

Weekly report

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1/July/2021 RBRC exp. weekly meeting

Items ongoing/to do:

- ◆ Inclusive cross-section measurements:
 - Understanding of kinematic reconstruction using fully simulated 100 events.
 - <https://indico2.riken.jp/event/3779/contributions/16421/attachments/10236/14458/0629shimizu.pdf>
 - Also see next slides.
 - Preparing NC DJANGO MC files for ECCE 'June 2021' full simulation.
 - Generation done, but need 'EICsmear'-ing. (Conversion of the file format)
- ◆ ZDC

No progress, but I should re-start this effort.

 - Preparation of reconstruction codes.
 - First, need to understand the ECCE calorimeter codes for reconstruction.
 - Estimation of sampling fractions of sandwich calorimeters.
 - Optimisation of EM part.
 - 2 crystal layers → 1 crystal layers, look for a proper thickness.
 - Check linearity and resolution as a function of neutron energy.

Kinematic reconstruction

<https://indico2.riken.jp/event/3779/contributions/16421/attachments/10236/14458/0629shimizu.pdf>

In summary:

- ◆ JB shows large bias in y . (Note: JB is expected to have a reasonable reconstruction in y .)
 - $\delta_h = \Sigma_h(E-p_z)$ seems to be too small?
- ◆ DA fails reconstruction of x and y , probably due to poor reconstruction of y_h .
 - Is this consistent with Ralf's results? (Next slides)

https://indico.bnl.gov/event/12099/contributions/51356/attachments/35572/58075/2021_06_29_ECCE_Sidis.pdf

Plan:

- ◆ Use more events:
 - use PYTHIA NC test sample and/or, wait until the simulation campaign.

My plots

ep 18 GeV x 275 GeV



