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## Yang Mills short distance potential and perturbation theory

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We compute the coupling  $\alpha_{qq}$  defined in terms of the static quark force by simulating the SU(3) Yang Mills theory at lattice spacings down to  $10^{-2}$  fm, keeping the volume large. Open boundary conditions avoid the freezing of topology. We can thus investigate the applicability of perturbation theory, extract the pure gauge  $\Lambda$ -parameter and compare to  $\Lambda$  obtained with other methods.

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