











EPIC FF Updates

Aug. 30th, 2022

EPIC Simulation Trainings

September 2022

<https://indico.bnl.gov/category/443/>

-  30 Sep [Tutorial: Writing physics benchmarks that run automatically and reproducibly](#) **NEW**
-  29 Sep [Tutorial: Writing physics benchmarks that run automatically and reproducibly](#) **NEW**
-  23 Sep [Tutorial: Reconstruction algorithms in JANA2: from geant4 to reconstructed quantities](#) **NEW**
-  22 Sep [Tutorial: Reconstruction algorithms in JANA2: from geant4 to reconstructed quantities](#) **NEW**
-  16 Sep [Tutorial: Simulation of single particles or physics events using geant4 and ddsim](#) **NEW**
-  15 Sep [Tutorial: Simulation of single particles or physics events using geant4 and ddsim](#) **NEW**
-  09 Sep [Tutorial: Geometry development using DD4hep: how to modify or add detector description](#) **NEW**
-  08 Sep [Tutorial: Geometry development using DD4hep: how to modify or add detector description](#) **NEW**
-  02 Sep [Tutorial: Setting up your environment for collaborative EPIC development](#) **NEW**
-  01 Sep [Tutorial: Setting up your environment for collaborative EPIC development](#) **NEW**

- If you want to participate in the simulations for the fall, it is VERY IMPORTANT to try and attend these tutorials.
- There are also office hours held regularly by the software group to help people troubleshoot their simulations.

AC-LGADs – eRD112

- Will try to get someone here at the next meeting – lots of people still coming back from travel.
- Charge sharing HAS been demonstrated with 500um pixels – both with HBK and BNL sensors:
https://indico.bnl.gov/event/16500/contributions/66532/attachments/42571/71337/EIC_LGAD_eRD112_Aug2022.pdf
 - We don't need it for our purposes in the Roman Pots, but it will help in the timing layer of the B0.
- Still need more detail on power consumption from EICROC.
- eRD112 meetings are on Wednesdays @ 11:30am EDT:
<https://indico.bnl.gov/category/323/>
- If you're interested to follow the development, please join the meetings!

Engineering Progress

- Impedances from existence of Roman Pots a challenge.
 - First iteration complete – work in progress to reduce impact to machine.
- We have discussed beam backgrounds with the machine group so we can add some of the beam-related backgrounds into DD4HEP in the fall.
 - Conversation is ongoing.
- Work is progressing on engineering design of support structure and insertion tooling for the Roman Pots and OMD.
 - There will be lots of iteration as these designs are evaluated for their physics impact.
 - Once we settle-in with the EPIC framework, we will start looking at how we can include the CAD designs into the simulations to study the impact.