

Abstract Submitted  
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**Eigenvalues of the linearized collision operator for a Bose-condensed gas** ERICH GUST, L.E. REICHL, University of Texas at Austin — Beginning from a Hamiltonian description, we have derived the kinetic equation for the elementary excitations of an interacting gas of bosons with and without a condensate. This kinetic equation is the quantum analog of the Boltzmann equation for a classical gas. Linearizing the kinetic equation about the equilibrium state allows us to treat it as a linear integral operator equation and find its eigenvalues. These eigenvalues give the rates at which different eigenmodes relax to equilibrium. They also provide a relationship between the microscopic properties of the interacting particles and the macroscopic properties of the gas.

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