

Collaboration meeting July 14-18th @ JLab

Will take place together with the user group meeting

- Schedule will likely be tighter than for the Winter meeting
- Call for proposals of workfests

We think it is important to propose one

- That will allow some time for members of our group to present their work to a wider audience
- We are thinking of proposing something in line with the ongoing effort to put together a physics paper in the group
 - We would like an estimate of the number of attendees



Paper about the Exclusive Physics with ePIC

Templates are being prepared

- Kong has put together one for the paper
- Stephen has put together one for the analysis note
 - https://github.com/eic/ExclusiveWG_Paper
- We will have more in depth discussions in the future
 - Comments are welcome anytime

The Phase I Exclusive Physics at the Electron-Ion Collider: Opportunities at the ePIC Experiment

ePIC Exclusive Working Group*
(Dated: May 28, 2025)

The first five-year run of the Electron-Ion Collider (EIC), known as Phase I, marks the beginning of a new era in the study of the quantum chromodynamics (QCD). During this initial stage, the EIC will provide high-luminosity collisions of polarized electrons with protons and a variety of nuclear species, enabling a broad and foundational experimental program. This paper presents the strategy for the exclusive physics program with the ePIC experiment during Phase I. Utilizing the collider's high-luminosity polarized beams and state-of-the-art detection systems, ePIC is designed to probe the spatial and momentum distributions of partons inside nucleons and nuclei, explore the onset of gluon saturation, and investigate the spin structure of both free and bound nucleons. We describe initial detector performance, simulation studies, and analysis methodologies developed to tackle central questions in QCD. The Phase I program is expected to deliver critical benchmarks for the EIC's long-term scientific goals, advancing our understanding of hadronic structure and laying the foundation for future discoveries.

I. INTRODUCTION

II. DETECTOR

A. the ePIC detector

B. Far-forward beamline detector system

III. KINEMATICS

A. DIS variables

B. Tagging variables

C. Diffractive variables

D. Exclusive variables

IV. MONTE CARLO GENERATORS

list of all MC models with itemize and references

V. PHASE I EIC RUNNING SCHEMES

table with the first 5-year running plans and proposals; other possibilities

VI. BACKGROUNDS AND UNCERTAINTY

Physics backgrounds from DIS; machine and beam backgrounds (discussion, but not necessarily the study)

VII. RESULTS ON PROJECTIONS

All results are reported in terms of phase I EIC luminosity; if possible, we can report the ultimate energy with higher luminosity.

VIII. DISCUSSIONS

IX. SUMMARY

ACKNOWLEDGMENTS

we need official acknowledgment from the ePIC management



June 2, 2025