**Ioffe time behavior of Parton Distribution Functions and Generalized Parton Distributions**[1] ABHA RAJAN, Brookhaven National Laboratory, SIMONETTA LIUTI, University of Virginia — Ioffe time essentially quantifies the distance along the lightcone that the quark fields that enter the correlator describing the Parton Distribution Function (PDF) are separated by. In this sense, it is a natural candidate for clearly separating the short and long distance physics. We study how the behavior of the parton distribution in Ioffe time can be mapped out given its Mellin moments. Pseudo PDFs describe the nucleon matrix elements of quark field operators separated by a space like distance $z$. These are calculable in lattice QCD and as $z^2$ approaches zero, pseudo PDFs approach the actual PDFs. Complimentary to lattice efforts, we study the behavior of of pseudo PDFs as a function of $z$ in a spectator diquark model. We also extend the study to Generalized Parton Distributions (GPDs), which involves taking into account an extra degree of freedom because of the non diagonal nature of the hadronic matrix element in the case of GPDs.

Abha Rajan
Brookhaven National Laboratory

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