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# Detector studies Page

## Aim of the studies

Define first ideas for the design of FCC hh detectors allowing preliminary studies on performance within simulation.

Important point to define are: Angular Coverage, Required momentum and Energy resolution, Charged and Neutral Particle fluxes.

Define present limits of technologies for the different sub-systems (ID, Calo, Muons, Magnets) and arrive to proposals for R&Ds to overcome these limits.

## Upcoming Events:

Mini Workshop on present limits of detector technologies and R&D activities to overcome these limits in view of the requirements for detectors for FCC hh.
The Workshop is also aimed at the preparation of the Detector session for the Washington FCC Week (see link below)

- 'Mini Workshop on Detector technologies':link

## Useful material and links

Past and Future Workshops:

- 'FCC Kick-off meeting (Geneva Feb 2014)':link
- 'Workshop on physics at 100 TeV Collider (SLAC April 2014)': link
- '1st Future Hadron Collider Workshop (CERN May 2014)':link
- 'Next steps in the high energy frontier (FNAL August 2014)':link
- 'The IAS program on the Future of High Energy Physics (Hong Kong January 2015)':link
- 'FCC-hh detector Workshop (CERN 3-4 February 2015)':link
- 'FCC Week (Washington March 2015)':link

Interesting Talks:

- 'General Detector talk during the Geneva Kick Off meeting':link
- 'Requirements on calorimetry: link
- 'Challenges for a detector at a 100 TeV hadronic collider for Higgs physics : link
- More to come....

Related Twiki pages:

- 'Main FCC hh experiments page':link
- 'FCC Software development page':link

Related meetings:

- 'Main Indico page for FCC experiment meetings':link

Monte Carlo simulation:

Some 100 TeV Monte Carlo event samples interfaced with Delphes can be found in HepSim Monte Carlo catalog. Look at the manual of HepSim to learn about how to download and process events using a fast detector simulation with FCC detector geometry files.

# General Information

Meetings:

- https://indico.cern.ch/category/6069/

Schedule of next meetings to be decided

Mailing lists:

- fcc-experiments-hadron-detector@cernNOSPAMPLEASE.ch
- fcc-experiments-hadron@cernNOSPAMPLEASE.ch

It is possible to self-add to the lists by following these links:

- ' General FCC experiment mailing list':link
- ' Detectors for FCC experiment mailing list":link

# Magnetic System

- MagneticSystem (to be done)

# Inner Detector

- InnerDetector (to be done)

# Calorimetry

- CalorimetrySystem (to be done)

# Muons

- MuonsSystem

-- LudovicoPontecorvo - 2015-01-09

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