

Stereoscopic and monoscopic operation of the five IACTs in the TAIGA experiment

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Executive summary

The report is devoted to the stereo-mode of operation of atmospheric Cherenkov telescopes of the TAIGA observatory.

A simulation of hadrons and gamma rays detected by 5 TAIGA-IACTs, as well as a comparison of simulation and experimental data for two launched telescopes was carried out. The shower geometry was reconstructed. In particular, the core position and the arrival direction were determined.

The parameters determined in this work, such as the effective area(0.9km^2), angular resolution(0.2°) and sensitivity($\sim 1.5 \cdot 10^{-12} \text{ TeV}^{-1}\text{cm}^{-2}\text{s}^{-1}$ for 100 h of observation) show that in stereo mode the energy spectra ($> 10 \text{ TeV}$) of many sources from the Crab Nebula and Mrk 501 to Dragonfly Nebula, Boomerang, ARGO J2031+4157 etc. and probably SNR CTA 1 and Tycho can be obtained.