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Oral
(Invited Talk)
A multi-spacecraft study of solar energetic particle (SEP) events based on in-situ data by Parker Solar Probe's Integrated Science Investigation of the Sun (IS?IS), and also by STEREO and ACE. All spacecraft measuring these SEP events were oriented near-perfectly along the same nominal Parker spiral magnetic field line which connected them to the solar source for ambient solar wind speeds.

By utilizing remote observations from GOES, SDO, and SOHO, we first characterized the magnetic configuration of the local active region, estimated low coronal temperature, and discussed the role of confined prominence eruptions as a key particle injection source for the SEP event on 17 July 2023. On this date, active region 13363, near the southwestern face of the Sun, was undergoing considerable evolution which resulted in a significant SEP event. Remote observations captured two M5.0+ solar flares that peaked at 23:34 and 00:06 UT from the source region. In tandem, LASCO C2 first recorded a small coronal mass ejection emerging at 22:54 UT which was visually constrained to the local region and then saw a large halo CME emerge at 23:43 UT with a bright, rapidly expanding core and CME-driven shock speed estimated at 1300 km/s.

The notable result from this multi-spacecraft alignment is that SEP fluence appears qualitatively similar at different radial distances, but heavy ions, such as O and Fe, are depleted in comparison to lighter ions during transport, suggesting a charge-to-mass dependence.
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