

II-1B-2. Investigations of P_c and P_t Pulsations in Respect of Magnetic Storms*

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The regularities of p_c and p_t excitation as well as their amplitude and frequency distribution in the disturbed magnetic field conditions are investigated. The fluxometric and earth current records of the Soviet stations are used. The behaviour of continuous pulsations (p_c), pulsation trains (p_t) and short periodic polar disturbances (p_d) is analysed during different phases of magnetic storms. The tendency of the 27-day recurrence is investigated for different types of pulsations. The cases of intensive world wide p_c occur-

ring after some magnetic storms are defined and analysed. A preliminary scheme of magnetic storms development in respect of pulsations is given. Special attention is drawn to the microstructure of the Earth's electromagnetic field before and after the storms. The properties of p_t and p_d excitation revealed in the course of the investigation of the Arctic and the Antarctic records are used to discuss the peculiarities of corpuscular stream injections in the Earth's atmosphere.

II-1B-3. Pulsations During Sudden Commencements of Magnetic Storms and Long Period Pulsations in High Latitudes**

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The analysis of the records of the standard magnetographs (with time scale 20 mm per hour) obtained from 1956 to 1960 at the polar observatories of Tikhaya Bay, Cape Chelyuskin, Dixon Island, Cape Wellen, Tixie Bay, and at the middle latitude observatory Voyeikovo has shown that the regular geomagnetic pulsations usually observed on these records are of the following types:

1) *Common giant pulsations* (P_g), characterized by comparatively small amplitudes (10–20 γ) and periods in the range of 90–120 sec not depending on geomagnetic latitude Φ .

2) *Long-period giant pulsations* (P_{gl}), of which amplitudes amount to tens and hundreds of gammas and periods range from ~ 100 to ~ 600 sec increasing with the increase of Φ .

3) *Pulsations during sudden commencements* (P_{sc}), having the form of damping oscillations with the periods 120 to 270 sec also increasing with the increase of Φ .

In the present paper the last two types of pulsations will be discussed.

In Fig. 1a and 1b the examples of P_{sc} are shown.

For the determination of the diurnal variation of the P_{sc} periods and of their occurrence frequency, there was not enough of experimental material, but it has been observed that P_{sc} occurring at polar observatories near 01 to 02 h UT have usually much smaller

* No manuscript has been received and the preprint is reprinted. It was read by Troitskaya under the title of "Geomagnetic Pulsation of Various Periods." Discussion is given after II-1B-3.

** This paper was read by V. A. Troitskaya.