# EVIDENCE OF THE $P_{SI}$ GEOMAGNETIC PULSATIONS BURST EXCITATION AS THE DIRECT RESPONSE TO THE SOLAR WIND PRESSURE PULSES

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Using the global network data of more than 50 ground-based 1-20 sec resolution magnetometers and data from GOES-8 we study characteristics of $P_{si}$ geomagnetic pulsation burst during a sharp compression of the magnetosphere on October 2, 1998 at ~0725 UT. In this event by the WIND data a sudden solar wind dynamic pressure intensification with the consequent oscillations of density and dynamic pressure during ~40 min with the oscillation periods from 2 to 8 min are observed. We show that solar wind pressure fluctuations lead to the global excitation of geomagnetic pulsations at latitudes from ~50 to 77° of the dayside magnetosphere. The pulsation frequency spectrum coincides with the solar wind pressure oscillation spectrum both during prenoon and postnoon hours. The maximum amplitude of the $P_{si}$ burst is observed in the comparatively narrow band of latitudes with a tendency of shifting to lower latitudes at a less oscillation period ($T\approx$2-3 мin). We interprete that magnetic field oscillations with $T\approx$2-8 мin occurred in direct response to a large-scale external driving force which is solar wind pressure pulses. Quasi-periodic compression of the magnetosphere leads to a generation of fast magnetosonic waves and their transformation into the Alfven waves. We consider the transformation of the magnetosonic wave into the Alfven occurs in consequence of a disturbance of the magnetospheric plazma azimuthal movement as it is supposed in the model by Lyatsky and Safargaleyev (G. and A., 1987).