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Oral

(Contributed Talk)

The Sun Coronal Eruption Tracker (SunCET) CubeSat and PUNCH missions are poised to revolutionize our understanding of solar and heliospheric physics through their complementary observations. SunCET focuses on detailed, moderate-resolution observations of the Sun's lower corona, capturing the initiation and early development of solar eruptions, including coronal mass ejections (CMEs). SunCET images the corona in a broad EUV passband covering temperatures from  $\sim 0.8$ – $2$  MK, from the disk out to  $5.6 R_{\text{sun}}$  equatorially, with high-dynamic range observations over a wide aspect ratio field of view. This mission has the unique capability to trace the life cycle of CMEs from their genesis provides critical insights into the mechanisms driving their acceleration. Conversely, PUNCH is designed to observe the solar corona and heliosphere at larger scales, emphasizing the structure and evolution of the solar wind and impulsive structures embedded within it as it extends into space. The Narrow Field Imager (NFI) will image the corona between  $5.4$ – $32 R_{\text{sun}}$ . Together, these missions offer the potential for a synergistic approach to solar observations, especially in light of their overlapping fields of view and science objectives. SunCET's detailed eruption data will enhance our understanding of the sources of solar wind structures that PUNCH observes at larger scales. A collaboration between SunCET and PUNCH will bridge the observational gap between the inner solar corona and the heliosphere, enabling a comprehensive understanding of how solar wind structures propagate and evolve from the Sun into interplanetary space.

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