# Probing the Nuclear Equation of State

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I discuss the Equation of State of nuclear matter and in particular the influence of symmetry and pairing energy. Methods to derive the free energy, density and temperature from heavy ion collisions will be analyzed. Breaking of symmetries and other quantum effects will be derived from experimental data and microscopic model simulations. Connections to the disappearance of the Giant Dipole Resonance at high T will be discussed together with a similar possibility for the (elusive) Giant Pairing Resonance. Clusterization and a possible Bose condensate in nuclei will be outlined.

A.B. et al., PRL 101,122702; PRL104,202501; PRC81.044618; PRC.82.064601; NPA847,233; NPA843,1; PLB696,178.