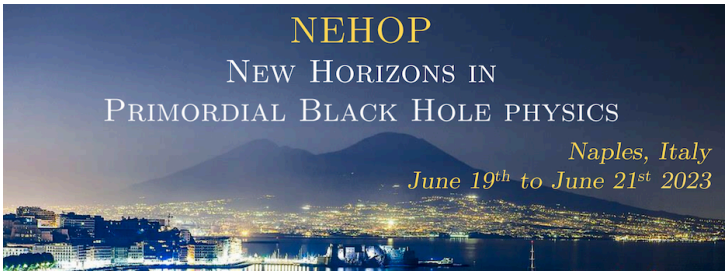

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Hot spots around small primordial black holes

Wednesday, 21 June 2023 17:40 (20 minutes)

Small PBHs with masses $10^9\,g$ completely evaporate before the big bang nucleosynthesis (BBN). One of the important traces of such small PBHs is that the Hawking radiation emitted from these PBHs heats up the ambient plasma if its temperature is lower than the Hawking temperature. In this talk, we discuss the formation of a locally high-temperature region around a small PBH and see how it results in a non-trivial temperature profile, namely a hot spot surrounding a PBH with a broken power-law tail. We also discuss its possible phenomenological impacts.

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