

The gamma-ray observatory TAIGA: status and perspectives

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The gamma-ray observatory TAIGA (Tunka Advanced Instrument for cosmic ray physics and Gamma Astronomy) is designed for the study of gamma rays and fluxes of charged cosmic rays in the energy range 1013 eV –1018 eV. The installation will include a network of wide-angle (FOV - 0.6 sr) Cherenkov stations and up to 16 IACTs (FOV -10×10 degrees) on an area of 5 km² and muon detectors with a total area of 2000 m² distributed on an area of 1 km². The expected sensitivity of the Observatory to search for local sources of gamma-quanta in the energy range 30 -200 TeV is about 10-13 erg/cm² sec.

The report covers the main physics tasks of the new installation, the design and the methods of extracting gamma-ray events. This paper presents the results of the operation of the first 28 wide-angle Cherenkov stations.

Presenter: Prof. KUZMICHEV, Leonid (SINP MSU)

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