

Abstract Submitted
for the NES05 Meeting of
The American Physical Society

Isospin Equilibrium in Heavy Ion Reactions MALGORZATA ZIELINSKA-PFABE, DARCY LAMBERT, ALEXIS KNAUB, Smith College, Northampton, MA, VIRGIL BARAN, MARIA COLONNA, MASSIMO DI TORO, LNS Catania, Italy, HERMANN WOLTER, University of Munich, Germany, NUCLEAR DYNAMICS TEAM — The BUU approach with density fluctuations was used to study the density dependence of the asymmetry term in the nuclear equation of state (EOS.) The knowledge of the nuclear mean field potential is of crucial importance for nuclear binding, stabilization of neutron stars, and dynamics of supernovae explosions. To gain information about the density dependence of the asymmetry term we study isospin equilibration in the reactions between projectile and target with different isospin asymmetry. In these cases, the asymmetry term in the nuclear EOS provides diffusive forces which drive the isospin equilibration process. It is important to use observables which are sensitive to the stiffness of the asymmetry term. The isospin imbalance parameter which measures the degree of isospin equilibration seems to be sensitive to the density dependence of the asymmetry term in the nuclear equation of state. We have calculated this parameter for the asy-soft and asy-stiff EOS for the semi-peripheral ($b=6\text{fm}$) reactions of Sn+Sn at 50 MeV/u and present a comparison of our results with experiment.

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Date submitted: 03 Mar 2005

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