



Contribution ID: 187

Type: Oral

Evaluation of some nuclear physics constants by isomer ratios of Tin

Monday, 31 August 2015 16:45 (15 minutes)

In the present work the photoneutron reactions of Sn and (p,n) reaction on Indium for Tin isotopes production will be analyzed. For both processes the cross sections for energy of incident particles of order of MeV's were estimated. The contributions of different nuclear reaction mechanisms and the corresponding influence of nuclear potentials in the cross sections were obtained. The cross sections calculations were used in the isomer ratios evaluations of Tin isotopes. Later in the modeling of Tin isotopes production in (p,n) and photoneutron reactions were employed. The theoretical results were compared with the experimental data. From cross sections and isomer ratios data were extracted some important data for nuclear structure like binding energy of neutron and energy values for gamma transitions.

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Session Classification: Nuclear Structure, Spectroscopy, and Dynamics II