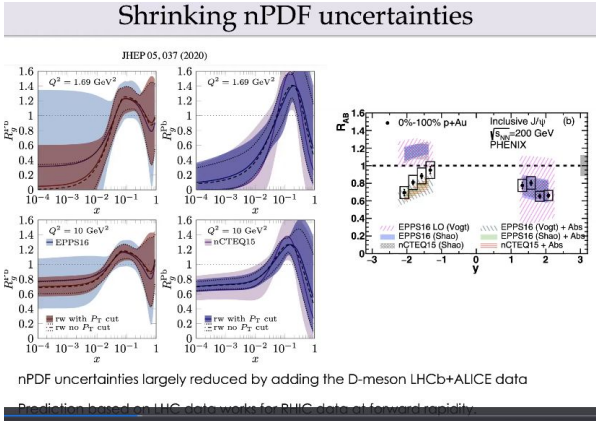
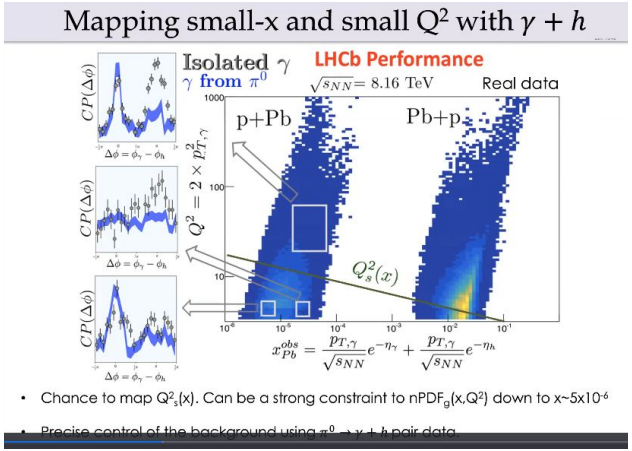
Experimental summary

LHC Discussion

D Meson Discussion and DGLAP based-evolution, + Extraction of x non-trivial and at small- x DGLAP is not giving predictions but rather providing parametrizations. Large assumptions on shape.

Q^2 scanning plans with a number of observables, arguments that observables less sensitive to DGLAP such as the *inverse compton process,* or general *two point correlations* are more robust in terms of avoiding DGLAP integrals.



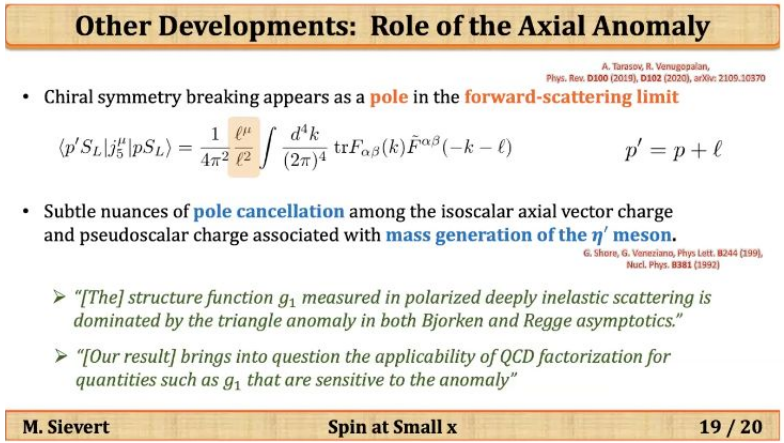


RHIC Cold QCD program, impact on EIC:

Three pillars: 1. (n)PDF's (n)FF 2. Heicity PDF, 3. TMD PDF and FF.
Focused on checks on phenomenology. We have new small-x theory approaches using Dipole formalism:

1. Can we distinguish small-x from large-x, can we highlight small-x features (goal of the EIC)?
2. Can we distinguish small-x formalisms from collinear GDP approaches
3. Can we distinguish small -x effects from pDGLAP
4. Role of axial anomaly in DIS poses a problem for the factorization approach (g1 main quantity highlighted).
    a. Can one isolate the isosinglet contribution to g1? No data is really available in the pertinent regime or precision.

1. Unified framework needed. Can we think of an end to end group (unified set) of observables. Need to think about initial conditions.
2. For polarized 2&3 small-x starts at the double log level, so there may be more sensitivity without having to go too low on x (as is the case for unpolarized case)
3. We have more input now on spin observables in terms of small-x sub-goal? Despite the elephant in the room. Benchmarks: transversity, Sivers.. etc.



EIC detectors/program:

ECCE
1.Low p_T jets as well as high p_T and small x jets are a challenge.
2.Low p_T Di-jets can be explored in principle, correlations can be lost in you go too low in p_T
3.Regarding very small-x capabilities: lumi detector and low Q^2 tagger available but no tracking in very backward region (like at HERA--forward).

ATHENA:
1.Soft physics maybe lost by the high B-field. Low field running expected the question is how much running time will be allotted.
2.Discussion of experimental PID and observable sensitivity to saturation effects: ϕ vs ρ . ϕ is not better than the ρ theoretically. The hope is that we can learn about this from GPD studies at JLab, learn about the cone wave functions of these mesons.
3. While the ρ may be more glue dominated than ϕ it still needs to be looked at closer.
4. What about other particles more difficult to measure but are expected to be insightful? Unified set of well defined observables? x, Q^2, A (atomic number) scan.

How about centrality? Current colliders its a challenge, DIS maybe less. UPC at LHC/RHIC should be close to high multiplicity EIC