Statistical Mechanics of Nuclear Collisions\textsuperscript{1} CHRISTOPHER MALONE, SUNY at Stony Brook, Stony Brook, NY — The primary objective of relativistic heavy ion collisions is to get insight into the early stages of our universe. By this we mean to study strongly interacting matter under extremely high energy density conditions, reminiscent of the state of matter shortly after the Big Bang. It is very difficult to determine under such extreme, short-lived conditions if this matter has reached equilibrium and deserves to be labelled with such thermodynamic properties as temperature or pressure. However, using equilibrium hadron gas statistical models have been very good approximations to this system, as seen by RHIC collisions.

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