

Target Preparation for Neutron-induced Cross-section Experiments

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Neutron cross-section measurements require samples, called “targets”, with specific properties depending on the reaction being studied and the quantities being measured. The target characteristics influence the results of these measurements and can have a strong impact on the total uncertainty in neutron cross-section data, which are important for the nuclear industry and in research.

This paper gives an overview of the main techniques applied in the target preparation laboratory at JRC-Geel for production and characterization of targets for neutron-induced cross-section measurements. The use of these targets is demonstrated with a few examples of total and reaction cross-section experiments. In addition, on-going investigations are presented.

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