

The renormalisation of IR divergences in de Sitter

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In this talk, we present a renormalisation procedure for the infrared divergences of tree-level in-in correlators in de Sitter. These divergences are due to the infinite volume of spacetime, and are analogous to the IR divergences in AdS dealt with by holographic renormalisation.

We show how all infinities can be removed by adding local counterterms defined at the future boundary of dS to the Schwinger-Keldysh path integral. We contrast this procedure with holographic renormalisation in AdS and discuss the lessons for establishing a holographic dual of de Sitter spacetime.