

# XXVIII International Workshop on Deep Inelastic Scattering and Related Subjects



Contribution ID: 12

Type: **Contributed Talk**

## All-order amplitudes at any multiplicity in the multi-Regge limit

*Thursday, 26 March 2020 09:18 (18 minutes)*

We propose an all-loop expression for scattering amplitudes in planar  $N=4$  super Yang-Mills theory in multi-Regge kinematics valid for all multiplicities, all helicity configurations and arbitrary logarithmic accuracy. Our expression is arrived at from comparing explicit perturbative results with general expectations from the integrable structure of a closely related collinear limit. A crucial ingredient of the analysis is an all-order extension for the central emission vertex that we recently computed at next-to-leading logarithmic accuracy. As an application, we use our all-order formula to prove that all amplitudes in this theory in multi-Regge kinematics are single-valued multiple polylogarithms of uniform transcendentality.

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**Session Classification:** Small-x, Diffraction and Vector Mesons

**Track Classification:** Small-x, Diffraction and Vector Mesons