



Contribution ID: 485

Type: Poster

Origin and Evolution of the 2021 May 7 Solar Eruption

Monday, 6 September 2021 11:24 (13 minutes)

Coronal Mass Ejections (CMEs) are large-scale eruptions expanding all the way from the low corona into the interplanetary space. Despite CMEs are spectacular events and attract wide interest among scientists and general public, these phenomena can seriously impact the Earth and potentially damage human facilities. CMEs have been studied quite extensively since their discovery, however different aspects governing this type of event still need to be understood.

From this perspective, the GOES M3.9 flare occurred on 2021 May 7 provides us with the unique set of observations to study the origin and the dynamics of its related fast CME and EUV wave. While the STIX instrument (Spectrometer/Telescope for Imaging X-rays), the Hard X-Ray (HXR) telescope onboard Solar Orbiter, allows us to investigate the flare and correlate the flare-accelerated electrons with the eruption, the combined near simultaneous observations from three different locations in the heliosphere, from Solar Orbiter, STEREO A and Earth, give us also the opportunity to disentangle the morphology of the CME, track the origin and evolution of the eruption, and deduce the kinematics of both the CME and the associated EUV wave.

Student poster?

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Session Classification: Poster Session 1.5

Track Classification: Session 4 - From Radio to Gamma Rays: Near-Sun Manifestations and Triggering of Solar Flares and Coronal Mass Ejections