

PEM029-09

会場:203

時間:5月24日 16:30-16:45

地球磁気圏に入り込む太陽高エネルギー粒子の観測 Solar energetic particles entering into the terrestrial magnetosphere

三好 由純^{1*}, 片岡 龍峰²

Yoshizumi Miyoshi^{1*}, Ryuho Kataoka²

¹ 名古屋大学太陽地球環境研究所, ² 東京工業大学

¹STEL, Nagoya University, ²Tokyo Institute of Technology

We investigate the solar energetic particles (SEPs) entering into the terrestrial magnetosphere associated with coronal mass ejections (CMEs), using the POES satellite data at low-earth orbit. The POES satellites have ion detectors, measuring the energetic ions ranging from 30 keV to 7 MeV. We demonstrate the superposed epoch analysis of the MeV ions associated with CME-driven intense storms during solar cycle 23. The zero epoch time corresponds to the interplanetary shock arrival detected by the ACE satellite. The initial results indicate that a significant SEP enhancement is observed for a few hours just before the shock arrival, possibly associated with the energetic storm particles accelerated at CME shocks. The enhancement appeared at the invariant latitudes of larger than 60 deg with a different appearance at dawn and dusk. The significant dawn/dusk asymmetry of the SEP flux entering in the magnetosphere is probably due to so called east-west effect of the gyrating protons at the low altitude. We report further statistical results to contribute for a robust forecast of SEP flux entering into the terrestrial magnetosphere.

キーワード: 太陽プロトン, 低高度衛星, 惑星間空間衝撃波, CME

Keywords: Solar Proton, low-altitude satellite, interplanetary shock, CME