

Updates

- Reorganization of ePIC (collaboration and) WGs (<https://indico.bnl.gov/event/18449/>)
 - **Evolve DWGs** to a structure more appropriate to the (pre-)TDR/construction phase: **WGs -> Detector Subsystems**. Each project corresponds to a subdetector built by a **Detector Subsystem Collaboration** of the groups and institutions contributing to it. Each project collaboration will choose its **Detector Subsystem Lead/Detector Subsystem Technical Contact** work in concert with EIC project CAMS. The breakdown in projects to be discussed/optimized with collaboration.
 - **TOF DWG: agreed to one subsystem for TOF, next is to identify DSL (establish the DSC, meeting time, etc)**
- TOF in tracking – Nicolas
 - Impact of TOF on angular resolution (and calorimeter performance)
 - **Branches created for different TOF material budgets to facilitate this study**
 - **Study on angular resolution in progress**
 - Issue with forward TOF in tracking
 - **Make simplified Forward ToF default in the main branch for the upcoming simulation campaign [#373](#)**
 - **Rewrite forward ToF geometry**
- TOF PID in simulation – Oskar/Zhenyu
 - **Reconstruction, validation plots**
- TOF digitization – **volunteer? (Prithwish/Zhangbu@BNL)**
 - Introduce detector noise and : 30 Hz (2-10 Hz from test beam with strip AC-LGAD sensor + GALI-S66+ [link](#))

Updates

- [1] <https://wiki.bnl.gov/EPIC/index.php?title=TOFPID>
- [2] <https://wiki.bnl.gov/conferences/index.php/ProjectRandDFY23>
- [3] <https://www.overleaf.com/read/vftxyvjtjrvp>

Simulation [1]

- DD4HEP geometry, digitization, reconstruction
- Timing resolution requirement
- Spatial resolution requirement
- Material budget requirement

Project Engineering and Design (PED) [3]

- Mechanical engineering
 - Barrel TOF
 - Endcap TOF
 - Cooling system
- Electric engineering – DAQ PED
 - Precision clock distribution (<5 ps)
 - Timing chips and streaming readout
 - Prototype readout board, cables

eRD112 [2]

- Sensor
 - BNL, HPK/FBK productions
 - Lab/beam test, Irradiation
- Mechanical structure
 - Low-density mechanical structure

eRD109 [2]

- ASIC: EICROC1, FCFD1, SCIPP
- Frontend electronics
 - Low-mass service hybrid

- A working meeting by invitation with the project office to discuss TOF engineering on April 6. Let us know if you are interested in attending.
- We will collect inputs/slides and have internal discussions on 3/27 and 4/3 before the meeting.

