

Abstract Submitted
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Strongly correlated atoms in artificial gauge fields CIARÁN HICKEY, PRATIK RATH, ARUN PARAMEKANTI, Univ of Toronto — We study ultracold spinor atomic gases in an optical lattice in the presence of artificial gauge fields and a strong Hubbard repulsion. Using a combination of strong coupling approaches and novel numerical techniques, we explore exotic magnetic ground states and their thermal phase transitions induced by the interplay of momentum space topology and real space strong correlation effects.

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