

PROBING NUCLEAR COMPRESSIBILITY VIA
FRAGMENTATION IN Au+Au REACTIONS
AT 35A MeV

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S u m m a r y

The molecular dynamics study of the fragmentation in peripheral $^{197}\text{Au}+^{197}\text{Au}$ collisions at 35 MeV/nucleon is presented to probe the nuclear matter compressibility in the low-density regime. The yields of different fragment species, rapidity spectra, and multiplicities of charged particles with charge $3 \leq Z \leq 80$ are analyzed at different peripheral geometries employing a soft and a hard equations of state. Fragment productions are found to be quite insensitive to the choice of nucleon-nucleon cross sections allowing us to constrain the nuclear matter compressibility. The comparison of calculated charged particle multiplicities with the experimental data indicates the preference for the *soft* nature of the nuclear matter.