

# Modularity and Resurgence for N=4 Integrated Correlators

*Wednesday, May 22, 2024 4:15 PM (1 hour)*

I will describe a surprisingly simple representation of a class of integrated correlation functions of four superconformal primaries in the stress tensor multiplet of N=4 supersymmetric Yang-Mills theory with arbitrary simple gauge group, G. I then present exact formulae for these integrated correlators which are manifestly invariant under GNO electro-magnetic duality. For classical gauge groups,  $G=\text{SU}(N)$ ,  $\text{SO}(N)$ ,  $\text{USp}(2N)$ , In the large-N limit these correlators are interpreted via holography in terms of the low-energy expansion of type IIB superstring amplitudes in  $\text{AdS}_5 \times \text{S}^5$  or an orientifold thereof.

From the asymptotic perturbative large-N expansion of these integrated correlators we can reconstruct non-perturbative, but modular invariant exponentially suppressed terms via resurgence analysis.

**Presenter:** DORIGONI, Daniele (Durham University)