You are welcome to nominate speakers to colloquium@nao.cas.cn. The video and slide of previous colloquia and more information can be found at http://colloquium.bao.ac.cn/.

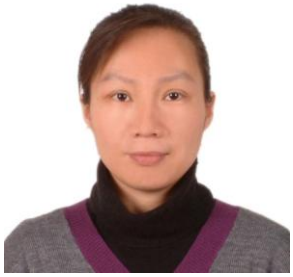
国台学术报告 NAOC COLLOQUIUM

2014 年 第 23 次 / Number23 2014

Time: Wednesday 2:30PM, May 28 Location: A601 NAOC

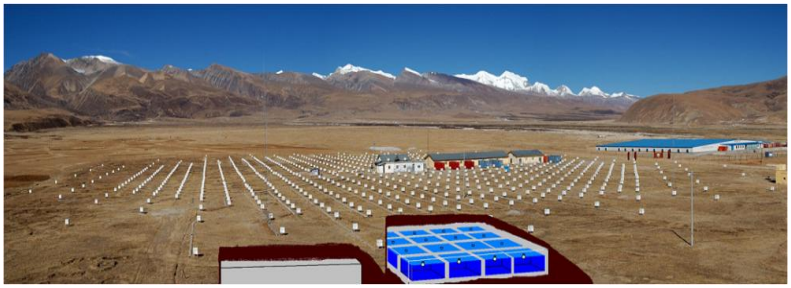
Studies of High-Energy Cosmic Rays with the newly upgraded Tibet ASgamma experiment

Dr. Jing Huang (IHEP)



Prof. Huang Jing (黄晶) is the spokesperson for Chinese side of the Tibet ASγ experiment at IHEP (Institute of High Energy Physics), CAS. She joined IHEP in 2008 under a national program "Introducing Outstanding Young Scientists Abroad". She received her Ph.D in Cosmic-ray Physics from Utsunomiya University, Japan, in 2002. She then worked at Utsunomiya university as a S.V.B.L Researchers. Since 2003, she spent two years as a JSPS Postdoctoral Fellowship for Foreign Researchers at ICRR (Institute for Cosmic Ray Research), University of Tokyo, Japan. Since 2005, she worked at ICRR as an Academic Affairs Staff. During her stay at ICRR, she was a person in charge of the hybrid experiment of the Tibet ASγ experiment. Her research focuses on cosmic-ray physics and gamma-ray astronomy.

Abstract



The Tibet ASγ experiment is an extensive air shower experiment that operated at Yangbajing (4300 m above sea level) in Tibet, China, since 1996. We have upgraded the new Tibet ASγ experiment in 2013. This new hybrid experiment consist of a low threshold burst-detector-grid (YAC-II, Yangbajing Air shower Core array, 124 units, ~500 m^2), the Tibet air-shower array (Tibet-III, 789 units, ~50000 m^2) and a large underground water Cherenkov muon detector array (MD, 80 units, ~4500 m^2), and data taking started from February 26, 2014. This multi-detector system is used to observe air showers of high energy celestial gamma-ray origin and that of nuclear-component origin. Now, Tibet-III+MD array has the sensitivity to gamma rays in the 100 TeV region by an order of magnitude better than any other previous detectors existing in the world. We may then have a chance to discover a dozen new point-like gamma-ray source and also diffuse gamma rays from the Galactic plane with extremely low background level in the northern sky. In addition, the YAC+Tibet-III+MD array enables us to measure the differential energy spectra of primary cosmic-ray components such as protons, helium nuclei, medium nuclei and irons separately in the energy region covering the knee. This work is indispensable to deepen our understanding on the origin and acceleration mechanism of very high energy cosmic rays. In this talk,the project status including some first results from the ongoing analysis and future plans are presented.

All are welcome! Tea, coffee, biscuits will be served at 2:15 P.M.