NEHOP'25 - New Horizons in Primordial Black Hole Physics



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Dark micro-boson stars from primordial black hole superradiance

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I discuss the production of bosonic dark matter by light primordial black holes via superradiance, alongside Hawking emission. In particular, I will show that the resulting dark matter clouds may, under certain conditions, survive as self-gravitating (microscopic) boson stars after the black holes evaporate completely (before BBN). I will also discuss some of the potential implications of this mechanism for dark matter detection and phenomenology.

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