

Non-perturbative Mellin Amplitudes

Wednesday, 15 January 2020 17:30 (15 minutes)

We argue that nonperturbative CFT correlation functions admit Mellin amplitude representation. Perturbative Mellin representation readily follows. We derive main properties of nonperturbative CFT Mellin amplitudes: analyticity, unitarity and polynomial boundedness at infinity. We consider dispersion relations for Mellin amplitudes and use them to derive bootstrap bounds and constrain AdS effective actions. We analyze the bootstrap bounds in the case of the 3d Ising model. Mellin amplitudes are particularly simple for large N CFTs and 2D rational CFTs. We discuss these special cases to illustrate general ideas on concrete examples.

Presenter: ALVES DA SILVA, Joao Pedro (EPFL - EPF Lausanne)

Session Classification: short talk