Contribution ID: **65** Type: **Talk**

【374】A comprehensive study of muons detected by the Large-Sized Telescope during its commission phase.

Friday 13 September 2024 14:15 (15 minutes)

The Large-Sized Telescope (LST) detects very high-energy gamma rays from 20 GeV to several TeV. The first prototype, LST-1, has been operational since November 2019 at La Palma's Roque de los Muchachos Observatory. Its calibration, essential for precision, utilizes the analysis of ring-shaped images from muons to determine optical throughput and point spread function. This involves reconstructing muon rings and fitting them to an analytical model to assess the mirrors' reflectivity. This work will cover an analysis of all muon data collected by LST-1, examining the physical characteristics of muon rings, the impact of quality cuts on parameter distributions, and their correlation with simulations to validate the telescope's calibration accuracy.

Author: VOITSEKHOVSKYI, Vadym (Universite de Geneve (CH))

Presenter: VOITSEKHOVSKYI, Vadym (Universite de Geneve (CH))

Session Classification: Nuclear, Particle- & Astrophysics (TASK)

Track Classification: Nuclear, Particle- and Astrophysics (TASK)