

S -wave scattering length of the $J/\psi J/\psi$ system from lattice QCD in coordinate space

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The $J/\psi J/\psi$ energy spectra are extracted from lattice QCD by utilizing the Coordinate-Space Two-Hadron Operators, named as dumbbell method.

Finite-volume energies indicate an attractive interaction in total spin $S = 0$ channel and a repulsive interaction in total spin $S = 1$ channel and total spin $S = 2$ channel.

The scattering lengths of three different total spin are also extracted from the lattice energy levels.

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