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Going Underground or Listening to the Sky?

Saturday 29 April 2023 16:15 (15 minutes)

Dark Matter (DM) remains mysterious. Despite decades of experimental efforts, its microscopic identity is still unknown. Terrestrial detectors are placing stringent exclusions on various parts of the DM parameter space, however, there exist a few blind-spots. In this talk, I will demonstrate how existing GW detectors can be used to unravel the particle nature of DM. More specifically, by observing low mass black hole mergers, existing GW detectors can provide unprecedented sensitivity to the weakly-interacting heavy dark matter, a blind spot to the terrestrial DM detectors. I will also walk you through how continued existence of a variety of stellar objects can probe strongly-interacting heavy DM, a yet another blind spot.

Presenter: RAY, Anupam

Session Classification: Talks