

New Horizons in Primordial Black Hole physics (NEHOP)



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Primordial Extremal Black Holes

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We show that primordial near-extremal charged black holes with a wide range of masses from the Planck scale to around 10^9 grams could be cosmologically stable and provide a viable explanation for dark matter. The near-extremal charged black holes can carry either the Standard Model magnetic charges or other dark gauge charges. Several observational methods including the merger events of binary systems are proposed to observe these black holes. A theoretic calculation for the charged black hole late-time evolution using AdS_2/CFT_1 will also be presented.

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