

Low latitude precipitating Energetic Neutral Atoms reveal properties of the storm time ring current

M. Sørbø(1) and F. Søråas(1)

(1) Department of Physics and Technology, University of Bergen, (marita@ift.uib.no)

Off equatorial peaks of precipitating ENA (Energetic Neutral Atoms) are a characteristic feature of the low altitude Storm Time Equatorial Belt (STEB) of energetic particles during the main phase of a geomagnetic storm. The off equatorial peaks indicate an isotropic pitch angle distribution for the ring current ions and are only observed in the storm main phase. The peaks disappear in the storm recovery phase when the pitch angle distribution of the ring current ions develops towards an anisotropic one. These off equator peaks are studied in detail for a number of storms. Their local time distribution, latitude localization, and intensity are related to the growth and decay of the storm time ring current.