

Proposal for an ePIC Workfest @ the January Collaboration Meeting

Workfest Title:

Physics which relies on far-forward/far-backward detection

Description:

The goals of this workfest are to advance and discuss existing analyses, make progress with the integration of new benchmarks, and onboarding of new people interested in running analysis in the scope covered by the workfest.

With this in mind, we plan to have technical presentations of current projects with the development of the far forward and backward detectors simulation and reconstruction, as well as a few analyses of the exclusive group that are most advanced. This workfest will allow direct interactions to rapidly include recent developments on the detector side in the physics analyses. We plan to have a tutorial on starting an analysis using the far-forward and far-backward detectors. Finally, having experts present, we will have work sessions to help develop new benchmarks from existing analyses that have not arrived yet to this point at the time of the workfest. We will also ask participants to ensure they have completed the necessary tutorials to come prepare prior to the start of the meeting to ensure the sessions are efficient and productive. The workfest will be open to participants from all physics WGs interested in running analyses using the far detectors.

Semi-firm Goals (if not achieved by the time of the meeting):

1. Solve pass-through issues for event-level information to EICrecon (e.g. beam energy/species).
2. Add/complete benchmarks for various final states for purposes of evaluating impacts of various changes to geometry/reconstruction.
3. Solve remaining issues related to reconstruction, with real time feedback from users on needed information in output branches (e.g. ACTS reconstruction specifying which detector subsystem produced the track).
4. Evaluate impacts of various backgrounds on specific observables and discuss mitigation strategies.
5. Standardize some basic analysis tools for common observables (e.g. t-reconstruction), and create an analysis repository for them to expedite the starting of analyses for others in the future.

Organizers:

Far forward detector WG

Far backward WG

Exclusive, diffractive, and tagging WG

eA Study Group

Raphael Dupre, Rachel Montgomery, Alex Jentsch, Kong Tu, Simon Gardner, Nathaly Santiesteban, Dhevan Gangadharan, Nick Zachariou

Estimated number of attendees (from poll):

We received 10 firm positive answers to be present in person. We expect more as people organize their trips (and some people just never fill out the polls).

Length of the workshop:

We think a minimum of one total day allocated to the topics listed above will be required, but it's hard to plan a full agenda this far in advance. Two half days would likely be a better way to schedule the workshop so participants have a chance to get moving on day one, and have the second half day available to ask follow-up questions and provide feedback for improvements. Half days will also make it easier to ensure people needing to attend multiple workfests have the option to do so (e.g. the AC-LGAD workfest, in particular for FF/FB detectors experts).

Special logistical needs:

We will need a room for presentations and zoom connection, with tables and enough extension cords/power sockets for all the participants. Ideally, tables can be arranged in a group working format. Separate Indico area for the parallel session agenda (like we do for DIS for the different WG sessions). There is also a lot of overlap with the AC-LGAD workfest that might need to be considered, especially related to the AC-LGAD applications for the various far-detectors.