ICCUB School 2023: Primordial Black Holes



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The ultraviolet limit of the power spectrum and Lagrangian perturbation theory

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Understanding the non-linear evolution of Large Scale Structure (LSS) is a key challenge in contemporary cosmology. To this end, it is important to combine both numerical simulations and analytical approaches, such as perturbation theory of LSS. Recently, it has been understood that the power spectrum in a cold dark matter dominated Universe can be investigated via an expansion in inverse powers of the wavenumber. In this talk, I will discuss various aspects of this novel expansion. In particular, I will show how it relates to Lagrangian perturbation theory and use it to derive powerful constraints on the structure of the effective field theory of LSS.

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Session Classification: Selected Talks