

EXTRACTION OF THE SPECTRAL COMPONENTS OF THE *Pc* OSCILLATIONS IN GEOMAGNETIC FIELD USING HALL SENSORS

V.I. Kubov¹, A.P. Slivinsky²

¹ *Petro Mohyla Black Sea State University, Nikolaev, Ukraine*

² *Ukrainian Radio Technical Institute, Nikolaev, Ukraine*

Abstract. Features of distribution of spectral density oscillations of the geomagnetic field during the passage of a magnetic storm may contain information about the nature of the adverse effects on the human body. However, indices used for magnetic activity do not take into account information about the spectral composition of the geomagnetic field variations. So it is necessary to develop an instrument with possibility of estimating the current time spectral features of the oscillations in the geomagnetic field of the Earth in the *Pc* range. For this purpose, a cost-effective and easy to use magnetometer based on the Hall sensor SS495 was developed. Models of signals *Pc1* and *Pc5* are developed and appropriate model calculations of spectral densities are performed. An example of extracting the *Pc5* oscillations of the local geomagnetic variations in experimental data is given.

Keywords: magnetometer, *Pc* oscillations, magnetic storms, Hall sensor.