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CMB Bounds from Primordial Black Hole Accretion

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Primordial black holes (PBHs) are a well motivated, macroscopic alternative to particle-like dark matter. If present in the early universe, PBHs will accrete matter, producing high energy photons. The injection of high energy photons during the Dark Ages affects the thermal and ionization histories of the universe, leading to noticeable impacts on the CMB power spectra. In this talk, I will provide an overview of the early universe physics that controls the thermal and ionization histories and the CMB bounds obtained from PBH accretion. In particular, I will present updated constraints on the PBH abundance using the Park-Ricotti accretion model, which incorporates the formation of ionization fronts.

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