

ICTS Ph.D Synopsis Seminar

- Title** : Unconventional Phases and Phase Transitions in Frustrated Magnets
- Speaker** : Animesh Nanda (ICTS-TIFR, Bengaluru)
- Date** : Monday, 18th July 2022
- Time** : 11:15 am (IST)
- Abstract** : Spin-orbit coupled magnets on the honeycomb lattice lead to an interplay between the competing interactions and quantum fluctuations rendering a quantum spin liquid phase. Although the relevant material shows a co-linear magnetic order at a very low temperature, experiments suggest this magnetic order is fragile and proximate to a spin liquid phase.

In this talk, we will discuss phases and phase transitions between such magnetic orders and the quantum spin liquid in a fine-tuned limit. Specifically, we will focus on the anisotropic limit (toric code) of the Heisenberg-Kitaev-Gamma model to reveal the nature of the phase transitions between gapped Z_2 quantum spin liquid and various co-linear magnetic orders and paramagnetic phases, both in the ferromagnetic and anti-ferromagnetic limit of the Kitaev model.

References: PHYSICAL REVIEW B 102, 235124 (2020)
PHYSICAL REVIEW B 104, 195115 (2021)

- Venue** : Please click on the below link to join the seminar

<https://icts-res-in.zoom.us/j/82123150414?pwd=cGNyOEE5YkQ5WTVrMEdYLT1kVWlBJQT09>

Meeting ID: 821 2315 0414

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