

MEASUREMENTS OF MAGNETIC ANOMALIES INDUCED BY METEORITE IMPACTS

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The aim of the project is to investigate thermomagnetic anomalies associated with impact craters in Central and Northern Europe, formed by meteorite impacts. The research focuses on the thermal analysis of magnetic remnants (Thermoremanent Magnetization, TRM) in rocks and minerals subjected to extreme temperatures during impacts. TRM is a unique geophysical indicator that provides valuable information about the history of these geological structures and the processes that shaped them.

Magnetometric and conductometric measurements were conducted on selected impact craters, including Morasko (Poland) and sites in the Baltic countries. Proton magnetometers enabled precise measurements of the Earth's magnetic field, crucial for identifying magnetic anomalies linked to impacts. Conductometric studies improved visualisation of crater structures, especially where they were partially covered by younger sediments.

The project aims to enhance understanding of the geophysical effects of meteorite impacts and develop tools for identifying craters in geologically complex regions, such as Scandinavia, where magmatic rocks can complicate magnetic data interpretation. The findings may also help resolve disputes over the origin of structures like the Sirente crater in Italy, slated for future investigation.

Details of the research and its significance for applied geophysics and impact crater studies will be presented at the conference.