

Black Hole Remnants and Classical vs. Quantum Gravity

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Abstract

Belot, Earman, and Ruetsche (1999) dismiss the black hole remnant proposal as an inadequate response to the Hawking information loss paradox. I argue that their criticisms are misplaced and that, properly understood, remnants do offer a substantial reply to the argument against the possibility of unitary evolution in spacetimes that contain evaporating black holes. The key to understanding these proposals lies in recognizing that the question of where and how our current theories break down is at the heart of these debates in quantum gravity. I also argue that the controversial nature of assessing the limits of general relativity and quantum field theory illustrates the significance of attempts to establish the proper borders of our effective theories.

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