

The precipitating electron fluxes as input parameters for the April 15-25, 2002 magnetic storms modeling

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The work concerns the problem of setting the precipitating electron fluxes as input model parameters necessary for the April 15-25, 2002 magnetic storms modeling by the use of the Upper Atmosphere Model [1]. According to the DMSP data for this period the dependencies of the auroral oval parameters (the boundaries locations and the maximum intensities of the electron number and energy fluxes) on the magnetic indices K_p, AL and AE have been investigated. The conclusion was made, that the dependence of the auroral oval boundaries on the K_p index express the real data with the minimum spreading. The functional dependencies of the locations of the equatorial and polar boundaries of the auroral oval on the day and night sides on the K_p index were formulated.

Reference

1. Namgaladze A.A., O.V.Martynenko, M.A.Volkov, A.N.Namgaladze, R.Yu.Yurik. High-latitude version of the global numeric model of the Earth's upper atmosphere // Proceedings of MSTU. – 1998. – V.1, N.2. – P.23-84.

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