

Micrometeorites in lake sediments of volga-ural region of Russia

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Abstract

© SGEM2017 All Rights Reserved. During summer field trips were collected several cores from Lake Rubskoe. Cores length is about 6 m and maximum age approximately 13 Ka according radiocarbon dating. For investigation chosen core №4 (56.72545° N, 40.60657° E), were sediment sequence not destructed. Core was divided into 2 cm samples. Thermomagnetic curves measured for every fifth sample. The rate of heating was 100°C/min. The measurements made in a constant magnetic field – 200 and 400 mT. We have got thermomagnetic curves of the first and second heating up to 800°C. According obtained data samples were chosen for magnetic separation. The selection criterion was the presence of Curie temperatures above 700°C, which corresponds to the presence of iron-nickel alloys in the sample and Curie temperature 570°C which corresponds to magnetite presence. Magnetic separate was studied using electron microscope Merlin (Carl Zeiss). In samples showed presence of detrital material, magnetite spherules of extraterrestrial origin and iron with impurities and also variability of material concentration in time.

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Keywords

Curie temperature, Electronic microscope, Lake sediments, Micrometeorites

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