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## Structure constants in N=4 SYM from the OPE and from integrability

*Wednesday 28 September 2016 15:00 (20 minutes)*

Three-point functions of generic gauge invariant composite operators in N=4 SYM are very hard to construct in higher-order weak-coupling perturbation theory. On the other hand, three-point functions of half-BPS operators are non-renormalised, and guided by symmetry principles the integrands for their four-point functions can be constructed to high loop order at least in the planar theory. We sketch this approach and explain how the three-point couplings of two half-BPS and one twist two operator can be found by a double OPE limit on four-point functions. We present new results at four loops obtained by the technique of asymptotic expansions. Second, we discuss the calculation of the same class of structure constants at three loops using the recently proposed hexagon formalism.

**Presenter:** EDEN, Burkhard**Session Classification:** Parallel Session: Strings & Mathematical Physics**Track Classification:** String & Mathematical Physics