

Contribution ID: 504 Type: Poster Competition (Graduate Student) / Compétition affiches (Étudiant(e) 2e ou 3e cycle)

(G*) POS-G62 – Extent of Frustration in the Classical Kitaev-T Model

Wednesday 9 June 2021 13:55 (2 minutes)

The Kitaev model on the honeycomb lattice recently attracted considerable attention. However, in candidate materials, other interactions are present, and

among them the off-diagonal Γ interaction has been particularly challenging. While several numerical studies on a minimal Kitaev- Γ ($K\Gamma$) model found multiple quantum disordered phases, definite conclusions on existence of quantum spin liquids remain elusive due to various numerical limitations. Here we present a classical phase diagram of the $K\Gamma$ model in the presence of the bond-anisotropy, which reveals intriguing competing phases and extended frustration. The stability of the classical phases to quantum fluctuations using a linear spin wave theory will be also discussed.

Author: RAYYAN, Ahmed (University of Toronto)
Co-authors: LUO, Qiang (University of Toronto); KEE, Hae-Young (University of Toronto)
Presenter: RAYYAN, Ahmed (University of Toronto)
Session Classification: W-POS-G #57-74 Poster session (Mag.North) / Session d'affiches (Nord mag.)

Track Classification: Magnetic North/Magnétisme Nord