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Properties of electron flux spectra around the plasmapause in the chorus and hiss regions using POES.

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The European FP7 PLASMON project aims to provide observations of plasmaspheric densities, and link the plasmaspheric variations to relativistic electron precipitation from the radiation belts. This is intended to assist in the estimation and prevent damage of space assets from space weather events as well as to improve forecasting (http://plasmon.elte.hu). As part of the PLASMON project, electron fluxes from the POES series of satellites are being used to determine the link between energetic electron precipitation energy spectra and magnitude to the position of the plasmapause.

The MEPED instrument onboard POES measures electron flux from 90° (trapped particles) and 0° (loss-cone) telescopes, in 3 integral energy channels (>30, >100 and >300 keV). These fluxes have been compared to the DEMETER/IDP instrument to confirm that published geometric factor corrections (Yando *et al.* 2011) can be accurately applied to the POES data to produce as accurate as possible fluxes. These global fluxes have then been separated into regions in which Chorus (23:00-11:00 MLT) and Hiss (11:00-16:00 MLT) whistler mode waves are expected to occur, in 0.2 L-shell bins with a 20 minute temporal resolution. The plasmapause locations have been determined from the O'Brien and Moldwin (2003) models based on Kp, Ae and Dst peaks. We are currently comparing the POES spectral gradient and flux magnitude with plasmapause location and geomagnetic activity for the locations in which chorus and hiss are known to occur. This presentation will focus on the electron flux spectral gradient behaviour either side of the plasmapause, a value that is difficult to measure from ground based techniques.