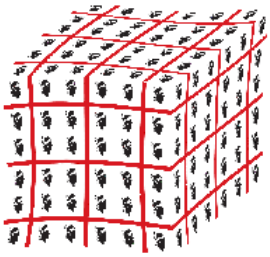

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Gluon Mass in Landau Gauge QCD

Tuesday, 15 June 2010 18:00 (5 minutes)

The interpretation of the Landau gauge lattice gluon propagator as a massive type bosonic propagator is investigated. This is relevant for the analytical studies of the Landau gauge gluon propagator, since in Lattice QCD we are able to also compute the non-pertubative infrared gluon mass and compute how it matches with the ultraviolet region addressed in pertubative QCD.
Our analysis suggests a running gluon mass, decreasing with
the momentum, starting from a value of $\sim$ 630 MeV in the infrared region and suggesting a simple $q^2 \ln q^2$ dependence for momenta above 1 GeV.
Our data and our best fit are also compatible with the perturbative behaviour in the right momentum region.

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poster

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