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Poster
A large full halo coronal mass ejection (CME) erupted early on 23 March 2024 and impacted Solar Orbiter at 0.38 au followed by Wind and STEREO-A simultaneously. All three spacecraft observed an ideal magnetic cloud flux rope with clear magnetic field rotation and expansion. However, reconstruction of this CME with remote sensing and in situ data with the Heliospheric conneXions of observations for Coronal mass ejections (HeXCor) model demonstrated that the orientation of its flux rope was significantly more tilted at Wind than at STEREO-A (and Solar Orbiter) despite being longitudinally separated by only 9°. Investigation of the source region with extreme ultraviolet images from the Solar Dynamics Observatory (SDO) did not show a bent structure at the time of the eruption. The WSA+GAMERA solar wind model was used to simulate the solar wind that preceded CME as it propagated. A stream of high magnetic pressure on the eastern flank of the CME was identified as a possible cause of the inhomogeneous orientation of its flux rope.
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