

Status and first results of LHAASO

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The origin, acceleration and transport mechanisms of the cosmic rays are fundamental but yet unresolved problems that have been the focus of astroparticle physics researches. The Large High Altitude Air Shower Observatory (LHAASO), which will be completed by the end of 2021, is a new generation hybrid experiment with the advantages of high sensitivity, high duty cycle and large field of view. LHAASO consists of three detector arrays, the Kilometer Square Array (KM²A), the Water Cherenkov Detector Array (WCDA) and the Wide Field-of-view Cherenkov Telescope Array (WFCTA), located at 4410 m above sea level in Sichuan Province, China. LHAASO serves as the most sensitive γ -ray detector for energies above a few tens of TeV, and is expected to give revolutionary insights in the VHE domain of astroparticle physics, such as the origin and propagation of CRs, as well as the nature of VHE γ -ray sources. In this paper, we will report the status and first results of LHAASO.

Primary author: ZHANG, Yi (Purple Mountain Observatory, CAS)

Presenter: ZHANG, Yi (Purple Mountain Observatory, CAS)

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