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## Hot spot around evaporating primordial black holes

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Primordial black holes (PBHs) form via gravitational collapse of large density perturbations during the radiationdominated epoch. If a PBH have a mass smaller than O(10^9)g, it can completely evaporate before the Big Bang nucleosynthesis (BBN). We consider the case where PBHs once dominate the Universe and realize reheating through Hawking radiation. The thermalization of the high energy particles emitted from PBHs in the dilute plasma is non-trivial, especially when the emitted particles get more and more energetic as the PBH mass decreases such that the Landau–Pomeranchuk–Migdal (LPM) effect becomes important. The interplay among the time scales of dissipation, LPM effect, and the evaporation results in an interesting temperature profile around the evaporating black hole. In this talk, I will discuss the thermalization process of the high energy particles from PBH evaporation and the temperature profile around a PBH due to the complication of thermalization.

## Summary

Primary author: HE, Minxi (KEK)

**Co-authors:** Prof. KOHRI, Kazunori (KEK); MUKAIDA, Kyohei (DESY); YAMADA, Masaki (Tohoku University)

Presenter: HE, Minxi (KEK)

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