Bologna Workshop on:

CFT AND INTEGRABLE MODELS

and their applications from gauge/gravity dualities to statistical mechanics and quantum information

Contribution ID: **88**   Type: **Talk (30 min)**

Structure Constants of Short Operators in N=4 Super-Yang Mills

Wednesday, 6 September 2023 15:50 (30 minutes)

$\mathcal{N} = 4$ Super Yang-Mills Theory in 4 dimensions is a Super-conformal Gauge Theory known to be integrable in the planar limit. In the past decade its full finite size spectrum was solved by the Quantum Spectral Curve (QSC) method. Structure Constants for asymptotically large operators were computed at finite t'Hooft coupling by the integrability based Hexagonalization approach. However the finite size corrections to the latter present a complicated structure and divergences that are hard to regularize. In this talk I will present a conjecture for the resummation of all this wrapping corrections for a particular class of Three-Point Functions composed by one non-protected and two protected operators. Our result unifies the Hexagon and QSC methods for the first time and I will show how it reproduce 5-loop weak coupling data as well as String Theory data at strong coupling. Based on Phys.Rev.Lett. 130 (2023) 13, 131603

Primary authors: Dr GEOGOURDIS, Alessandro (NORDITA); KLEMENCHUK SUEIRO, Arthur (LPENS, IPhT); Dr BASSO, Benjamin (LPENS)

Presenter: KLEMENCHUK SUEIRO, Arthur (LPENS, IPhT)

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