THE MODELS OF EXPERIMENTAL MAGNETIC MEASUREMENTS OF VARIOUS BIOLOGICAL SAMPLES

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At the Geomagnetic Institute, in the Laboratory for paleomagnetism and archeomagnetism research and at the Geomagnetic Observatory, Grocka (GCK) during the period from November 2004 to February 2008 the researchers carried out experimental magnetic measurements of the total-intensity gradient of the magnetic field vector (changes in the total magnetisation vector) of various biomaterials. Measurements of the gradient total intensity of the magnetic field vector were carried out by GSM-19 magnetometers of high accuracy and recording resolution (accuracy: ΔF=0.1 nT; sampling rate: 1-5 per second).
During these experimental biomagnetic measurements samples of water, tissue, blood, cotton, wool, pitch and magnetite-powder were used. In this study, the part of the biomagnetic measurement results relate to the water, blood and tissue. The results of the measurements of gradient total-intensity of the magnetic field for the biomaterial samples showed physical processes which are connected with the diamagnetic and paramagnetic properties of such biomaterials.

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