



ID: P3.1-394

Type: e-Poster

The second generation of precision small-sized temperature sensors: investigation of thermal fields near the Elbrus volcano on the basis of the North Caucasus Geophysical Observatory

Thursday 1 July 2021 11:45 (15 minutes)

The Baksan Neutrino Observatory of the Institute for Nuclear Research of the Russian Academy of Sciences is a unique engineering facility, which is a system of underground mine workings in the Andyrchi mountain massif (at a depth of 2 km from the surface and 4 km from mine enter) located twenty kilometers from the Elbrus volcano down the Baksan gorge in the Neutrino village. The unique location of the laboratory allows for a comprehensive analysis of various geophysical fields recorded in an almost complete absence of interference. Precision temperature measurement provides quantitative information about the heat flow from the interior of the Earth, which is fundamental for a deeper understanding of the relationship between fluid-magmatic and geodynamic processes. It allows obtaining unique data on the structure and dynamics of the thermal field of the Elbrus volcano. This study is a particularly important task from the point of view of obtaining new fundamental knowledge about the structure of magmatic structures, and from the point of view of assessing the volcanic hazard caused by the presence of liquid magmatic melt in the interior of the volcano, which in turn will provide new data on the potential hazard of the Elbrus volcanic center.

Promotional text

The system of precision temperature measurements, developed at the IPE RAS, is a part of the North Caucasus Geophysical Observatory of the IPE RAS. It allows obtaining unique data on the structure and dynamics of the thermal field of the Elbrus volcano.

Primary author: Mr GRAVIROV, Valentin (Schmidt Institute of Physics of the Earth, Russian Academy of Sciences, Russian Federation)

Co-authors: Mr LIKHODEEV, Dmitry (Schmidt Institute of Physics of the Earth, Russian Academy of Sciences, Russian Federation); Mr KISLOV, Konstantin (Institute of Earthquake Prediction Theory and Mathematical Geophysics (IEPT RAS), Russian Federation)

Presenter: Mr GRAVIROV, Valentin (Schmidt Institute of Physics of the Earth, Russian Academy of Sciences, Russian Federation)

Session Classification: T3.1 e-poster session

Track Classification: Theme 3. Verification Technologies and Technique Application: T3.1 - Design of Sensor Systems and Advanced Sensor Technologies