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An asymptotic solution of large-N QCD, for the glueball and meson spectrum and the collinear S-matrix

Tuesday, 22 September 2015 10:30 (30 minutes)

We work out the constraints that the renormalization group imposes on two- and three-point, and certain multi-point correlators and S-matrix amplitudes, in large-N QCD and, more generally, in any large-N confining asymptotically free gauge theory. We construct a twistorial string theory that implies the QCD large-N glueball and meson spectrum and collinear S-matrix, that satisfies the aforementioned constraints as opposed to all the previously known string-inspired models, including those based on gauge/gravity duality. In particular we predict the spectrum of odd-spin glueballs, yet to be observed, but in the experimental reach of GlueX or of other experiments.

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