

Publication

Alpha- and neutron-induced reactions on ruthenium isotopes

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

ID 110390

Author(s) Rapp, W; Heil, M; Hentschel, D; Kappeler, F; Reifarh, R; Brede, HJ; Klein, H; Rauscher, T

Author(s) at UniBasel [Rauscher, Thomas](#) ;

Year 2002

Title Alpha- and neutron-induced reactions on ruthenium isotopes

Journal Physical review. C, Nuclear physics

Volume 66

Number 1

Pages / Article-Number 015803

The uncertain origin of the proton rich Mo and Ru isotopes has motivated cross-section measurements of alpha- and neutron-induced reactions. The experiments were performed via the activation technique by irradiating thin layers of natural ruthenium with alpha-particle beams close to the Gamov window of the p process between 7.0 and 10.5 MeV. The cross sections of the reactions Ru-96(alpha,gamma), Ru-96(alpha,n), Ru-96(alpha,p), and Ru-98(alpha,n) could be determined with uncertainties of typically 10 about two to three times smaller than recent statistical model predictions. Additional activations in a quasistellar neutron spectrum corresponding to $kT=25$ keV allowed us to obtain the complementary stellar (n,gamma) cross sections for Ru-96, Ru-102, and Ru-104. In these cases the agreement with model calculations is considerably better.

Publisher American Institute of Physics

ISSN/ISBN 0556-2813

edoc-URL <http://edoc.unibas.ch/dok/A5839296>

Full Text on edoc No;

Digital Object Identifier DOI 10.1103/PhysRevC.66.015803

ISI-Number WOS:000177529700062

Document type (ISI) Article