

DO NON-EQUILIBRIUM 1D BOSE GASES APPROACH EQUILIBRIUM?

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I will review the physics of 1D Bose gases, and describe recent experiments where trapped arrays of 1D Bose gases, each with hundreds of atoms, are excited to be far from equilibrium. Our observations extend from the intermediate to strong coupling limits. We observe negligible approach to equilibrium even after each atom has undergone thousands of collisions. When the gases are mutually coupled, so that the collisions have some 2D or 3D character, they readily equilibrate.