

## Probing Dark Matter at LIGO and Beyond

*Wednesday, 27 February 2019 11:30 (30 minutes)*

What can we learn about Dark Matter frontier with Gravitational-Wave (GW) observations at LIGO and future detectors?

We first introduce a new GW observable – GW Fringe – that allows LIGO alone to already probe compact dark matter. We further show that the dark-matter physics potential of GW observation is significantly widened and increased by augmenting LIGO with mid-frequency detectors. New opportunities include searches of fuzzy axion-like dark matter and cosmic strings as well as an ideal localization as a bonus.

**Presenter:** Prof. JUNG, S.H