

Computation of hybrid static potentials from optimized trial states in SU(3) lattice gauge theory

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We compute hybrid static potentials in SU(3) lattice gauge theory using a method to automatically generate a large set of suitable creation operators from elementary building blocks. This method allows us to find a set of creation operators, which generate trial states with large ground state overlap for several angular momentum and parity channels. We present results for the corresponding hybrid static potentials. Moreover, we study the flux tube structure using the same creation operators and show preliminary results in SU(2) lattice gauge theory.

Primary authors: Mr REISINGER, Christian (Goethe Universität Frankfurt am Main, Institut für Theoretische Physik); Mr MUELLER, Lasse (Goethe University Frankfurt); Prof. WAGNER, Marc (Goethe University Frankfurt); Prof. PHILIPSEN, Owe (Goethe University Frankfurt); Dr CAPITANI, Stefano (Goethe University Frankfurt)

Presenter: Mr REISINGER, Christian (Goethe Universität Frankfurt am Main, Institut für Theoretische Physik)

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