

CHANGES OF DIFFUSE AURORA BRIGHTNESS BEFORE FORMATION OF AURORAL BULGE

V.A. Velichko, D. Yu. Zakharov, G.V. Borisov (Institute of Cosmophysical Research and Aeronomy, Yakutsk)

The increase of diffuse aurora (background) brightness with the subsequent more prolonged decrease has been revealed by experimental data of polar aurora brightness variations in the night oval sector a few tens of minutes before the beginning of typical drift of the equatorial arc to the low latitudes. The minimum level of the background brightness is observed before the beginning of sudden aurora expansion to the pole. The duration of the background brightness decrease is from a few tens of minutes to 1.5 hours. The determination possibilities of the substorm preliminary phase beginning by photometric method and realization of short-term forecast of the auroral surge formation beginning in the observation region are discussed.