SoloHI: Multi-viewpoint Catalog from the Sun to 1AU

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The Solar Orbiter mission, launched in February 2020, presents the perfect combination of remote sensing and in situ instruments that will allow us to understand the composition of the solar wind and study its source on the solar surface at the same time. The mission is predicted to reach a minimum perihelion of 0.28 AU with an inclination angle of at least 30 degrees above the orbital plane. Among the six remote sensing instruments on board the Solar Orbiter mission, the Solar Orbiter Heliospheric Imager (SoloHI) studies the inner heliosphere by observing photospheric visible light scattered by electrons in the solar wind. SoloHI, developed and operated by the U.S. Naval Research Laboratory (NRL), appears to be a great complement to previous heliospheric imagers at 1 AU.

In this work, we describe SoloHI events observed during the first remote sensing windows with a multi-viewpoint perspective. We list the primary details of the CME and we present the in situ data and remote sensing observations detected by other missions for each event listed. We also describe, when possible, the source characteristics (location, active region and link to available magnetograms) and perform a 3D reconstruction of the event with the Graduated cylindrical shell CME model.