Contribution ID: 42

Type: Poster

## Elaboration of the method for the primary energy estimation by the EAS image in the telescope of snow-reflected Cherenkov light of the SPHERE-3 setup

The energy estimation method is based on the inverse interpolation of the dependence of the integral over the axially symmetric function approximating the EAS image on the distance from the detector axis to the shower axis on the snow. For the approximation and the parameters derived from it to be authentic the shower axis should hit the snow within the field of view of the telescope. Due to the fluctuations of the reflected photon flow a random local maximum can be mistaken for the absolute one, corresponding to the shower axis, while the true axis is not visible. A method was developed to filter out such situations which decreases the mean uncertainty of the primary energy estimate.

**Primary author:** KOLODKIN, Timofey (Federal State Budget Educational Institution of Higher Education M.V.Lomonosov Moscow State University, Skobeltsyn Institute of Nuclear Physics)

**Co-authors:** GALKIN, Vladimir (Moscow State University, Faculty of Physics & Institute of Nuclear Physics); BON-VECH, Elena (SINP MSU); IVANOV, Vladimir (Federal State Budget Educational Institution of Higher Education M.V.Lomonosov Moscow State University, Skobeltsyn Institute of Nuclear Physics); ZIVA, Maxim; OVCHARENKO, Natalia (Federal State Budget Educational Institution of Higher Education M.V.Lomonosov Moscow State University, Skobeltsyn Institute of Nuclear Physics); PODGRUDKOV, Dmitriy; ROGANOVA, Tatyana; CHERKESOVA, Olga (SINP MSU); CHERNOV, Dmitry (Moscow State University); ENTINA, Elena

**Presenter:** KOLODKIN, Timofey (Federal State Budget Educational Institution of Higher Education M.V.Lomonosov Moscow State University, Skobeltsyn Institute of Nuclear Physics)

Session Classification: Poster Session

Track Classification: Cosmic rays (nuclei, gammas, neutrinos) of very high energies (> 100 TeV)