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Calculation of the Gluon PDF using Pseudo-PDF technique

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We present our calculation of the unpolarized gluon parton distribution function (PDF) in the nucleon using the Pseudo-PDF technique on a $32^3 \times 64$ isotropic lattice with a pion mass of 358 MeV. The nucleon interpolating fields are reconstructed using distillation and we apply the sGEVP method to calculate the gluonic matrix elements. We smear the gauge fields using the gradient-flow to compute the flowed matrix elements and using the double ratio, we calculate the flowed reduced Ioffe-time distribution (rITD). We extrapolate the results to the flow-time independent rITD and calculate the light-cone ITD in the $\overline{MS}$ scheme, at the small z-separation limit, using an NLO matching formula. Finally, the gluon PDF is calculated from the light-cone ITD by applying the appropriate kernel form.

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