

Emilia

Kilpua

University of Helsinki, Finland

"E. Kilpua¹, S. Pall¹, S. Good¹, M. Ala-Lahti¹, B. Lynch², A. Osmane¹, E. Palmerio², J. Räsänen¹, L.-L. Zhao³, S. Bale², and M. Stevens⁵

¹University of Helsinki, Finland

²University of California, Berkeley, California, US

³University of Alabama, Huntsville, US

⁴Smithsonian Astrophysical Observatory, Cambridge, Massachusetts, US"

Oral

This presentation discusses two interplanetary CMEs (ICMEs) that were observed by PSP when it was at the heliospheric distance ~ 0.5 au from the Sun. The first event occurred on 15-16 March 2019 and the second 25-26 June, 2020. Both ICMEs were related to slow streamer blow-out CMEs, but they interacted in an interesting manner with their surroundings. The March 2019 CME was preceded by a pair of relatively weak shocks and a prominent sheath region. We discuss the formation of magnetic field fluctuations in the sheath and their connection to upstream solar wind structures. The June 2020 CME did not drive a shock, but it nevertheless disturbed the solar wind and heliospheric current sheet/plasma sheet structure ahead, warping it and deflecting the preceding interplanetary field. This interaction also significantly eroded the magnetic flux from the ICME flux rope.

Presentation file

[kilpua-presentation.pdf](#)

YouTube link

<https://youtu.be/jND4Djjl7tM?t=311>

[Download to PDF](#)