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Gravitational waves from the early primordial black hole domination

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Ultra-light primordial black holes (PBHs), formed from small-scale fluctuations, could temporarily dominate the energy density of the early universe and leave distinctive gravitational-wave (GW) signatures through their evaporation. These signals provide a novel window into the PBH mass, abundance, spatial distribution, and evaporation process. In this talk, the speaker will discuss how induced GWs generated from the evaporation of ultra-light PBHs can be used to probe the effects of small-scale primordial non-Gaussianities, as well as the impact of extended PBH mass functions on the resulting GW spectrum.

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