

# XXVIII International Workshop on Deep Inelastic Scattering and Related Subjects



Contribution ID: 239

Type: **Contributed Talk**

## Nucleon and pion structure at physical pion mass

*Tuesday, March 24, 2020 11:30 AM (15 minutes)*

In recent years, parton distributions have been calculated from ab initio QCD using non-perturbative lattice field theory. In this presentation, I focus on a Lorentz invariant generalization of the Ioffe time distribution which can be calculated directly on the Lattice. Just like experimental cross sections, these matrix elements can be factorized into the PDF. I present our latest results for the nucleon and pion unpolarized iso-vector PDF which are testing the systematic errors of these calculations, including an extrapolation to physical pion mass, discretization errors, and finite volume errors.

**Primary authors:** ROTHKOPF, Alexander (Institute for Theoretical Physics, Heidelberg University); RADYUSHKIN, Anatoly (ODU/JLab); Dr JOO, Balint (Jefferson Lab); RICHARDS, David (Jefferson Laboratory); Dr KARPIE, Joe (Columbia U); ORGINOS, Kostas (College of William and Mary / JLab); EDWARDS, Robert (Jefferson Lab); ZAFEIROPOULOS, Savvas (LPC Universite Blaise Pascal CNRS)

**Presenter:** Dr KARPIE, Joe (Columbia U)

**Session Classification:** Structure function and parton densities

**Track Classification:** Structure Functions and Parton Densities