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Testing the behavior of neutron-rich systems away from normal density

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Heavy Ion Collisions (HIC) represent a unique tool to probe the in-medium nuclear interaction in regions away from saturation. We present a selection of new reaction observables in dissipative collisions (10-50 MeV/u) particularly sensitive to the low-density part of the symmetry term of the nuclear Equation of State (Iso-EoS). In particular, we will discuss the Isospin Equilibration Dynamics. At low energies this manifests via the recently observed Dynamical Dipole Radiation, due to a collective neutron-proton oscillation with the symmetry term acting as a restoring force.
At higher beam energies Iso-EoS effects will manifest through isospin diffusion between projectile and target and Imbalance Ratio Measurements, in particular in correlation with the total kinetic energy loss.
At higher beam energies (above 100 Mev/u) suitable observables, such as the isotopic content of particle and meson emission and collective flows, allow one to test the Iso-EoS at high density.

Are you a student, postdoc or an attendee from an "emerging"country and would like to apply for financial support?

no

Is this an invited talk? (please answer yes or no)

no

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no

Would you prefer your contribution to be an oral presentation? (please answer yes or no)

yes

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