ePIC TOF Meeting

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News

- **Incremental Design and Safety Review on ePIC PID detectors conducted on** **July 5-6:** Review presentations; Final review report

- **EIC Project Detector R&D Review on** **Aug 28/31:** FY23 report and FY24 proposals; Review presentations; Close-out slides

- **ePIC TOF Project Engineering Design**
  - **Mechanical engineering :** support structure and cooling submitted on **June 27**: Mechanical PED
  - **Electrical engineering :** Low-jitter clock in DAQ, TOF Service Hybrid in eRD109 FY24 approved
  - Module prototyping? FBK production?

- **ePIC TOF DSC**
  - Working on schedule and cost, identify institutional responsibilities and L5/L6 contacts
  - BTOF: Mathew Gignac/Satoshi Yano/Zhenyu Ye, FTOF: Mathieu Benoit/Wei Li, Common System: Andreas Jung/Zhangbu Xu

- **ePIC TOF Simulation**
  - Updated by Zhenyu   (see p.3)
  - Updated geometry database September 29: consistency check/update in DD4Hep to be done
  - TOF in tracking – Nicolas: evaluate the TOF impact on tracking using latest software 10/17. Re-check FTOF material budget impact
  - TOF PID reconstruction – Oskar/Zhenyu: reconstruction, validation plots
  - TOF digitization – Zhenyu: updated digitization parameters (see page 2); Adam/Souvik: charge sharing and detector noise
  - TOF service in simulation – TBD: implement the missing material for mechanical support structure, cooling and cabling

- **ePIC Collaboration meeting at ANL on** **January 9-13, 2024**
  - Tentative schedule (see p.4 and p.5)
  - Parallel sessions on Jan 9-11 would include AC-LGAD, Electronics/DAQ, PID, tracking, …
  - AC-LGAD parallel session (Jan 9 full day + Jan 10 afternoon): https://forms.gle/LcLjyFq7ThfasYdJ9

Updated TOF geometry parameters and template for comparison with geometry DB Detector-20231031150001 #605

🔀 **Open** yezhenyu2003 wants to merge 5 commits into `main` from `564-detector-parameters-update-central-toftracker` ⧉

💬 **Conversation** 8   ⦿ **Commits** 5   ☑ **Checks** 33   ± **Files changed** 4

+21 **−17** 🟩🟥🟥🟥⬜

🟪 **yezhenyu2003** commented 3 days ago · edited ⌄   Contributor •••

Briefly, what does this PR introduce?

Updated TOF geometry parameters and template for comparison with geometry DB Detector-20231031150001

What kind of change does this PR introduce?

☐ Bug fix (issue #__)

☐ New feature (issue #__)

☐ Documentation update

☑ Other: __

Please check if this PR fulfills the following:

☐ Tests for the changes have been added

☐ Documentation has been added / updated

☑ Changes have been communicated to collaborators

Does this PR introduce breaking changes? What changes might users need to make to their code?

Does this PR change default behavior?

Reviewers

🧑 wdconinc   💬

🟦 Chao1009   •

🧑 kkauder   •

At least 1 approving review is required to merge this pull request.

Assignees

🧑 nschmidtALICE

🟪 yezhenyu2003

Labels

`topic: barrel`   `topic: PID`   `topic: tracking`

Projects

⊞ ePIC Software and Computing

Status: No status

Milestone

This document is editable. Please add your name or plan below. Please indicate if having the meeting at UIC could enable you to join the meeting in person but not at ANL.

Not listed below but will attend the meeting in person: Prithwish Tribedy, Kenta Shigaki

****
Session 1 Detector requirements and status (Jan 9 8:45-10:30 am) - Chair Zhenyu Ye (In person)
****
Introduction 10' - Zhenyu Ye (In person)
BTOF 15' - Satoshi Yano (In person)
FTOF 15' - Wei Li (In person)
Roman Pots 15' - Alex Jentsch (In person)
B0 tracker and Off-momentum Detector 15' - Alex? (In person)
Luminosity tracker 15' - Dhevan Gangadharan (In person)
Discussion 20' - all

Coffee break (10:30-11:00 am)

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Session 2 Sensor (Jan 9 11:00 am-12:40 pm) - Chair Alessandro Tricoli (In person if at UIC)
****
Experience with LGAD sensor development for CMS ETL 20' - Christopher Madrid
AC-LGAD sensor production at BNL IO 15' - Gabriele Giacomini (Remote)
AC-LGAD sensor lab test 15' - Jennifer Ott (Remote)
AC-LGAD sensor beam test 15' - Shirsendu Nanda (In person)
AC-LGAD sensor irradiation test 15' - Simone Mazza (Remote)
Discussion 20' - all

Lunch break (12:40-2:00pm)

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Session 3 ASIC and interconnect (Jan 9 2:00-3:45 pm) - Chair Dominique Marchand (In person)
****
Experience with ASIC Development for CMS ETL 20' - TBD
EICROC 20' - Christophe de La Taille (In person)
FCFD 20' - Artur Apresyan (In person)
Sensor-ASIC Interconnection 20' - Mathieu Benoit (In person)
Discussion 20' - all

Coffee break (3:45-4:15pm)

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Session 4 Electronics (Jan 9 4:15-5:45 pm) - Chair Tonko Ljubicic (Remote)
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Low-mass Kapton PCB 20' - Oskar Hartbrich (In person)
Service Hybrid 20' - Wei Li (In person)
Backend electronics 20' - Zhangbu Xu (In person if at UIC)
Discussion 30' - all

Dinner
Continued on next page

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Session 5 Detector Module (Jan 10 1:30-3:00pm) - Chair Matthew Gignac (In person)
****

BTOF Module assembly procedure and requirements 20' - Matthew Gignac (In person)
FTOF Module assembly procedure and requirements 20' - Mathieu Benoit (In person)
Other AC-LGAD detectors ?
Discussion 30' - all

Coffee break (3:00-3:30pm)

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Session 6 Mechanical Structures and Cooling System (Jan 10 3:30-5:30pm) - Chair Zhangbu Xu (In person if at UIC)
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TOF Module mechanical structure and cooling design 20' - Andreas Jung/Yi Yang (AJ In person)
TOF Support Structure 20'- Andreas Jung/Yi Yang (AJ In person)
Other AC-LGAD detectors ?
Discussion 30' - all