

E110-008

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A loss-cone precursor observed in December 2006 with the Global Muon Detector Network

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A loss-cone signature was observed five hours prior to the arrival of the interplanetary shock at the Earth in December 2006 by a muon detector in Brazil, which is one of four detectors consisting the Global Muon Detector Network (GMDN). The best-fit anisotropy determined by GMDN is used to remove the temporal variation due to the large-scale anisotropy from the Brazilian detector data. We find this analysis method successfully extracting a very clear loss-cone signature in the data. The new recording system allows us to visualize the signature and its temporal variation in a two dimensional color-coded map. In the map, we also find an intensity excess probably due to cosmic ray particles reflected by the shock traveling toward the Earth.