

Project Details

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Program Element: Solar Dynamics Observatory

Project Title:

A Study on Flaring and Coronal Mass Ejection Activities at High Solar Latitudes using SDO Data

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Summary:

We propose to examine the flare and coronal mass ejection (CME) signatures of the polar crown prominence eruptions to test the hypothesis that the high latitude CMEs are similar to the low-latitude ones. In particular, we look for CME acceleration similar to the flare acceleration. The filter ratio method will be applied to the SDO/AIA images at 94 and 171 Å to obtain the temperature evolution of post-eruption arcades. SDO and STEREO images will be combined to obtain CME kinematics.

The proposed work is important for a unified understanding of CMEs: they are all magnetically propelled from destabilized closed field regions. The proposed work also will clarify that the polar CMEs are not simple magnetic loop expansions, but are true eruptions like the low-latitude counterparts.

This proposal is submitted under "A Special Initiative: Science Analysis for the Solar Dynamics Observatory (SDO)"

Publication References:

no references