

## Properties of Forbush decreases of electrons and positrons revealed by the Dark Matter Particle Explorer

The Forbush Decrease (FD) is a rapid decline in the observed intensity of galactic cosmic rays following intense solar activity, such as a coronal mass ejection (CME). This phenomenon occurs due to fast solar wind sweeping away cosmic rays propagating in the space near the Earth. The Dark Matter Particle Explorer (DAMPE) is a satellite-based cosmic ray experiment with high precision in detecting electrons and positrons, providing a unique opportunity to study electron and positron FDs, which have been rarely studied before. In this contribution, we present the results of a study on the properties of electron and positron FDs from 2016 to 2023. WSA-Enlil is a large-scale, physics-based model that predicts solar wind structures and Earth-directed CMEs. Our study offers new insights into the relationship between FD recovery time and observed CME data, as well as the WSA-Enlil simulations.

**Primary authors:** LI, wenhao (purple mountain observatory); ZANG, jingjing (CMS/AMS); YUAN, Qiang (Purple Mountain Observatory); Dr YUE, Chuan (Purple Mountain Observatory)

**Presenter:** LI, wenhao (purple mountain observatory)

**Track Classification:** 中微子物理、粒子天体物理与宇宙学