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Poster
Timely and accurate prediction of coronal mass ejections (CMEs) is vital for mitigating the potential impact of severe space weather events on critical infrastructures. Currently, manual detection and tracking of CMEs as they traverse the heliosphere are the norm. This presentation introduces an innovative approach: the development and implementation of a machine learning algorithm for automatic detection and tracking of CMEs, leveraging data from various heliospheric imager (HI) instruments. The variety of active spacecraft equipped with HI instruments provides a unique opportunity to train the algorithm using diverse datasets.

This work gains significance in light of the upcoming launch of PUNCH, which will provide continuous observations of the Sun out to 180 RS. Our presentation showcases preliminary outcomes from an automated CME detection and tracking algorithm, demonstrating its effectiveness with training on STEREO-HI data. We also discuss potential future steps and challenges in the development and testing of this algorithm, emphasizing its role in advancing operational space weather prediction capabilities.
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