

## Composite Asymmetric Dark Matter from Primordial Black Holes

*Wednesday, 18 February 2026 11:00 (20 minutes)*

We investigate a cogenesis scenario for composite asymmetric dark matter framework: a dark sector has a similar strong dynamics to quantum chromodynamics in the standard model, and the dark-sector counterpart of baryons is the dark matter candidate. The Hawking evaporation of primordial black holes plays the role of a source of heavy scalar particles whose CP-violating decay into quarks and dark quarks provides particle-antiparticle asymmetries in baryons and dark matter, respectively. Primordial black holes should evaporate after the electroweak phase transition and before the big-bang nucleosynthesis for explaining the baryon asymmetry of the Universe and for consistent cosmology. We find that this scenario explains the observed values for both baryon and dark matter energy densities when the heavy scalar particles have a mass of  $10^6$  -  $10^9$  GeV and the primordial black holes have masses of  $10^7$  -  $10^9$  g.

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