

SEMINAR

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Abstract

“Dipolar Multilayers”

We approximate a dipolar Bose gas in a one-dimensional optical lattice as bosons residing on different 2D planes, thus effectively mapping the system on a multi-component 2D Bose gas. The long range of the dipole interaction can lead to appreciable inter-layer correlations up to the limit where dipoles from different planes form bound states. We study the dependence of these correlations on density, distance between layers, and polarization direction, and their effect on the excitation spectrum.