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Dynamical evolution of particle number fluctuations in hadronic transport

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We study particle number fluctuations in infinite nuclear matter using hadronic transport simulations. We focus on matter initialized at a series of thermodynamically and mechanically stable points in the phase diagram, and in particular on the influence of the critical point on the equilibrated values of the fluctuations. We compare fluctuations from hadronic transport simulations against the values calculated using the underlying density functional equation of state, and we show that the fluctuations obtained from simulations agree with the underlying theory qualitatively everywhere in the phase diagram, while the degree of the quantitative agreement depends on the distance from the critical point.

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