-ray and EUV arcade loops, clearly. And, the three X-class flares at NOAA10486 associate with the prominence eruptions. SOHO/LASCO reported the coronal mass ejections that may be produced by the five X-class flares. Hence, we think that these X-class flares produce the disturbances in the inter-planetary space. However, the flares that produced the storms in the magnetosphere of the earth occurred at only NOAA10486, in consideration of the timing between the flares and the storms. Although the X-class flares in NOAA10486 is larger than that in NOAA10488, it is very interesting that the flares in NOAA10488 did not produce the storm. We check the CME catalog made by Yashiro et al. from the point of view. At the result, we found that the three CMEs produced by the X-class flares in NOAA10486 are HALO-CME, and the two CMEs produced by the X-class flares in NOAA10488 are narrow CMEs.

In the paper, we introduce the five X-class flares using X-ray, EUV, radio and coronagraph observations, and show the differences of the flares.