

Isospin Dependence in Nuclear Multifragmentation Within Site Percolation and Nucleation Pictures

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Abstract: The isospin dependence, recently observed in Sn + Sn reactions at 40 MeV/nucleon, is discussed within the framework of two simple nuclear multifragmentation models, namely the site percolation and the nucleation-evaporation models. It is shown that both the models are able to discriminate between $^{112}\text{Sn} + ^{112}\text{Sn}$ and $^{124}\text{Sn} + ^{124}\text{Sn}$ reactions. The nucleation-evaporation model succeeds to reproduce nicely the experimental data, but the site percolation model fails in doing that, even if the cluster noncompactive effect is taken into account. The calculations indicate that the data are originated mainly from a single source.

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Key words: nuclear multifragmentation, isospin dependence, nucleation

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