

Primordial Black Holes from Scalar Fields and their Novel Manifestations

Tuesday, 13 June 2023 14:20 (20 minutes)

Primordial black holes (PBHs) from the early Universe constitute an attractive non-particle dark matter (DM) candidate. I will present several generic mechanisms of PBH formation based on scalar fields, highlighting how astrophysical signatures of PBHs can help distinguish them. Intriguingly, detected microlensing candidate events by Subaru Hyper Suprime-Cam could be the first hints of PBHs associated with yet unexplored regimes of the fundamental QCD strong force or bubble multiverse. I will further highlight connections of PBHs with various astronomical puzzles and signatures, charting prospects for discovery.

Secondary category for the parallel session (optional)

Cosmology

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