



Department of
Theoretical Physics

THE QUANTUM SPACETIME SEMINAR SERIES

Non-local divergences in open QFTs

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Date: September 30, 2019

Time: 11.30 am

Venue: A-304, TIFR



We study renormalisation of open QFTs. Unlike the unitary field theories, open field theories have non-local divergences in one loop correction to the coupling constants. We do not have a good understanding of these divergences. A microscopic derivation of the open effective theory could resolve their appearance. But integrating out the bath degrees of freedom is technically difficult for a field. The recently proposed holographic Schwinger-Keldysh prescription has opened up a new direction; we can derive the open action for fields.

In this seminar I shall discuss about the renormalisation of open ϕ^4 theory and discuss about non-local divergences. I shall also talk about the recent progress on the holographic derivation of open ϕ^4 theory.