Contribution ID: **777** Type: **Talk**

Current status of ALPACA for exploring sub-PeV gamma-ray sky in Bolivia

Tuesday 20 July 2021 12:48 (12 minutes)

ALPACA is a project to construct an air shower array near the Chacaltaya mountain at an altitude of 4,740m in Bolivia. A 83,000 m^2 surface area is covered by 400 scintillating counters of 100cmx100cmx5cm (thick). In addition to this conventional surface array, underground muon detectors covering total 4,000 m^2 allow clear identification of muon components in air showers. Using this array ALPACA will explore sub-PeV gamma-ray sky first time in the Southern hemisphere. The prime target of ALPACA is to reveal PeV cosmic-ray accelerators presumably existing in the galactic plane, including the galactic center. In early 2021, a prototype array ALPAQUITA consisting of 97 surface counters and 1000 m^2 muon detectors is under construction and planned to start data taking in 2021. The next extension to the 200 counters and 4000 m^2 muon detectors named half ALPACA is scheduled in 2022. In this contribution, a general introduction to ALPACA, the current status of ALPAQUITA with its infrastructure, and extension plan after 2022 are presented.

Keywords

Air shower array, gamma-ray astronomy, sub-PeV gamma ray, galactic sources

Collaboration

other (fill field below)

other Collaboration

ALPACA

Subcategory

Experimental Methods & Instrumentation

Author: Dr SAKO, Takashi (ICRR, University of Tokyo)

Co-author: FOR THE ALPACA COLLABORATION

Presenter: Dr SAKO, Takashi (ICRR, University of Tokyo)

Session Classification: Discussion

Track Classification: Scientific Field: GAI | Gamma Ray Indirect