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NNLO calculation of the Polyakov loop

Thursday 1 September 2016 17:00 (30 minutes)

We calculate the next-to-next-to-leading correction to the expectation value of the Polyakov loop or equivalently to the free energy of a static charge. This correction is of order g^5 . We show that up to this order the free energy of the static charge is proportional to the quadratic Casimir operator of the corresponding representation. We also compare our perturbative result with the most recent lattice results in SU(3) gauge theory.

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Summary

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