15th annual conference on Relativistic Quantum Information (North)



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Dynamic Localization of a Free Quantum Field

Monday, 23 June 2025 16:40 (15 minutes)

In this presentation we will discuss our work on the evolution of a quantum field subject to a time-dependent, confining potential well. In particular we focus on the entanglement dynamics in the process of the construction of a confined field in a finite region (that can be seen as the construction of an optical cavity) from the field vacuum in flat free space. Furthermore, we will discuss that this scenario can model the construction of a covariant particle detector model, and in what way the entanglement present in the field can affect these detectors.

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