Department of Theoretical Physics

THE QUANTUM SPACETIME SEMINAR SERIES

Dispersion Relation in Conformal Field Theory

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Date: Monday, 9th March 2020

Time: 2:00 pm

Venue: AG-66, TIFR

We propose a dispersion relation in conformal field theory which expresses the four point correlator as an integral over its single discontinuity. Exploiting the analytic properties and crossing symmetry of the correlator, we show that in perturbative settings the correlator $< \Phi\ \Phi\ \Phi\ \Phi >$ in Φ^4 theory at the Wilson-Fisher fixed point can be computed in closed form up to order ϵ^2 in the ϵ expansion. At small coupling this can be thought of as an alternative way of computing the CFT correlators with some inputs using Feynman diagrams.

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