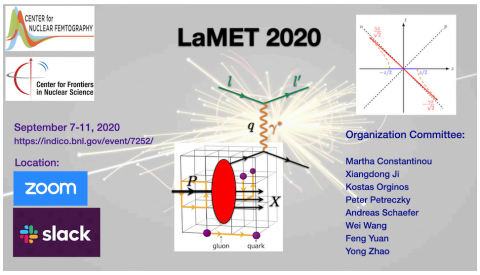

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Hadron structure from current-current correlation functions in lattice QCD

Thursday 10 September 2020 09:30 (30 minutes)

We present how partonic structure of hadrons can be extracted from matrix elements of two spatially-separated currents, which are computable directly in lattice QCD and can be factorized into parton distribution functions with calculable hard coefficients. We demonstrate the recently derived one-loop matching coefficient has a well-controlled behavior in Ioffe-time, for example, in a specific calculation of pion valence quark distribution. We discuss issues in obtaining PDFs from the factorized matrix elements which involve an inverse problem - common to the extraction of PDFs from lattice QCD calculations or experimental data and what would require in a lattice calculation to discriminate between different large x behaviors of pion valence PDF.

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