

Abstract Submitted
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Spirals and skyrmions in two dimensional oxide heterostructures¹

XIAOPENG LI, JQI/CMTC, University of Maryland, College Park, W. VINCENT LIU, University of Pittsburgh, LEON BALENTS, KITP, UCSB — A symmetry-based general free energy governing long-wavelength magnetism in two-dimensional oxide heterostructures will be presented. This leads, in the relevant regime of weak but non-negligible spin-orbit coupling, to a rich phase diagram containing in-plane ferromagnetic, spiral, cone, and skyrmion lattice phases, as well as a nematic state stabilized by thermal fluctuations. The general conclusions are vetted by a microscopic derivation for a simple model with Rashba spin-orbit coupling.

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Xiaopeng Li
JQI/CMTC, University of Maryland, College Park

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