

Physics Studies: Simulation Requests for the Early Science Report and Beyond

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Inclusive Working Group

BeAGLE samples

- 9×166 GeV eHe3:
 - files available and plots for NIM A are done.
 - Issue with spectators in ep events: work around, but need fixing later.
- 9×100 GeV eAu: Missing files and an issue with ElCrecon fixed. Re-simulation foreseen.
- 9×115 GeV eAg: The runcard configuration was not quite correct: samples need to be regenerated.

Pythia 8 samples

- all seems good so far, except that the 9×275 GeV sample has significantly fewer files for $Q^2 = 10 - 100 \text{ GeV}^2$, but OK for inclusive group.

DJANGO samples

- Still some issues with processing and filtering the DJANGO events before they can be properly fed into the simulation: CC files, NC and radiative event samples. Will need re-simulation.

Semi-inclusive Working Group

Pythia 6-eic

Q2	5x41	5x130	9x130	9x275	18x275
1-10			5M	5M	
10-100			5M	5M	
100-1000			5M	5M	
>1000			2M	2M	1M

Pythia 8.316

Q2	5x41	5x130	9x130	9x275	18x275
1-10	4.8M	0	5M	3.4M	
10-100	4.4M		5M	5M	
100-1000	4.8M		5M	5M	
>1000		0	1M	1M	1M

Beagle 1.03.02

Q2	e3He 5x41	e-3He 9x166	e-Cu	e-Ag	e-Au
1-10	5M	10M			650k
10-100	5M	5M			
100-1000	5M	5M			

EW/BSM Working Group

- **Non-decaying ALP with a tag "aem_axem"**
Latest sample produced in the June campaign, July production will commence after ESR samples
- **Dimuon-decaying ALP with a tag "aem_ax_emmupmum"**
Latest sample produced in June, an update was made to this sample for the July campaign; will be produced after ESR samples
- **Dielectron-decaying ALP with a tag "aem_ax_emees"**
Request submitted for July campaign, waiting for ESR sample production
- **NC and CC DIS background samples for CLFV via Lqs**
They are currently being produced as a part of July campaign:
 $10 < Q^2 < 100$, $100 < Q^2 < 1000$ NC DIS samples fully produced; waiting for $1000 < Q^2 < \text{INF}$
- **Sterile neutrino sample**
Request submitted for July campaign, waiting for ESR sample production