

EIC activities for the remainder of 2021

Disclaimer: Gathered from discussions etc.
Nothing is official, nor guaranteed true

Two proto-collaborations are vying for being the project detector

- **EIC@IP6** – Based on the Yellow Report reference detector, 3T magnet ← focus of BNL EIC task force
- **ECCE** – Based on the BaBar magnet ← strong sPHENIX involvement
- Note: Neglecting the smaller CORE and the more diffuse IR2 initiative

- Dec 1st : proposal submission
- Nov 1st: final proposal for editing
- Sept 1st : all major simulation plot done. After this date, we just do polishing, composing narratives around the figures in the performance chapter of the proposal.
- Aug 1st : Final simulation production done
- July 1st : Final simulation production start
- May 1st: First simulation campaign, followed by first round of analysis. From May – July, many studies probably need another iteration of simulation-analysis to advance detector design.
- Entire Apr: develop simulation setup to run.

Some numbers. In the next 3-6 months:

- EIC@IP6: roughly 250M GEANT events, O(10M) CPU hours
- ECCE: about 1000M GEANT events, O(4M) CPU hours

Leaving aside their differences, and the hardware resource implications:

- 1.5B events, 10-20 M CPU hours + analysis
- Works needs to be distributed among labs, institutions, grid
- Data needs to be easily accessible from anywhere, and catalogued well

from Jin Huang

EIC@IP6 plans:

- Fully planning on Rucio ASAP
→ and counting on NPPS/SDCC...
- Strong interest in PanDA

ECCE plans:

- Less committed, but also expressed interest in PanDA + Rucio
- Obvious synergy with sPHENIX plans and BNL expertise

Needs:

- **Submit jobs** the same way from and to multiple places (JLab, ANL, INFN, LBNL, ...)
- **Get the (MC) data** to and from multiple places, as transparently as possible
- Take care of **ownership** (currently all I produce with PanDA belongs to osgeic)
 - cybersec: group account writing data that can't be traced to a single user is a problem
- How to use reserved nodes? How to split fairly between the two? RAM > 2GB?
- Good to have: QoL things like web interfaces, easy access to log files, etc.
- I'm ignoring details such as XrootD/S3/Globus here

SUMS + some patchwork can address this in some way,
but great opportunity for one good sustainable solution → **But time is very short**