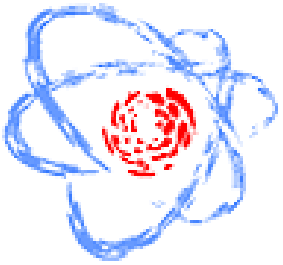

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Experimental methods for total reaction cross section measurements in the interaction with exotic nuclei

Wednesday 8 June 2022 12:50 (10 minutes)

A short review and analysis of the experimental techniques for total reaction cross section σR measurements are presented. The most part of the techniques is based on the transmission and 4π methods. The transmission methods are used the detection of the particles hitted the target and pathed through the target without any interactions. The 4π-methods are used the detection of the reaction products (prompt ɣ-quanta and neutrons) together with the particles hitted the target. The reaction products are detected by 4π scintillation spectrometer. The main attention of the report is focused on the 4π methods designed at FLNR JINR, Dubna. These methods have been developed for σR measurements of the reactions with light neutron–rich weakly bound nuclei like 6,8He, 8,9,11Li and 10,11,12Be. The comparison of σR 6He+28Si reactions measured by transmission and 4π methods is presented.

Summary

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