



Contribution ID: 34

Type: Poster

Study of primary cosmic rays at superhigh energies on the lunar surface and circumlunar orbit

Tuesday, 29 June 2010 16:30 (1 hour)

Mathematical model of experimental conditions on research for primary cosmic radiation (PCR) on the lunar surface and circumlunar orbit is considered. The fundamental possibility of detection of PCR particles is shown by the use of simultaneous detection of three components produced by cascades in the lunar regolith (secondary neutrons, gamma-ray and radio emission) measured by detectors placed on the lunar surface as well detectors located aboard a circumlunar-orbit scientific satellite. The "Neutronium" project combining these approaches is considered. Results of simulations are given

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Session Classification: Poster Session I

Track Classification: Balloon and satellite experiments