

# What configurations should we sum over in the Lorentzian gravitational path integral?

*Monday 6 May 2024 14:00 (15 minutes)*

I will discuss the Lorentzian quantum gravity path integral in simplicial approaches like Regge calculus and spin foams. I will draw connections between three different aspects of the Lorentzian path integral: firstly the appearance of light cone irregular configurations, which result in a surprising ambiguity for the Lorentzian path integral, secondly the fate of spike configurations in the Lorentzian path integral and thirdly the question whether the Lorentzian path integral can fully avoid the conformal factor problem of the Euclidean approaches. These issues shed new light on the question of what kind of configurations we should sum over in the path integral I will also draw interesting conclusions on the recently debated question of whether the no-boundary wave function can be constructed via a Lorentzian path integral.

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