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Conformal Crystals VISHAL SONI, University of Chicago, LEOPOLDO GOMEZ, Universidad Nacional del Sur - CONICET, WILLIAM IRVINE, University of Chicago — Interacting particles which would otherwise form a perfect crystal arrange into fascinating structures when immersed in spatially varying potentials. Using colloidal experiments and molecular dynamics simulations, we explore the two dimensional ordering of repulsive particles confined by external potentials. By relating the resulting inhomogenous structures to a lattice frustrated by Gaussian curvature, we investigate the role of topological defects in organizing the conformal crystal-like ground states.

Vishal Soni
Univ of Chicago

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