

Five-loop anomalous dimensions of large charge operators in a scalar theory with $O(N)$ symmetry

Monday, 22 August 2022 10:00 (25 minutes)

We compute the complete Q -dependence of anomalous dimensions of traceless symmetric tensor operator ϕ^Q in $O(N)$ scalar theory to five-loop. The renormalization factors are extracted from $\phi^Q \rightarrow Q\phi$ form factors, and the integrand of form factors are constructed with the help of unitarity cut method. The anomalous dimensions match the known results, where the leading and subleading terms in the large Q limit were obtained using a semiclassical method.

Summary

Primary authors: Dr YI, Li; JIN, Qingjun (ITP-CAS)

Presenter: JIN, Qingjun (ITP-CAS)

Session Classification: Plenary 甲