

Hybrid static potentials at small quark-antiquark separations

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We compute hybrid static potentials in SU(2) lattice gauge theory using a multilevel algorithm and three different small lattice spacings. The resulting static potentials, which are valid for quark-antiquark separations as small as 0.05 fm, are important e.g. when computing masses of heavy hybrid mesons in the Born-Oppenheimer approximation. We also discuss and exclude possible systematic errors from topological freezing, the finite lattice volume and glueball decays.

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