

Dynamics of "binary" $^{197}\text{Au} + ^{197}\text{Au}$ collisions as a test of the energy dissipation mechanism

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$^{197}\text{Au} + ^{197}\text{Au}$ collisions at an energy of 15 MeV/nucleon were studied using the 4π CHIMERA multidetector array installed at the Laboratori Nazionali del Sud in Catania. In the first stage of analysis a class of nearly binary reactions was selected in which only a relatively small fraction of the total mass escaped detection (in form of neutrons and undetected light charged particles). Measurements of the relative kinetic energy for these binary reactions provide very important information on the dynamics of reseparation of very heavy systems. The collected data have been compared with predictions of two classical models of Cârjan *et al.* [1] and Błocki *et al.* [2], in which shapes of the evolving nuclear systems are predefined by postulated shape parametrization. On the other hand, the data have been compared also with predictions of a dynamical model based on microscopic transport equations of Boltzmann-Nordheim-Vlasov – the stochastic BNV model [3].

References

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