Contribution ID: **45** Type: **not specified**

High energy limit of R-current scattering in N=4 SYM

Thursday 27 September 2007 15:00 (30 minutes)

We address the computation of the four-point function of R-currents in N=4 SYM in the Regge limit as a tool to study such regime in a gauge invariant framework. The R-current is a close analog of the EM current in QED and SQED, which couple a gauge invariant state ('photon') to a YM system. Gauge invariance guarantee that the amplitude is free from infrared divergences. We discuss some subtlelties associated with the fact the R-current are not associated with a gauge symmetry.

Based on preprint

to be published

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Session Classification: String theory (2)