THE QUANTUM SPACETIME SEMINAR SERIES

Department of Theoretical Physics

Momentum space CFT correlation function and its applications

(Zoom Seminar)

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Zoom link shall be shared separately

Momentum space CFT correlator finds its application in cosmology, condensed matter physics, its connection to flat space amplitude in one higher dimensions. In this talk we discuss some of these aspects of momentum space correaltor. We first focus on three point function of conserved currents in momentum space and show that the structure is much richer than its position space analogue. We then make the connection CFT_3 correlator/ flat space amplitude in 4 dimensions precise and discuss some puzzles and their resolution. We briefly discuss how this connection gives rise to possibility of   interesting new developments in higher point CFT correlation functions. We then turn our attention to   application of the results to cosmological correlation functions, in Chern-Simons (CS) matter theories. One interesting outcome for CS matter theories is its anionic nature of correlation functions. We discuss briefly ongoing work on understanding this anionic nature for higher point function in CS matter theories.

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