



Contribution ID: 274

Type: **Poster**

Antistatic-antistatic-light-light potentials and disentanglement of excited states in Lattice QCD

Tuesday 4 November 2025 18:00 (1h 30m)

We report on our ongoing lattice QCD computation of antistatic-antistatic-light-light potentials using the CLS $N_f = 2$ gauge configurations and the OpenQ*D codebase. We improve on previous work by calculating the correlation matrices for all three attractive ground state potentials previously characterized, to mitigate excited state contributions and further probe the vague indication of one-pion exchange at static quark separations $r_{gtrsim.5fm}$. Furthermore, we attempt to implement Wilson flow smearing at the source and sink, and we bolster our statistical analysis by taking into account autocorrelations using the pyerrors package.

Parallel Session (for talks only)

Hadronic and nuclear spectrum and interactions

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Session Classification: Poster session