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Density evaluation in neck fragmentation at the Fermi energies

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Density determinations for neck fragmentation (ternary reactions) has been shown [1] for the reaction $^{124}\text{Sn} + ^{64}\text{Ni}$ at 35 AMeV, as investigated by using the CHIMERA multi-detector [2]. The analysis is now applied to the system $^{112}\text{Sn} + ^{58}\text{Ni}$ and the reactions induced by ^{124}Xe on ^{64}Zn and ^{64}Ni targets at the same incident energy. In these last cases the two systems differ only for the target atomic number Z and, consequently, for the isospin N/Z ratio [3]. This permits to check further the sensitivity of the method for density determination and to evaluate its dependence on N/Z of the reactions products.

[1] A.Pagano et al., Eur. Phys. J. A56, 102 (2020)

[2] E. De Filippo and A. Pagano, Eur. Phys. J. A50, 32 (2014) and refs. therein;

[3] P. Russotto et al., Eur. Phys. J. A56, 12 (2020)

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Classification de Session: Nuclear Dynamics : from fission to multifragmentation

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