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Wormhole corrections to the Unruh effect

I will describe how topologically non-trivial contributions to the semiclassical gravitational path integral modify the Unruh effect, which is a phenomenon whereby an accelerating observer experiences a thermal state. In particular, I consider topologies in the Schwinger-Keldysh formalism involving wormholes connecting the forward and backward evolving branches. These wormholes may, under certain conditions, be traversed by an Unruh-DeWitt detector, leading to novel phases in the spectrum of its transition probabilties. I discuss how this phenomenon may resolve a certain 'paradox' that is analogous to the information paradox in black hole evaporation.

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