

Relationship between high-L energetic electrons and the Earth's high-latitude disturbances

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The Exploration of energization and Radiation in Geospace (ERG) satellite has been successfully launched from the Uchinoura Space Center in December 2016. The main goal of the ERG project is to elucidate acceleration and loss mechanisms of relativistic electrons in the radiation belts. In addition, the apogee of the ERG satellite's orbit often exceeds the edge of outer radiation belt in radial distance. Thus the data measured from the higher-L region may be associated with the activities observed in the Earth's high-latitude region. We statistically compare the Auroral Electrojet (AE) index with the data measured by the Low-Energy Particle Experiments - Electron Analyzer (LEP-e) and Medium-Energy Particle Experiments - Electron Analyzer (MEP-e) onboard the ERG satellite in the past months. With the selected data for $L > 7$, we statistically investigate the contributions of the different electron energies observed in various magnetic local time (MLT) sectors to the Earth's high-latitude disturbances.