**Precipitation of energetic electrons from the Earth's outer radiation belt during period of prolonged auroral activity on 10-16.10.2017**

V.V.Kalegaev 1,4, G.A.Basilevskaya 2,1, N.A.Vlasova 1, D.V.Grankin 5, D.S.Gruzdov 1,4, A.G.Demekhov 3, A.R.Ivanova 1,4, K.B.Kaportseva 1,4, I.A.Mironova 5, I.N.Myagkova 1, T.A.Popova 3, E.V.Rosanov 5, Yu.S.Shugay 1, T.A.Yahnina 3

1. Skobeltsyn Institute of Nuclear Physics, Moscow State University, Moscow, Russia

2. Lebedev Physical Institute, Moscow, Russia

3. Polar Geophysical Institute, Apatity, Russia

4. Physical Faculty, Moscow State University, Moscow, Russia

5. University of St-Petersburg, St-Petersburg, Russia

The dynamics of the outer radiation belt and the features of the precipitation of energetic electrons into the Earth's atmosphere during the period of prolonged auroral activity on 10-16.10.2017 were studied. Data on high-energy electron fluxes (>100 keV) from measurements of spacecraft located in the interplanetary medium and inside the magnetosphere, in polar and equatorial orbits, as well as obtained during the LPhI balloon experiment in the Murmansk region, were used. It is shown that the spectra of trapped (in the orbit of the Van Allen Probes A spacecraft) and quasi-trapped (in the low polar orbit of the Meteor M2 satellite) electrons demonstrate similar dynamics: in the main phase of the storm, there is a drop in the fluxes of high-energy particles, which is replaced by an increase in the recovery phase, the fluxes of lower-energy particles increase in the main phase of the storm, after which they remain approximately constant.

The VLF wave activity recorded during the time period under study aboard the Van Allen Probes spacecraft became a source of intense precipitation of energetic electrons (<300 keV) in the morning sector of the magnetosphere. Pc1 pulsations were recorded at the Lovozero station, which were accompanied by precipitation of ring current protons and relativistic electrons in the evening sector of the magnetosphere.

According to measurements of electron fluxes on the polar satellites Meteor M2 and POES, it is shown that the precipitation cover a large area of near-Earth space: by the L-parameter and by MLT. The spectral characteristics of the fluxes of precipitating electrons during the period under consideration are determined. In the main phase of the storm, the precipitation of energetic electrons leads to a decrease in their fluxes in the outer radiation belt. Substorm activations make it possible to quickly compensate for the loss of trapped particles with E>100 keV. Reduced particle fluxes with energies of 700 keV and higher are not restored immediately. Ongoing substorms gradually accelerate energetic electrons to higher energies, leading to an increase in particle fluxes of relativistic and subrelativistic energies.

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