

**ON SOME FEATURES OF METEORITES FROM HOT AND COLD DESERTS.**

G. A. Yakovlev and V. I. Grokhovsky, Institute of Physics and Technology, Ural Federal University,  
Ekaterinburg, Russia. E-mail: yakovlev.grigoriy@gmail.com.

Meteorites are the cheapest source of extraterrestrial matter for research. One can find them all over the world. Some meteorites were found even on the sea bottom. Many scientists are interested in unaltered material, but weathering starts since first seconds of cosmic matter on Earth. Nevertheless, there are some places with very low alteration rate. The Meteoritical expedition of the Ural Federal University visited Lomonosov Mountains in Antarctica and Iranian Dasht-e Lut desert. Both cold desert and hot desert searching was successful. Classification work is in progress now.

According to reports of searching team members, many Antarctic samples (both meteorites and terrestrial rocks) were found in pits. Apparently, heating of rock by Sun resulted in melting of adjacent areas of ice. Examination of relatively big Iranian meteorites showed the difference between fusion crust at upper and lower (buried) parts of fragments. Possible reason for this phenomenon is day-night cycles of condensation. So, even in the driest regions of the planet there are traces of water-rock interaction. Both cases hint on unequal distribution of weathering factors across samples surface. Such effects should be taken into account during determination of weathering grade.

The weakest part of meteorites for weathering is various phase boundaries. Dronino (iron-ung) meteorite is a good example of alteration [1] of original matter along troilite nodules in metal. Series of parallel cuttings gives an opportunity to research penetration of oxidation in details.

**Acknowledgements:** This work was supported in part by the RFBR grants No. 16-38-00532 mol\_a, the Ministry of Education and Science of the Russian Federation (Project no. 5.3451.2017) and the Act 211 of the Government of the Russian Federation, agreement no. 02.A03.21.0006.

**References:** [1] Yakovlev G. A., Grokhovsky V.I. 2014. *Meteoritics & Planetary Science* 49:A446.