

Abstract Submitted
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Applications of Nonequilibrium Greens Function Approach to Nuclear Systems in One Dimension¹ HAO LIN, PAWEL DANIELEWICZ, NSCL, Michigan State University — While semiclassical transport theories and time-dependent Hartree-Fock method have been extensively applied to describe many-body systems, they fail to take into account the effects of quantum correlations, which can be crucial for strongly interacting quantum systems. The nonequilibrium Greens function approach allows for a systematic way to incorporate correlations. For the time being, we consider only short-ranged two-body correlations. In this talk, I will discuss applications in the description of nuclear systems in 1D, such as the spectral function for the ground state, the isoscalar monopole mode and the isovector dipole mode, and the collision of slabs in 1D. Calculations will be compared with and without correlations.

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