ENERGETIC ELECTRON PRECIPITATIONS NEAR THE OUTER BOUNDARY OF ELECTRON RADIATION BELT DURING MINIMUM OF SOLAR ACTIVITY: FIRST RESULTS OF CORONAS- FOTON SATELLITE OBSERVATIONS

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First results of CORONAS-FOTON observations at the polar boundary of the outer electron radiation belt are presented. The third satellite of CORONAS series, CORONAS-FOTON, was launched to the low altitude polar orbit (altitude 545-590 km, inclination ~82.5) January, 30, 2009. CORONAS-FOTON satellite crosses both polar regions every 1.5 hours. Electrons with the energies 0.2-4 MeV are measured by semiconductor telescope. The electron precipitations (in the energy range >200 keV) to the pole of outer Earth's electron radiation belt measured since March 2009 are studied. Localized electron precipitations are observed to the pole from the external boundary of the outer radiation belt. The detailed investigation of electron precipitation's, their North-South asymmetry and MLT-distribution are presented. The probability to observe such kind of precipitations is estimated. The fine structure of electron precipitations is studied with 1 s resolution. The results of CORONAS-FOTON observations are compared with the position of auroral oval obtained using the model OVATION. The physical nature of observed phenomena is discussed.

Electron precipitation, CORONAS-FOTON

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