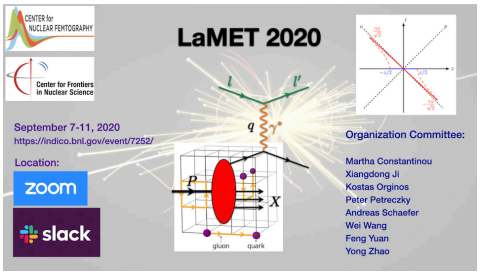

Contribution ID: **37** Type: **not specified**

Direct computation of light quarks and strange helicity PDFs with lattice QCD

Thursday 10 September 2020 10:30 (30 minutes)

We present the first lattice QCD computation of the light quarks and strange helicity PDFs. We used a $N_f = 2 + 1 + 1$ lattice ensemble generated by the Extended Twisted Mass collaboration (ETMC), with pion mass $M_\pi \approx 250$ GeV, $M_\pi L \approx 3.8$ and lattice spacing $a = 0.0938(2)(3)$ fm. Momentum smearing is employed in order to improve the signal-to-noise ratio, allowing for the computation of the matrix elements up to nucleon boost momentum $P_3 = 1.24\,\mathrm{GeV}$.

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Session Classification: Session I