

Bootstrapping a two-loop four-point form factor

Friday, 30 October 2020 04:00 (1 hour)

We explain a recent computation of a two-loop four-point form factor in planar $N=4$ SYM, which belongs to the class of two-loop five-point scattering observables with one off-shell color-singlet leg. A new bootstrapping strategy is developed to obtain this result by starting with an ansatz expanded in terms of master integrals and then solving the master coefficients via various physical constraints. We find that consistency conditions of infrared divergences and collinear limits, plus the cancellation of spurious pole, can fix a significant part of the ansatz. The remaining degrees of freedom can be fixed by one single type of two-double unitarity cut.

Presenter: Prof. YANG, Gang

Session Classification: 解析计算