

Abstract Submitted
for the DAMOP11 Meeting of
The American Physical Society

Pair-Supersolidity of Dipoles in a Bilayer System SEBNEM GUNES SOYLER, The Abdus Salam International Centre for Theoretical Physics, BARBARA CAPOGROSSO-SANSONE, ITAMP, Harvard-Smithsonian Center for Astrophysics, GUIDO PUPILLO, IQOQI and Institute for Theoretical Physics, University of Innsbruck — We perform quantum Monte Carlo simulations of a bilayer dipolar system with induced dipole moments perpendicular to the layers and no inter-layer hopping. We show that a pair-supersolid phase can be stabilized for both, soft-core and hard-core bosons, upon doping the checkerboard solid. We study the robustness of the paired-supersolid upon increasing temperature and varying dipolar interaction.

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Date submitted: 07 Feb 2011

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