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Why the black hole information problem is a false problem.

Monday, July 5, 2021 6:45 PM (35 minutes)

I review the arguments supporting the idea that there is an information puzzle in black holes physics. Namely that unitarity is conflicting with local quantum field theory and the equivalence principle. I show that these arguments rely on speculative extra assumptions, justified only by faith in specific hypothesis on quantum gravity. Therefore the black hole information puzzle a problem only for these peculiar approaches to quantum gravity. Distinguishing thermodynamical entropy from von Neumann entropy and event horizons from apparent horizons shows that the black hole information problem is, by itself, a false problem.

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