

**URFU METEORITE EXPEDITION TO THE LUT DESERT (IRAN).**

A. Yu. Pastukhovich, M. Yu. Larionov, N. A. Kruglikov, D.A. Zamyatin, V.I. Grokhovsky, Institute of Physics and Technology, Ural Federal University, Ekaterinburg, 620002, Russian Federation. E-mail: Imur2000@rambler.ru.

**Introduction:** Meteorite search in hot deserts is very effective due to long accumulation and good preservation of extraterrestrial material (dry climate and low weathering rates). At last years significant amount of meteorites were found in well-known deserts in Chili, Morocco, OAE. The Lut desert and other Iranian deserts were studied not enough and they are promising for search of meteorites and mechanisms of meteorites accumulation, transfer and weathering studing. We have organized 10 days field mission to the Lut desert supported by Ural Federal University and started at 01.01.2017. Here we report preliminary information about founded samples and used field techniques.

**Methods:**The participants were from the Russia (4 persons) and from the Iran (5 persons). We have used 4 off-road cars to search meteorites and move the base camp. Visual search from cars was made at a speed of 20-30 km/h. Walking visual search was carried out in places where features of the terrain impeded the movement of cars, as well as in places with dark-colored rocks accumulation. The main material selection criteria were: dark brown or black coloring (rust traces are possible), presence of fusion crust and sufficient level of the magnetic susceptibility.

First search region has flat relief and locates in 70 km Northeast from the Ravar town (base camp coordinates is 31° 51,31' N, 57° 4,95' E). Meteorite search is most effective on sandy or light colored stony areas. Large fragments of meteorites (more than 10 cm in diameter) are well visible from long distance thanks to dark coloring even from moving car.

Second search region locates in the Kaluts region (continental collision produced parallel weathered hills) in 45 km in Northwest from the Shehdad settlement (base camp coordinates is 30° 49,35' N, 57° 47,89' E). In this area meteorites fragments concentrated mostly on slightly inclined surfaces (5-10°) or staying in alluvial depots on solid substrate with future appearance in case of alluvium moving by water or wind.

**Results and discussion:** As the result of the expedition 14 kg of meteorites was collected. Half of this amount was delivered to UrFU for researching. Another half was left for analysis in the University of Kerman. The Meteorite fragments have different weathering degrees. All of them seems to be are ordinary chondrites by splitting structure and magnetic susceptibility. Some of samples were found in the first region in about 3 km from Gandom Beryan (L3) finding place that was found in the April of 2016 [2]. They are visually similar and probably are fragments of the same meteorite body. Samples collected in the second region were found in 1.5 km area. Finding place was not far from findings common named Kerman (H5) in the Meteoritical Bulletin [2]. It is possible to propose that founded fragments are also belong to the same meteorite body.

**Acknowledgements:** This work was supported by Act 211 Government of the Russian Federation, contract № 02.A03.21.0006, Endowment foundation of the Institute of Physics and Technology and partly supported by state program of the RFASO (subject «Deformation»№ 01201463327) and UB of RAS project № 15-17-2-11. Authors are very appreciated to Iranian part of the expedition stuff under the leadership of M.Khatami for assisting at all stages of the expedition.

**References:** [1] Pourkhorsandi H. et al. (2016) *Meteoritics & Planetary Science* 51:S1, Abstract #6195. [2] The Meteoritical Bulletin No. 105 (2016).