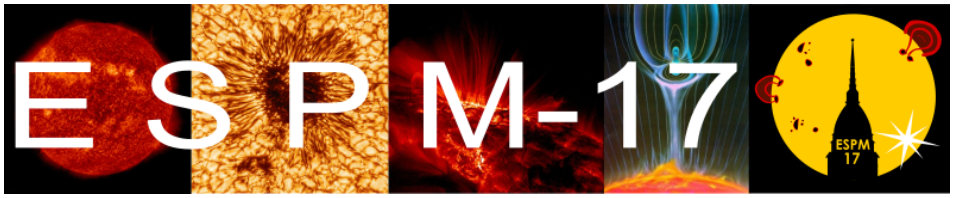

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3D recostruction of a CME with polarimetric technique

On October 3, 2023, around 12:45 UT, a prominence erupted from the active region located at 18°N, 20°W, as observed by the Full Sun Imager/Extreme Ultraviolet Imager (FSI/EUI) on board the Solar Orbiter. This eruption was followed by a partial halo coronal mass ejection (CME) and a CME-driven shock, confirmed by the detection of a Type II radio burst by . In order to estimate the CME plasma electron density and to infer the 3D structure of the CME by using a single point of view, we applied the polarization-ratio technique to the Metis white light data (polarized and total brightness). Additional constraints to the 3D reconstruction were provided by observations from other LASCO-C2 on SOHO and COR1 and COR2 on STEREO-A. By using UV data from Metis and considering the radiative and/or collisional excitation, also the CME electron temperature can be estimated. This work thus provides new information on the thermodynamic evolution of CMEs in the inner corona

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