

Contribution ID: 475

Type: Poster

The eruption on 22 April 2021 as observed by Solar Orbiter, STEREO and Earth bound instruments

Wednesday, 8 September 2021 11:26 (13 minutes)

The Extreme Ultraviolet Imager (EUI) onboard Solar Orbiter (SolO) observed an eruption with its Full Sun Imager (FSI) in both of its channels (17.4/30.4 nm), on 2021-April-22. At the time, the spacecraft was at 0.87 au from the Sun. The eruption was seen at the SW limb, starting at 04:24 UT, with the source slightly backside as seen from SolO (S20W103). From the Earth's perspective, SDO/AIA and PROBA2/SWAP observed a wave and dimmings starting around 04:07 UT, on-disk at ~S20W05. STEREO-A/EUVI saw similar signatures of an eruption starting around 04:17 UT, on-disk at ~S20W50.

The corresponding CME was visible shortly after in several coronagraphs. SOHO/LASCO-C2 observed a full halo CME starting around 06:00 UT. STEREO-A/COR2 recorded a clear structured CME seen from around 05:23 UT. SolO Metis data will be analysed as it becomes available.

SolO/STIX observed the associated X-ray flare, which was partially occulted. This allows the characterization of both the thermal plasma and any potential contribution of nonthermal electrons in the tenuous coronal source. The X-ray source location will be compared to the EUV coronal structures. The full-Sun radiometer PROBA2/LYRA also observed the event with the two SXR channels.

The corresponding ICME arrived at the Earth on 2021-April-24-25 (probably also at STEREO-A), it was driving a shock and created minor geomagnetic storm conditions. STEREO-A/SEPT and ACE/EPAM observed a weak particle event most likely related to this eruption. We will analyse in depth these CME-ICME connections.

Primary authors: RODRIGUEZ, Luciano (Royal Observatory of Belgium); Dr MIERLA, Marilena (Royal Observatory of Belgium); BERGHMANS, David (Royal Observatory of Belgium); Dr ZHUKOV, Andrei (Royal Observatory of Belgium); VERBEECK, Cis (Royal Observatory of Belgium); D'HUYS, Elke (Royal Observatory of Belgium); MAGDALENIC, Jasmina (Royal Observatory of Belgium); DOMINIQUE, Marie (Royal Observatory of Belgium); AUCHÈRE, Frédéric (Institut d'Astrophysique Spatiale); MAHARANA, Anwesha (PhD student); NIEMELA, Antonio Esteban (KU Leuven); MUSSET, Sophie (ESA/ESTEC); SCHULLER, Frederic (Leibniz Institut für Astrophysik Potsdam); Dr WARMUTH, Alexander; Dr GOMEZ-HERRERO, Raul (Universidad de Alcalá, Space Research Group, 28805 Alcalá de Henares, Spain); Dr ARAN, Angels (Departament de Física Quàntica i Astrofísica, Institut de Ciències del Cosmos (ICCUB), Universitat de Barcelona (UB-IEEC), Barcelona, Spain); ANDRETTA, Vincenzo (Istituto Nazionale di Astrofísica (INAF)); Dr BEMPORAD, Alessandro (Istituto Nazionale di Astrofísica (INAF)); Dr SUSINO, Roberto (Istituto Nazionale di Astrofísica (INAF)); LANDINI, Federico (Istituto Nazionale di Astrofísica (INAF)); Dr PODLADCHIKOVA, Elena (PMOD); Dr KRUPAR, Vratislav (Goddard Planetary Heliophysics Institute, University of Maryland, Baltimore County, Baltimore, MD 21250, USA)

Presenter: RODRIGUEZ, Luciano (Royal Observatory of Belgium)

Session Classification: Poster Session 6.5

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