

# CEPC Detector TDR Meeting (Apr. 16, 2024)

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09:00 - 10:00 (Beijing Time)

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## Meeting agenda and minutes

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- indico page: <https://indico.ihep.ac.cn/event/22272/> (<https://indico.ihep.ac.cn/event/22272/>)
- Participants
  - Present in the meeting room (M.B. 112)
    - Weidong Li, Miao He, Jinyu Fu, Shanzhen Chen, Guang Zhao, Yiming Li, Hoayu Shi, Feipeng Ning, Shengsen Sun, Quan Ji, Gang Li, Huaqiao Zhang, Zhaoru Zhang, Shaojing Hou, Mingyi Dong, Manqi Ruan
  - Online
    - Junsong Zhang, Tao Lin, Ying Zhang, Zheng Wang, Jingbo Ye, Wei Wei, Mingshui Chen, Zhijun Liang, Joao, Jianchun Wang, Haijun Yang, Hengne Li, Fei Li, Shang Xia, Fangyi Guo, Chengdong Fu, Boping Chen, Boxiang Yu, Jun Hu, Xin Shi, Yao Zhang, Suen Hou, Lei Zhang, Xiaolong Wang
- Minutes: Miao He, Gang Li, Zhaoru Zhang

## General remarks: Jianchun

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- Functions of the meeting
  - Pre-TDR meeting on Tuesday morning, focus on progress and selection of baseline technologies for the TDR
  - subsystem meeting, R&D detail discussion, encourage moving to afternoon for European colleagues
  - PhysDet Wednesday meet
- L2/L3 leaders help to adding international colleagues to related maillist

## Software: Weidong Li

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- Weekly meeting in the afternoon.
- Released software issues, tracking of TPC is there, some issues in DC software and event mixing.
- Next month PID software, should include TOF and Muon. Muon will send a student to IHEP today.

- Calerimeter software in June. PFA decoding issue.
- No international collaborators.

## Electronics: Wei Wei

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- Discussing with CERN people to see if we can join DRD7.
- Only Chinese collaborators in CEPC electronics now.
- Jianchun: DRD8 for mechanicals, but focused on tracking detector.

## Mechanics: Quan Ji

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- Waiting for detectors.
- Jianchun: should work closely with magnet and HCAL.

## Magnet: Feipeng Ning

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- Waiting for calorimeter to finalize geometry.
- For cooling plan, prefer to thermal siphon plan, need optimization
- Haijun: will discuss it this week.

## MDI: Haoyu Shi

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- Event mixing in the old framework is there. Working on event mixing in the new software framework.
- Provide a root file with description file for each kind of particle generator.
- LumiCal geometry in progress.
- Integration:
  - accelerator magnet needs updates.
  - collaborating on fast lumi with Ivanka group
  - Considering joining DRD8
- Jianchun: Vertex could start using framework for double check

## Vertex: Zhijun Liang

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- Try to attract more international colleagues

## Tracker: Yiming Li

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- Summary of mini-review on TPC/DC
  - Both options are feasible but challenging.

- The materials are not organized well to deliver most important information.
- current level not sufficient for TDR. validation with prototypes with beamtest is not realistic, should provide support materials. analysis with beam background.
- Need another review.

## Calorimeter: Haijun

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- will discuss detector dimensions this week.

## Muon: Xiaolong Wang

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- scintillator option:
  - software for endcap is almost ready, firmware debugging,
  - Progress on electronics, looking at timing resolution, mode almost ready.
  - Production can be started soon.
- RPC option: testing, comparing glass and bakelite.
- Jianchun: based on discussion on last Wednesday meeting, learn experience from BES/JUNO and provide cost estimation plan asap.

## Physics: Manqi Ruan

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- geometry and reconstruction of tracking in new software looks OK.