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Realistic and conservative bounds on primordial black holes from the CMB

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This talk examines the cosmic microwave background (CMB) bounds on solar mass and heavier primordial black holes (PBHs). While the CMB bound is often regarded as the most stringent in this mass regime, its computation relies on several astrophysical assumptions, including accretion geometry, dark matter halo formation, and the treatment of energy injection and deposition. By applying realistic accretion models incorporating ionization fronts and halo effects, we aim to refine these constraints and identify the most conservative bound from current cosmological observations.

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