

# Detector Concepts – Intro and News

## Future events:

- ❑ **Later Today at 16:00:** 3rd Open DRDC meeting
  - ❖ Presentations from DRD5 (Quantum Sensors) and DRD7 (electronics)
- ❑ **Next week:** FCC Week in San Francisco
  - ❖ Plenary (Monday)
    - *Detector Requirements and benchmarks, Junjie Zhu*
  - ❖ Detector Concepts parallel sessions (i-iii on Tuesday, iv on Thursday)
    - i. Tracking
    - ii. Calorimetry
    - iii. Simulation and readout
    - iv. US tracking activities
- ❑ **1-2 July :** Mini-workshop at CERN: *MAPS detector technologies for the FCC-ee vertex detector*
  - ❖ Very interesting program, 33 participants so far registered
- ❑ **9-11 October:** Third ECFA Workshop on e+e- Higgs/Electroweak/Top factories
  - ❖ Last big event before the European Strategy Update
- ❑ **14-15 October,** Mini-Workshop on Straw Tracker R&D for a Future Electron-Positron Higgs Factory, U. Michigan
- ❑ **13-17 January, 2025: 8<sup>th</sup> FCC Physics Workshop, CERN**

## Past events:

- 25-27 March at MIT: Second Annual U.S. FCC Workshop 2024
  - ❖ Impressions...

# Feasibility Study Final Report

- ◆ Plan for Section 5 on Detector Benchmarks – about 20 pages total
  - 5.1 General overview (p4)
    - ❖ Machine constraints: crossing angle, max B-field, beam pipe, small angle region, booster ring placement
    - ❖ Overview of current concepts: Allergo, CLD, IDEA
  - 5.2 Detector (sub-)system (p13)
    - ❖ Vertex detector; main tracking: silicon, gaseous; PID: RICH, precision timing, ECAL: Si pads, noble liquid, crystals, LumiCal; HCAL: tiles, gaseous, dual readout, coil: inside/outside calorimeter system; muon system: gas, scintillator
  - 5.3 TDAQ challenge (1p)
    - ❖ Typical data rates; trigger/no-trigger
  - 5.4 Near and mid-term outlook (1p)
    - ❖ Full-sim based optimisation using high-level full-event reconstruction, demonstrators and prototypes
- ◆ Authors for each section to be identified
  - Some already appointed, need to send reminders
- ◆ Dead lines
  - First version: 30 September
  - Final version for main editors: Beginning of January, 2025

# Today's Meeting



FUTURE  
CIRCULAR  
COLLIDER

## Detector Concepts Meeting



Monday 3 Jun 2024, 14:00 → 16:00 Europe/Zurich

Videoconference



Detector Concepts Meeting

Join



**14:00** → 14:05 **Information and News**

5m



**Speakers:** Felix Sefkow (Deutsches Elektronen-Synchrotron (DE)), Marc-Andre Pleier (Brookhaven National Laboratory (US)), Mogens Dam (University of Copenhagen (DK))

**14:05** → 14:50 **The upgraded LHCb detector DAQ and trigger: design and first performances**

45m



**Speaker:** Vava Gligorov (Centre National de la Recherche Scientifique (FR))

**14:50** → 15:15 **Performance of the IDEA vertex detector in fullsim and ultra-light vertex detector concept**

25m



**Speaker:** Armin Ilg (University of Zurich)