

Searching Dark Matter with Muscovite Mica

Wednesday, April 15, 2026 3:45 PM (30 minutes)

The nature of dark matter remains one of the central open questions in physics, with conventional direct-detection experiments losing sensitivity for very heavy candidates due to their extremely low number densities. In this talk, I will present the potential of muscovite mica crystals as paleo-detectors to search for dark matter with masses far above the weak scale, leveraging their billion-year exposure and exceptional ability to preserve damage tracks. I will highlight how modern readout techniques can enable the identification and characterization of rare dark matter-induced tracks, opening a new window onto ultra-heavy dark matter parameter space beyond the reach of existing experiments.

Do you plan to give the talk in person?

Yes

Author: RAY, Anupam (Queen's University & Perimeter Institute)

Presenter: RAY, Anupam (Queen's University & Perimeter Institute)