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Lattice QCD inputs for NREFT description of charmed hadrons

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Charmed hadrons can be described in a non-relativistic theory framework by theories such as pNRQCD and Born-Oppenheimer field theory. While the appropriate effective field descriptions are known up to high orders in perturbation theory, they require non-perturbative information of low-energy correlators. Lattice QCD is a perfect tool to measure these correlators and potentials. In this talk, I will report on the recent status of lattice measurement of these correlators.

At finite temperature the behavior of charmonium can be described with a set of transport coefficients out of which the diffusion coefficients are easily measured on the lattice and have received much attention in the recent years. At zero temperature, the static potentials and associated forces are well studied and there is ongoing work to measure the more complicated correlators needed as input for the effective field theories.

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