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Poster

Robust prediction of Solar Energetic Particle (SEP) events is among the key priorities of the space weather community. In the framework of NASA's Early Stage Innovation Program, we develop the Solar Energetic Particle Prediction Portal (SEP3 https://sun.njit.edu/SEP3), which hosts web applications that allow the users to retrieve the database records. In particular, SEP3 lists the API examples to query each data source potentially important for the SEP prediction. The Portal has a search page for browsing the events from the most widely used catalogs (https://sun.njit.edu/SEP3/search.php) and a dedicated space to share the most recent achievements of the team. In addition, we have added a CDAW SEP catalog and a LASCO/SOHO CME catalog and introduced the possibility of displaying the properties of the connected events (parental solar flares and CMEs for SEPs) on the search page. The interactive widget has the capability to display GOES soft X-ray and proton flux time series from different satellites with the GOES flare records on top of them. The data portal has been used to evaluate the forecasts of the solar proton events based on the statistical properties of the GOES soft X-ray and proton fluxes and investigate machine-learning approaches to the SEP prediction.
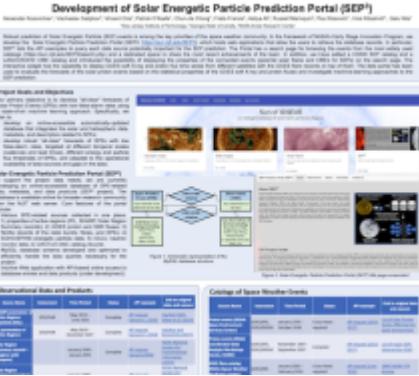
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