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Vacuum selection in qft

Monday, July 8, 2024 4:00 PM (20 minutes)

In this talk we show that the relevant physical information in the construction of a vacuum state is encoded in the selection of a Lagrangian subspace of the space of complexified solutions. In particular we show the existence of a one-to-one correspondence between vacuum states for qft in curved spacetime and Lagrangian subspace. This result implies a unification of a general notion of amplitude and vacuum state as well as a proposal for vacuum selection. Moreover we will briefly comment on the quantization of evanescent modes of the field (modes with energy smaller than the mass) based on the appropriate identification of the corresponding Lagrangian subspace, and mention some of the latest results obtained in this area.

Primary author: Dr COLOSI, Daniele (Universidad Nacional Autónoma de México)

Presenter: Dr COLOSI, Daniele (Universidad Nacional Autónoma de México)

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