

## **About registrations of undular perturbations in the polar lower ionosphere after Vitim meteorite explosion**

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Using data of medium wave radioreflections and geomagnetic field variations wave perturbations in the lower ionosphere, which were observed in Tumanny of the Murmansk region ( $69.0^{\circ} N$ ,  $35.7^{\circ} E$ ) on September 24<sup>th</sup>, 2002, after Vitim meteorite fall in the Irkutsk region ( $58.2^{\circ} N$ ,  $113.5^{\circ} E$ ), have been investigated. A point of observations was at a distance of 4000 km from the meteorite explosion place. A scheme of a transfer of the perturbations from the stratosphere to the mesosphere was considered. A classification of possible types of waves which could transfer the perturbations to large distances from the explosion place was given. A similarity of observed characteristics of the wave perturbations with analogous ones which were gotten earlier during investigations of effects of the Tungusk meteorite fall and the American space station "Skylab" and also a fact of the registration of a pressure wave on a net of microbarographs of PGI in Apatity permit to maintain that the source of the perturbations in the polar ionosphere is the meteorite explosion. The hypothesis about waveguide propagation of atmospheric waves to large distance was confirmed.