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Dynamical and Statistical Aspects of Intermediate Energy Nucleus–Nucleus Collisions

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ABSTRACT

Recent experimental and theoretical results for intermediate energy nucleus-nucleus collisions (E/A≈20-200 MeV) will be reviewed. The experimental topics include incomplete fusion reactions, linear momentum transfer measurements, non-equilibrium light and complex particle emission, sub-threshold pion production, high-energy photon emission, and particle correlations at large and small relative momenta. The theoretical discussion covers thermal models, liquid-gas phase transitions, transport equations, numerical simulations, two-particle correlation functions and cluster formation.

KEY WORDS

Intermediate energy nucleus-nucleus collisions; incomplete fusion; nonequilibrium particle emission; liquid-gas phase transition of nuclear matter; entropy production; numerical simulations; two-particle correlation functions; populations of excited states.

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