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Symmetry energy, temperature, density and isoscaling parameter as a function of excitation energy in  $A \sim 100$  mass region<sup>1</sup> D.V. SHETTY, S.J. YENNELLO, G.A. SOULIOTIS, A.L. KEKSIS, S.N. SOISSON, B.C. STEIN, S. WUENSCHEL, Cyclotron Institute, Texas A&M University, College Station, TX 77843 — Understanding the correlation between the temperature, density and symmetry energy of a nuclear system as it evolves with excitation energy is important for constructing the nuclear matter equation of state. Experimentally, the multifragmentation reaction provides the best possible means of studying nuclear matter at temperatures, densities and isospin (neutron-to-proton asymmetry) away from those of normal nuclear matter. Results from recent studies aimed at understanding this correlation will be presented; their relevance to the density dependence of the symmetry energy will be emphasized.

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D.V. Shetty

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