① Consider Δ lattice Hamiltonian for Skyrmions

Model $\mathcal{H} = -J\sum_{\langle ij \rangle} \vec{S_i} \cdot \vec{S_j} + \sum_{\langle ij \rangle} \vec{D_{ij}} \cdot \vec{S_i} \times \vec{S_j} - \Delta \sum_i S_{iz}^2 - H \sum_i S_{iz}$

→ Compute ground state configuration : {Pick D to get small unit cell}

→ Spin wave theory for dispersion

→ Compute topological properties of magnon bands

→ Calculate χ_{xy} = thermal Hall Effect

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→ Compute ground state configuration of single Skyrmion.

→ Couple to $d+id$ Superconductor