

ABSTRAKT

Paleomagnetism is geophysical method for determination of former magnetic field orientation on the Earth using measurement of remanent magnetisation of rocks. Combined with radiometric dating paleomagnetism enables study of time evolution of the magnetic field on the Earth and/or reconstruction of former positions of lithospheric plates.

This thesis elaborates on paleomagnetic record of basalt lava flow on the Nelson's Island in Antarctica and summarizes geological data. In the research part of this thesis theory of magnetism is introduced and the paleomagnetism method is emphasized. Additionally, I provide a short review of magnetic minerals, that can occur in basalt. These minerals can potentially hold some information about the character of magnetic field of the geological past. Radiometric dating methods are included as a tool for determination of absolute age of solidification of igneous rocks (lava). Specifically, the K-Ar and Ar-Ar dating methods are emphasized. The regional section of this thesis contains geological overview about the Antarctica and the Nelson's Island with its surroundings. Included is a section about the laboratory devices for measuring vector magnetisation of oriented rock samples (for example rotational and cryogenic magnetometer). The thesis is concluded with its discussion and list of references.