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## Lattice QCD analysis for the instantaneous interquark potential in the generalized Landau gauge

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We analyze the instantaneous interquark potential in the generalized Landau gauge (lambda gauge) in SU(3) lattice QCD. Using this gauge, we can analyze continuous change of gluon properties from the Landau gauge toward the Coulomb gauge.

In the Coulomb gauge, the instantaneous potential is expressed by the Coulomb plus linear potential, with about two times larger string tension. In the Landau gauge, the instantaneous potential has no linear part. We find that this linear confinement part appears and grows during the change from the Landau gauge to the Coulomb gauge.

We also find that the linear derivative of the instantaneous potential coincides with the string tension in a specified lambda gauge with  $\lambda_C$ . In this gauge, the interquark potential can be approximately described by the instantaneous gluon exchange. We expect that this  $\lambda_C$  gauge is useful in connecting from QCD to the quark model.

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talk

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