

Isospin Effects In Projectile Dynamical Fission For $^{112,124}\text{Sn}+^{58,64}\text{Ni}$ Reactions At 35 AMeV

P. Russotto^{1,*}, E. De Filippo¹, A. Pagano¹, F. Amorini², A. Anzalone², L. Auditore³, V. Baran⁴, I. Berceanu⁵, B. Borderie⁶, R. Bougault⁷, M. Bruno⁸, G. Cardella¹, S. Cavallaro^{2,9}, M.B. Chatterjee¹⁰, A. Chbihi¹¹, M. Colonna², M. D'Agostino⁸, R. Dayras¹², M. Di Toro^{2,9}, E. Galichet⁶, W. Gawlikowicz¹³, E. Geraci^{1,9}, A. Grzeszczuk¹⁴, P. Guazzoni¹⁵, S. Kowalski¹⁴, E. La Guidara¹, G. Lanzalone^{2,16}, G. Lanza^{1,†}, N. Le Neindre⁸, C. Maiolino², M. Papa¹, E. Piasecki^{17,18}, S. Pirrone¹, R. Planeta¹⁹, G. Politi^{1,9}, A. Pop⁵, F. Porto^{2,9}, M.F. Rivet⁶, E. Rosato²⁰, F. Rizzo^{2,9}, K. Schmidt¹⁴, K. Siwek-Wilczynska²¹, I. Skwira-Chalot²¹, A. Trifirò², M. Trimarchi², G. Verde¹, M. Vigilante²⁰, J.P. Wieleczko¹¹, J. Wilczynski²², L. Zetta¹⁵ and W. Zipper¹⁴

¹INFN, Sezione di Catania, Italy

²INFN, Laboratori Nazionali del Sud, Catania, Italy

³INFN, Gruppo Collegato di Messina and Dip. di Fisica, Univ. di Messina, Italy

⁴Physics Faculty, University of Bucharest, Romania

⁵National Institute of Physics and Nuclear Engineering "Horia Hulubei", Bucharest, Romania

⁶Institut de Physique Nucléaire, CNRS/IN2P3, Université Paris-Sud 11, Orsay, France

⁷LPC Caen, ENSICAEN, University of Caen, CNRS/IN2P3, Caen France

⁸INFN, Sezione di Bologna and Dipartimento di Fisica, Univ. di Bologna, Italy

⁹Dipartimento di Fisica e Astronomia, Univ. di Catania, Catania, Italy

¹⁰Saha Institute of Nuclear Physics, Kolkata, India

¹¹GANIL (DSM-CEA/CNRS/IN2P3), Caen, France

¹²DAPNIA/SPhN, CEA-Saclay, France

¹³Cardinal Stefan Wyszyński University, Warsaw, Poland

¹⁴Institute of Physics, University of Silesia, Katowice, Poland

¹⁵INFN, Sezione di Milano and Dipartimento di Fisica, Univ. di Milano, Italy

¹⁶Università "Kore", Enna, Italy

¹⁷Heavy Ion Laboratory, University of Warsaw, Warsaw, Poland

¹⁸A.Soltan Institute for Nuclear Studies, Swierk/Warsaw, Poland

¹⁹M.Smoluchowski Institute of Physics, Jagellonian Univ., Cracow, Poland

²⁰INFN, Sezione di Napoli and Dipartimento di Fisica, Univ. di Napoli, Italy

²¹Faculty of Physics, University of Warsaw, Warsaw, Poland

²²National Centre for Nuclear Research, Otwock-Swierk, Poland

*e-mail: russotto@lns.infn.it

A quantitative comparison of experimentally quoted cross sections concerning the competition between Statistical and Dynamical Fission processes is presented. Mass asymmetric projectile-target combinations such as $^{124}\text{Sn}+^{64}\text{Ni}$ and $^{112}\text{Sn}+^{58}\text{Ni}$ were investigated at $E_{\text{Lab}}(^{112,124}\text{Sn})=35$ AMeV beam energy by using the 4π detection capabilities of the multi-detector CHIMERA. It results that Dynamical Fission process is about two times more probable in the neutron rich $^{124}\text{Sn}+^{64}\text{Ni}$ system than in the $^{112}\text{Sn}+^{58}\text{Ni}$ neutron poor one. In contrast, no sizeable difference is found for Statistical Fission mechanism. The observed difference in the Dynamical process is interpreted as due to a strong influence of the entrance channel Isospin ($N_{(p+T)}/Z_{(p+T)}$) content in the pre-equilibrium phase of the reaction mechanisms.

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