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Renormalons in the lattice: the pole mass and the gluon condensate

Tuesday 9 September 2014 15:00 (30 minutes)

We obtain the asymptotic behavior of the perturbative expansion of the pole mass and the plaquette by computing the self-energy of an static quark and
the plaquette to order alphaˆ{20} and alphaˆ{35} respectively. The results fully confirm renormalon expectations. Confronting these results with nonperturbative lattice data we confirm the OPE beyond perturbation theory (no dimension two condensate is found) and determine the gluon condensate and the binding energy of the B-meson.

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