Abstract Submitted
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Magnetization and Transport Properties for Particles in Spin Textures[1] TIMOTHY MCCORMICK, NANDINI TRIVEDI, The Ohio State University — We use exact-diagonalization and Monte Carlo (ED+MC) to calculate the magnetization M(T) and the spin polarization P(T) for a charged particle moving in a variety of ferromagnetic, spiral and chiral spin textures. We derive an effective spin Hamiltonian by integrating out charged degrees of freedom and compare its magnetization with that of the full Hamiltonian. We then calculate transport properties such as the dynamical conductivity \sigma(\omega) and the anomalous Hall conductivity using the Chern number.

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