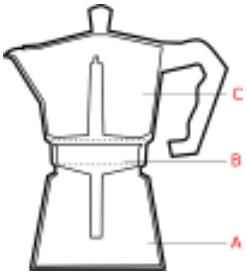

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Some phenomenological consequences of neutrino emission from primordial black holes

Wednesday 7 October 2020 09:10 (25 minutes)

Hawking radiation offers a unique method of neutrino production, unlike any weak interaction process. In fact, black hole evaporation depends on whether neutrinos are Dirac or Majorana, providing a different phenomenology in each case. If neutrinos are Dirac particles, the emission of the light right-handed states does not suffer from the helicity suppression present in weak interactions. Hence, it is possible to have a significant fraction of such states as relics from the Early Universe. On the other hand, if neutrinos are Majorana, heavy right-handed states like those appearing in the seesaw mechanism can be produced by a black hole, altering the thermal leptogenesis, and thus the baryon asymmetry. In this talk, we will explore these possibilities.

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