



## **@Sharp and large solar Wind Density Pulses as a Source of Bursts quasi-regular geomagnetic Pulsations in Rrange of the Periods 5 – 20 s@**

@Parkhomov V.A. (1), Ryazantseva M.O. (2,5), Zastenker G.N.(2), Tsegmed B. (3), Yermolaev Y.I.(2)@

@ 1. Baikal State University of Economy and Law (Irkutsk)

1. Institute of Space Research RAS (Moscow)
2. Institute of Solar – Terrestrial Physics Sibirian Department RAS (Irkutsk)
3. Institute of Space Physics and Aeronomy Sibirian Department RAS (Yakutsk)

4. Skobeltsyn Institute of Nuclear Physics, Moscow State University

(parhomov@irk.ru, 395-255982)@

@The study of the magnetosphere response on the large disturbance of a flux (or density) solar wind distinguished by very sharp fronts, represents significant interest from the practical point of view (space weather).

In the report the first results of comparisons of variations of a flow of a solar wind on measurements with the help of the instrument VDP with the high temporary resolution ( $\sim 1$ s) on the Interball -1 with a mode of excitation of geomagnetic pulsations on a world magnetic network in all sectors of MLT are presented. Sharp pulses we understand as short-term (during a time interval 20 – 60 s) increases and decrease (or vice versa) of a flux (density) of a solar wind.

The geomagnetic response represents bursts quasi-regular of geomagnetic pulsations by duration 60 – 300 s with in a range of the periods 5 - 20 s (Pc 2 - 3 according to the international classification) on the sunlight hemisphere from early morning (04 MLT) up to late evening (20 MLT) hours. On dynamic spectra of pulsation occupy a band of frequencies from 5 about 20 second. The pulsations are observed at positive (north)

Bz component IMF , at positive importance of a Dst variation (15 – 40nT) and at low auroral of magnetic activity ( $AE < 100nT$ ).

It seems that the excitation of pulsations is connected mainly to sharp pulses of solar wind flux.

The possible mechanisms of the found disturbances are discussed.

1. Passage of waves from a solar wind.
2. Processes on the magnetosphere boundary, which can result in excitation of pulsations.
3. Processes inside of magnetosphere. @