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Type: **Talk**

Attractive binary Bose mixtures at finite temperature

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I will present recent results on the thermodynamic behavior of attractive binary Bose mixtures in three and two dimensions. The focus is on the regime of interspecies interactions where the ground state is in a self-bound liquid phase, stabilized by beyond mean-field effects. Monte Carlo computations at finite temperature and fixed density reveal a fascinating phase diagram, with a first order transition line separating the liquid and gas phases. Across this line, Bose-Einstein condensation occurs in a discontinuous way that could be observed in experiments of mixtures in traps. I will also characterize the tricritical point, where the first-order transition line ends, within the framework of Landau theory.

Abstract category

Numerical Methods

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