

**RADIOASTRONOMICAL SEARCH FOR EFFECTS OF EXTREMELY  
HIGH ENERGY PARTICLE INTERACTIONS WITH THE MOON  
REGOLITH**

I.A. Artemenko (1), B.M. Bolotovskiy (2), R.D. Dagkesamansky (2),  
L.G. Dedenko (1), I.V. Frolov (1), **I.M. Zheleznykh** (1)  
(1) Institute for Nuclear Research of Russian Academy of Sciences,  
(2) P.N. Lebedev Institute of Russian Academy of Sciences  
zhelezny@minus.inr.ac.ru

The development of the Radio Astronomical Method of Hadron And Neutrino Detection (RAMHAND) in the USSR (Russia) since 1988 is shortly discussed.

The goal of the RAMHAND proposal was to search for cosmic neutrinos (hadrons) in the super-high energy range of  $10^{19}$  eV –  $10^{28}$  eV for tests of the GUT theories as well as different cosmological models and the theories of some astrophysical objects.

The main idea of RAMHAND was to use the large ground-based radiotelescopes for registration of radio emission pulses generated by cascades induced by extremely high energy (EHE) neutrinos (hadrons) in a surface layer of the lunar regolith.

The results of calculations of the longitudinal development of the EHE electron-photon and electron-hadron cascades in the lunar regolith and the radioemission escaping the Moon are described.

Possibilities of monitoring the Moon with Kalyasin 64-meter radiotelescope are considered. Details of proposed experiments are described.