

New Horizons in Primordial Black Hole physics (NEHOP)



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Primordial black holes and particle dark matter are intimately intertwined

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We explore the possibility to detect dark matter (DM) in the form of a new weakly interacting massive particle (WIMP) from its interaction in the dense environment around a primordial black hole (PBH). We constrain the abundance of PBHs from the gamma-ray flux expected by the annihilation of WIMPs gravitationally bound to PBHs. We derive analytically the DM profile around the PBH, forming a characteristic power-law profile. Based on 2011.01930; 2008.08077

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