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DOUBLE PROMINENCE ERUPTION OBSERVED BY SOLAR ORBITER AND PSP

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A pair of off-limb eruptions was observed by the Extreme Ultraviolet Imager (EUI) onboard Solar Orbiter (SolO) on 2021 April 23/24. At the time, the spacecraft was at 0.87 AU from the Sun. As seen from Earth, SolO was roughly near the Sun's east limb (as seen from the Earth) and in quadrature with Parker Solar Probe (PSP), which was at the Sun's far side. The eruptions are remarkably well observed in the Full Sun Imager (FSI) in both its EUI/FSI174 and EUI/FSI304 channels. The first eruption starts as a slowly growing prominence eruption culminating in an apparent untwisting and ejection from April 23 22:25 UTC onwards. This eruption is immediately followed by a yet more spectacular and faster eruption from the same source region less than 4 hours later. The absence of any corresponding signature in Earth-bound datasets confirms this eruption pair is back-sided from the Earth. STEREO-A COR2 observations confirm that the prominence eruptions observed by EUI/FSI correspond to a complicated interaction of 2-3 coronal mass ejections. In this paper we will use the favourable quadrature orientation of SolO and PSP to link SolO's extreme ultraviolet and coronagraphic observations with PSP's off-limb and in-situ observations. We will highlight the lessons learned for upcoming PSP and Solar Orbiter quadratures such as in February 2022.

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