ID contributo: **10** Tipo: **poster**

The vacuum as a Lagrangian subspace

venerdì 25 ottobre 2019 15:47 (1 minuto)

We unify and generalize the notions of vacuum and amplitude in linear quantum field theory in curved spacetime. Crucially, the generalized notion admits a localization in spacetime regions and on hypersurfaces. The underlying concept is that of a Lagrangian subspace of the space of complexified germs of solutions of the equations of motion on hypersurfaces. Traditional vacua and traditional amplitudes correspond to the special cases of definite and real Lagrangian subspaces respectively. Further, we introduce both infinitesimal and asymptotic methods for vacuum selection that involve a localized version of Wick rotation.A recurrent theme is the occurrence of mixed vacua, where propagating solutions yield definite Lagrangian subspaces and evanescent solutions yield real Lagrangian subspaces. We provide examples that cover Minkowski space, Rindler space, Euclidean space and de Sitter space. A simple formula allows for the calculation of expectation values for observables in the generalized vacua.

Summary

Autore principale: COLOSI, Daniele (Universidad Nacional Autonoma de Mexico)

Relatore: COLOSI, Daniele (Universidad Nacional Autonoma de Mexico)

Classifica Sessioni: Posters and Coffee

Classificazione della track: Fundamental Interacions