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Storm-time ULF pulsations: Polar caps asymmetry

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The several magnetic storms observations of high-latitude Pc5 range ULF pulsations have been analyzed by using the ground data from 6 pairs of quasi-conjugated Arctic and Antarctic stations. The intense ULF waves at polar latitudes were observed during the initial and recovery phases of the magnetic storm. It was found the strong North - South asymmetry of even day-time ULF wave occurrence at the polar caps due to the difference in the ionosphere conductivity provided by difference in the geographic latitudes and longitudes of polar cap stations located at similar geomagnetic coordinates. The local time inter-hemisphere ULF asymmetry decreases with the latitude decreasing. The local time distinction between the stations located near the polar caps is as much as about 13 hours. The ground data demonstrated that during the storm initial phase under strong solar wind dynamic pressure values and the IMF Bz>0 and IMF By<0 the intense magnetic disturbances were observed only in the North polar cap.