



Contribution ID: 120

Type: **not specified**

Analysis of Chlorine Neutron Capture Experiment for Efficiency Calculation Validation

Tuesday, 27 May 2025 11:55 (15 minutes)

The TANGRA project is aimed at studying the inelastic scattering of 14.1 MeV neutrons from the ING-27 neutron generator on various atomic nuclei using the tagged neutron method. To register gamma rays from the interaction of neutrons with nuclei, we use HPGe and LaBr₃(Ce) detectors. To perform high-precision measurements, the energy calibration and counting efficiency of the detectors were determined using standard point gamma sources and prompt gamma rays from neutron capture on chlorine nuclei. In addition to the experimental data, the dependences of the gamma-quanta registration efficiency on energy for two types of detectors were obtained using Monte Carlo (MC) simulations in GEANT4. In this work we will present the results of efficiency measurements and compare them with calculated data.

Primary author: HRAMCO, Constantin (JINR)

Presenter: HRAMCO, Constantin (JINR)

Session Classification: Parallel Session 2: Nuclear data for applied and scientific purposes/Neutron detection & Methodical aspects

Track Classification: Parallel session: Parallel session 2