

Systematic Studies of Heavy Ion Collisions in the 1 AGeV Regime - Recent Results from FOPI

Y. Leifels¹ for the FOPI collaboration

¹ *GSI Helmholtz Centre for Heavy Ion Research GmbH,
P.O. Box 11 05 52, 64220 Darmstadt, Germany*

The symmetry energy at nuclear matter densities smaller or slightly above the normal nuclear matter density is being studied in several experiments by various observables. However, there exist only limited experimental data accessing the question of the high density behaviour of the symmetry energy.

Heavy ion reactions in the SIS energy regime between 0.1 to 2.0 AGeV have been systematically studied with the FOPI detector at GSI for various system sizes. The investigated observables include multiplicities, rapidity distributions and collective flows of emitted and produced charged particles. Despite these studies are limited to stable beams the investigation of isospin pairs i.e. π^-/π^+ , $t/{}^3\text{He}$, may give access to the symmetry energy at high densities. The experimental results are summarized and compared to model predictions.