

The use of convolutional neural networks for processing images from multiple IACTs in the TAIGA experiment

Tuesday, 13 July 2021 13:18 (12 minutes)

TAIGA experiment uses hybrid detection system for cosmic and gamma rays that currently includes three imaging atmospheric Cherenkov telescopes (IACTs). Previously we used convolutional neural networks to select gamma ray events and estimate the energy of the gamma rays based on an image from a single telescope. Subsequently we adapted these techniques to use data from multiple telescopes, increasing the quality of selection and the accuracy of estimates. All the results have been obtained with the simulated data of TAIGA Monte Carlo software.

Keywords

deep learning; convolutional neural networks; gamma astronomy; extensive air shower; TAIGA; stereoscopic mode

Collaboration

other Collaboration

Subcategory

Experimental Methods & Instrumentation

Primary authors: POLYAKOV, Stanislav (SINP MSU); Dr KRYUKOV, Alexander (Lomonosov Moscow State University); POSTNIKOV, Evgeny (SINP MSU)

Presenter: POLYAKOV, Stanislav (SINP MSU)

Session Classification: Discussion

Track Classification: Scientific Field: GAI | Gamma Ray Indirect