



Contribution ID: 135

Type: **Poster**

A SETUP FOR MEASUREMENT OF THE TOTAL REACTION CROSS SECTION

Wednesday 9 September 2020 17:20 (30 minutes)

Measurements of energy dependence of the total reaction cross section with exotic, neutron-rich nuclei are used to study the phenomena related to the structure of weakly bound neutrons in neutron halo and neutron skin. A spectrometer „MULTI-2“ for direct measurement of the total reaction cross section with radioactive beams is presented, together with some results obtained on the setup. The spectrometer consists of a multi-detector telescope for the beam projectile identification and a 4π gamma-ray spectrometer for detection of prompt gamma-rays and neutrons accompanying nuclear reactions. The characteristics of the gamma-ray spectrometer important for the evaluation of the measurements –registration efficiency as a function of energy and multiplicity of emitted gamma rays, spectrometer response and a total energy deposition were evaluated with Monte Carlo method. Results were confirmed by measurement with ^{60}Co spectroscopic source.

Presenter: SIVÁČEK I.

Session Classification: Poster session