

Entanglement Entropy of the Infinitely-Heavy Quark-Antiquark System from Lattice QCD

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An infinite-heavy quark system can clearly be divided into two subsystems: one consisting of two infinitely heavy quarks and the other being the sea gluon and sea quark subsystem, allowing us to define the reduced density matrix and entanglement entropy. We calculate the reduced density matrix defined in color space under the Coulomb gauge condition on lattice dynamical configurations and find the relationship between the proportion of different color components and the distance between quarks.

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