

On some peculiarities of auroral emissions' intensity in the near UV and IR regions of the spectrum

L.S. Yevlashin (*Polar Geophysical Institute of the KSC of RAS, Apatity, Murmansk region*)

There has been carried out a statistical study of the total intensity of aurora emissions within the auroral zone in the near UV (λ 300-390 nm) and in the near IR region (λ 700-1200 nm) of the spectrum. It was obtained that the luminosity intensity in those spectral regions with the maximum value $K_p=9$ in the electron auroras of the 1984-1985 season makes up respectively in energy units 2.28 erg/cm²s, 2.20 erg/cm²s, which is 3.5 times more than the total intensity of emissions' luminosity in the visible part of the spectrum (λ 390-700 nm), that was equal to 1.32 erg/cm²s.

The intensity of lines of the ionized oxygen in the near UV region [OII] λ 372.7 nm is usually less than 300 Rayleighs, which had been observed only in the great aurora of 10.11.02.1958, whereas the intensity of oxygen lines in the near IR region [OII] λ 732.0-733.0 nm reaches the values of 400-500 Rayleighs and is observed according to foreign data with the red auroras of A type, sunlit, basically in the region of the Polar cusp.

Provided there is corresponding equipment available variations of those lines may be used for studying the dynamics of the Polar ionosphere.