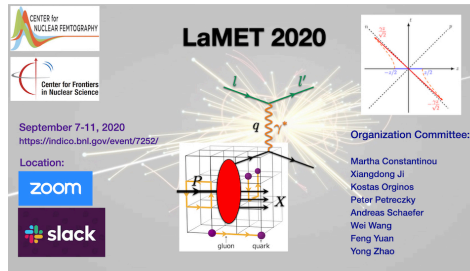


LaMET2020 Online



The poster for LaMET 2020 features a central diagram of a pion with a quark-antiquark pair and a gluon. It includes logos for the Center for Nuclear Photography and the Center for Frontiers in Nuclear Science. The event dates are September 7-11, 2020, with a URL: <https://indico.bnl.gov/event/7262/>. Logos for Zoom and Slack are also present. The Organization Committee lists: Martha Constantinou, Xiangdong Ji, Kostas Orginos, Peter Petreczky, Andreas Schafer, Wei Wang, Feng Yuan, and Yong Zhao.

Contribution ID: 46

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Valance parton distribution of pion from fine lattices

Monday, 7 September 2020 11:20 (30 minutes)

We present a high-statistics lattice QCD determination of the valence parton distribution function (PDF) of pion, with a mass of 300 MeV, using HISQ gauge ensembles with two very fine lattice spacings of $a = 0.06$ fm and 0.04 fm. Our analysis use both RI-MOM and ratio-based schemes to renormalize the equal-time bi-local quark-bilinear matrix elements of pions boosted up to 2.4 GeV momenta. We reconstruct the x -dependent PDF, as well as infer the first few even moments of the PDF using the 1-loop perturbative LaMET framework. We also present preliminary results for pion PDF with physical mass from DWF calculations. This talk is based on arXiv: 2007.06590.

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Session Classification: Session II