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Refining Gluon Distributions in Nucleons via Lattice QCD

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In this talk, we present updates on the measurement of the unpolarized gluon distribution in the nucleon from $N_f = 2 + 1$ QCD on the lattice, extending the work published in PRD 104 (2021) 9, 094516, where the estimation is performed with a 358 MeV pion mass and 0.094 fm lattice spacing. Utilizing larger statistical datasets and refining the sGEVP determination through a projection of the two-point function onto the most relevant subspace, we aim to enhance the precision of our results. This work represents the first step of a forthcoming project that aims to achieve continuum results for physical masses.

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