Contribution ID: **66** Type: **not specified**

The Primordial Black Holes that Disappeared: Connections to Dark Matter and MHz-GHz Gravitational Waves

Tuesday 9 May 2023 15:00 (15 minutes)

Light primordial black holes(PBHs) form in the early universe through a variety of formation mechanisms. These PBHs can Hawking evaporate before BBN to produce SM particles and in our scenario also generate the dark matter(DM) relic abundance. High frequency gravitational waves in the MHz-GHz regime are produced during the formation of these light PBHs. In this talk I will present two different classes of PBHs: those originating from curvature perturbations generated by inflation, and those originating from false vacuum collapse. I will show ultra-high frequency GWs is a new way to probe cosmology of very light PBHs

Primary authors: GEHRMAN, Thomas (University of Oklahoma); SHAMS ES HAGHI, Barmak (University of Texas at Austin); SINHA, Kuver (University of Oklahoma); Dr XU, Tao (University of Oklahoma)

Presenter: GEHRMAN, Thomas (University of Oklahoma)

Session Classification: Gravity I