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# Lattice field theory results for hybrid static potentials at short quark-antiquark separations and their parametrization

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We present SU(3) lattice Yang-Mills data for hybrid static potentials from five ensembles with different small lattice spacings and the corresponding parametrizations for quark-antiquark separations $0.08\,\mathrm{fm} \leq r \leq 1.12\,\mathrm{fm}$. We remove lattice discretization errors at tree level of perturbation theory and at leading order in $a^2$ as well as the $a$-dependent self-energy. In particular the tree-level improvement of static potentials is discussed in detail and two approaches are compared. The resulting parametrizations are expected to represent continuum results for hybrid static potentials within statistical errors.

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