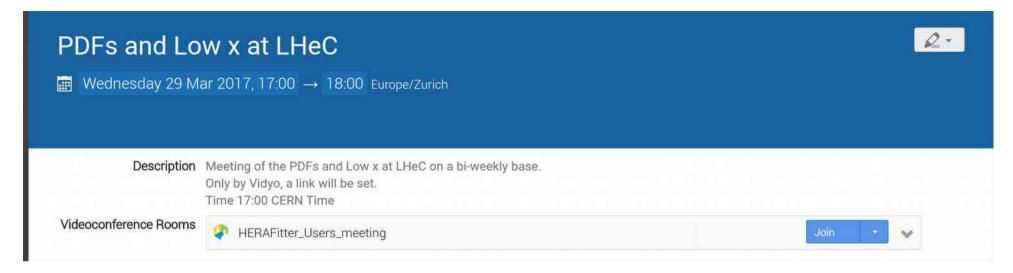
Notes: Wednesday 29 March 2017



AGENDA

Brief Discussion looking toward DIS2017

DIS: speakers:

- Mandy for PDFs
- Claire for alphas
- Daniel B for EW
- Hannu for Nuclear PDFs

NOTES:

* New xFitter 2.0.0 released.
Includes simulated data from CDR arXiv:1206.2913
To do: include updated data including Fcc-eh

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* Michael Klasen et. al., looked at nPDFs at EIC. Willing to re-run for LHeC

Nuclear parton density functions from jet production in DIS at the EIC M. Klasen, K. Kovarik, J. Potthoff arXiv:1703.02864 [hep-ph]

- * Daniel Britzger: presenting today at Moriond. will present prospects on PDF+EW fits using simulated LHeC and FCC data. will exploit the new FCC data from max.
- * Stefano Camarda: updates on MW (~2 MeV PDF uncertainty on W mass)
- * Hannu Paukkunen: nPDF at the LHeC. (also see Nestor's overview from last week)

FROM LAST WEEK

List of Meetings/Goals from last week

- Open LHeC PDF and low x meetings on bi-weekly basis:
 - https://indico.cern.ch/category/1874/
- Near term goals and tentative talk plans:
 - DIS17 Birmingham 3.-7.4.17 —> assign speakers
 - future DIS WG, convenor: Max and Rik Yoshida: possible contributions drafted with Rik:
 - PDFs from the LHeC
 - alphas from the LHeC and the FCC-eh
 - precision electroweak physics at the LHeC
 - nuclear PDfs at the LHeC
 - People at DIS: Max, Fred, Mandy,...
 - FCCweek in Berlin 28.5.-2.6:
 - there will be one parallel session 1.5 h on FCC-eh physics
 - draft program [comments very welcome!]
 - Measurement of Parton Distributions and the Strong Coupling Constant
 - Precision Higgs and Top Physics Measurements
 - **BSM Higgs**
 - Heavy Neutrino Searches with FCC-eh
 - ep BSM Physics
 - High Density QCD and eA Physics
 - The Physics Interest in ep from the pp Perspective
 - □ CTEQ summer school: EIC+LHeC synergy?
- Longer term goals
 - □ LHeC Workshop in September
 - Possible "Precision at LHC" Workshop which would be joint with LHeC and continue for 2017 (fall) +18.
 - CDR/TDR LHeC / FCCeh

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- Hannu for Nuclear PDFs

Next meeting: Tuesday 28 March Prep for DIS

Simulated data

Max

Inclusive deep inelastic scattering

new simulated data for FCCel

- Cross sections and structure functions simulation and uncertainties
 - Neutral current
 - Charged current
 - Strange
 - Charm and beauty production
 - top?
 - jet data?

Determination of parton distributions

• QCD fit ansatz

Voica,

• Valence quarks

Claire,

• sea quark decomposing

Mandy,

top quarks

request to get A. Guffanti

• gluon PDF

LHeC grid from lhapdf5 to lhapdf6

a_{S} uncertainty determination

Determination of the charm mass parameter in VFN schemes studies

- study of the HVFNS differences Ringaile ...
- Intrinsic heavy flavour

Electroweak physics:

Claire Daniel B

• sin theta

• quark couplings

• W mass? *Stefano C*

direct Z & W-boson production

get jet simulated data

Physics at small x

Anna & Nestor

- Low-x physics perspectives at the LHC:
 - saturation models
 - TMDs

Nuclear targets

Nestor

• EPPS16, nCTEQ15

Fred & A. Kusina

..

Synergy LHC/EIC/ neutrinos

Tools:

- xFitter
- Alpos
- Oxford fit
- low x/nuclear tools

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