

Conceptual Insights into Black Hole Paradoxes

Monday, 9 September 2024 12:25 (25 minutes)

This talk provides a conceptual analysis of the AMPS (firewall) and AMPSS paradoxes in black hole physics. We begin by cataloguing the various possible resolutions of the AMPS paradox through “causal structures”, explaining that solutions like ER=EPR introduce non-local connections in semiclassical physics. Next, we address the AMPSS paradox, showing how resolutions tied to the program of holographic interior reconstruction offer insights into the status of the perturbative series in Quantum Gravity. Additionally, we demonstrate that the implicit assumptions behind the holographic interior reconstruction resolution of the AMPSS paradox are the same as those underpinning an unrelated ER=EPR resolution of the AMPS paradox.

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