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Precision charmonium spectroscopy on CLS ensembles: an update

Monday 3 November 2025 15:10 (20 minutes)

The masses of the lowest charmonium states are determined on a set of over 50 coordinated lattice simulations (CLS) gauge ensembles with $N_f = 2 + 1$ sea quark flavours of non-perturbatively improved Wilson fermions. The inverse lattice spacing is varied from about 2 GeV up to more than 5 GeV, whereas various combinations of pion and kaon masses cover the quark mass plane, with the pion mass ranging from 420 MeV down to 130 MeV. This enables controlled continuum limit and quark mass extrapolations and allows the impact of the neglected charm quark annihilation diagrams and of the electromagnetic interaction to be assessed.

Parallel Session (for talks only)

Hadronic and nuclear spectrum and interactions

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