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Title	A prominence eruption from the Sun to the Parker Solar Probe with multi-spacecraft observations
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WISPR-O

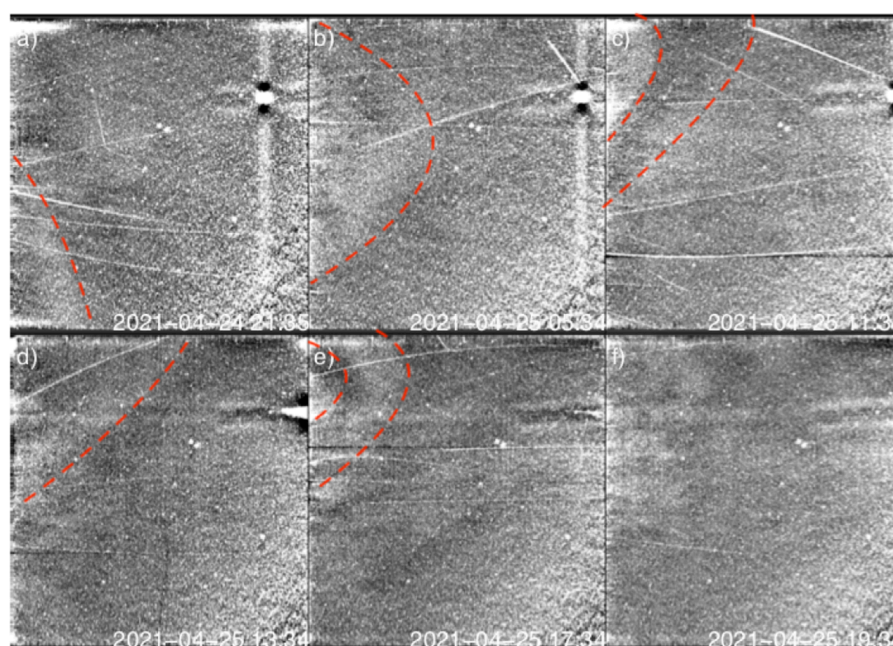


FIGURE 11

A series of snapshots from the WISPR-O detector. These are the WISPR background subtracted level-3 images, with an additional median subtraction to remove the stable streamer in the raw images. The Sun and WISPR-I are to the left of the field of view. In panel (A), there is a feature in the southern part of the image corresponding to the initial eruption in Figure 7A. The CME front is first visible in panel (B). Subsequent fronts can be seen in panels (C–F). The rough outline of some of these features is identified with the dashed red line to aid in guiding the eye.

arrays are angled toward the Sun and more stray light is visible on the detector, causing much of the inner 2° of the field of view to saturate.

Despite the observational limitations, a number of transient structures were observed by SoloHI, as seen in Figure 9. The snapshots were processed with a wavelet technique to remove the F-corona and cropped to a 15° field of view to highlight the transients and reduce the amount of visible stray light. The black line is a remnant of the cross-pattern discussed in Section 2. Between 2021 April 24 and 26, the PSP is located within the SoloHI field of view. Though the spacecraft is far too small to actually be observed, its location has been labeled in orange in each frame of Figure 9.

The first visible signal in SoloHI is seen well within the field of view by 2021 April 24, 14:00 UT (Figure 9B). Because the entire SoloHI field of view is beyond the COR2 field of view (see Table 1), and based on the timing of the associated structure in COR2 (Figures 7C–E), it is highly unlikely that this initial SoloHI structure is directly related to the prominence. Given its presence to the south of the equatorial plane, it is likely related to the initial loop/blob structures seen in COR2 (Figure 7A).

Closer to the equatorial plane, a second eruption was visible in the SoloHI field of view around 2021 April 24 at 21:00 UT. The structure correlates in terms of time, location, and size with the CME seen in COR2 (at 08:00 UT). Because of the low cadence, and high noise, the low CME density does not remain clearly visible for long or throughout much of the SoloHI field of view.

Later, on 2021 April 25 and into the 26th (Figures 9E, F), some diffuse structures can still be seen, which may or may not be related to the later outflows seen in COR2 (Figure 7F).

WISPR has been used to observe and track CMEs since the first encounter of the mission (Hess et al., 2020; Wood et al., 2020; Braga et al., 2022; Howard et al., 2022) and has also been observed to fly through the heliospheric current sheet. However, the first seven encounters contained no obvious candidate CME in the imaging data that could be directly linked to an *in situ* crossing at the spacecraft.

After receiving the data following the 8th perihelion of Parker Solar Probe, a new feature that had not been observed previously was identified in the data between 2021 April 24 and 25. A series of successive out-flowing loop-like structures could be seen in the data. These structures are shown in both telescopes, WISPR-I and WISPR-O, in Figures 10 and 11, using the level-3 calibrated images with F-corona removed (Hess et al., 2021; Howard et al., 2022). To highlight the transients, a median of the signal in both detectors has been subtracted from the images reducing the contribution from the stable streamer structure.

In Figure 10A, we observed a transient to the south, similar to the structures seen in Figures 7A–C and 9. The second eruption related to the flux-rope is first visible in Figure 10C, which is approximately two hours before the PSP *in situ* observations shown in Figure 3. Within four hours, a large loop structure was observed consuming most of the WISPR-I field of view. This is followed by