DIS'22

Scientific Programme

The Scientific Programme will consist on Plenary Sessions plus Parallel Sessions organised in six Working Groups:

WG1: Structure Functions and Parton Densities
WG2: Small-x, Diffraction and Vector Mesons
WG3: Electroweak Physics and Beyond the Standard Model
WG4: QCD with Heavy Flavours and Hadronic Final States
WG5: Spin and 3D Structure
WG6: Future Experiments

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EXCELENCIA MARÍA DE MAEZTU
Xacobeo 21-22
Fondo Europeo de Desenvolvemento Rexional "Unha maneira de facer Europa"
UNIÓN EUROPEA
XUNTA DE GALICIA

- Planned to be in-person

- Lots of EIC / ATHENA plenary speakers and parallel session conveners

- (Extended) abstract deadline is Sunday 20 February

- Opportunity to present our work so far and a focus for more work in the coming months

- 3 abstrascts from our group?...

A Proposed abstract
`Proton and Nuclear Collinear Parton Densities at the Electron Ion Collider using simulated ATHENA Data'

The potential of the future Electron Ion Collider to constrain proton and nuclear collinear parton densities is explored using data simulated in the context of the proposed ATHENA detector. For the proton, projections relative to a `DIS-only' approach are obtained in the HERAPDF2.0 framework. Substantial improvements in precision are observed at large x for valence quark, sea quark and gluon densities. Projections relative to the MSHT20 global fits, which also include proton-proton data from the LHC and elsewhere, show smaller improvements, though the impact at large x remains substantial for the up-valence density in particular. For the nuclear case, the baseline is taken to be the EPPS16 PDFs. The simulated ATHENA data result in substantial improvements throughout the accessible EIC kinematic range for all quark flavours and also for the gluon density. The impact is particularly noteworthy at small x, where only very limited collider data (from the LHC) has previously been included. The sensitivity of the simulated low x data to log 1/x resummation effects is also evaluated.

People involved so far

Barak Schmookler, Paul Newman – ATHENA
Katarzyna Wichmann – HERAPDF / xFitter
Nestor Armesto – Nuclear PDFs / xFitter
Robert Thorne, Lucian Harland-Lang, Tom Cridge – MSHT
Francesco Giuli – Low-x resummation studies

… meeting soon to talk about future plans