0.5 MeV electron precipitation in the polar cap and high-latitude substorms

L.L. Lazutin[1], S.N. Kuznetsov[1], T. Rosenberg[2], and A. Weatherwax[2]

[1] *Space Physics Division, Skobeltsyn Institute of Nuclear Physics, MoscowState University, 119992, Moscow, Russia,*
[2] *University of Maryland, IPST, College Park, Maryland, 20742 USA*

Coronas-I particle detector registered several events of high-energy electron (> 500 keV) precipitation in the polar cap. Investigation of the ground-based magnetometer and riometer data shows coincidence with substorm - type intensifications. The electron fluxes appear in the polar cap immediately after auroral zone substorms. Several possible explanations of the high latitude substorm expansion are discussed.