

# Higgs/Top Performance meeting

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13 May, 2024

## Feasibility Study Report

- First draft to be ready by the end of the year (for the SPC)
  - Draft v0 for internal PED review by end of September!
    - analysis note drafts ready by early September

## Procedure for conferences

In general, contact us (conveners) in case you would like to present material at a conference

- All abstracts have to be approved by the Higgs/Top conveners and then conference committee
- After approval, the author is responsible for abstract submission to the conference
- Abstracts should be registered in the conf. database: <https://fcc-ee-conference.web.cern.ch/>

# Upcoming events



## **Joint Higgs+QCD FCC meeting, May 22nd (Wed. afternoon, in person + Zoom)**

- <https://indico.cern.ch/event/1409233/>

## **FCC Physics performance meeting, May 27th**

- <https://indico.cern.ch/event/1416455/>

## **Higgs/Top FCC meeting, June 4th**

- <https://indico.cern.ch/event/1410813/>

## **FCC Week 2024, 10-14 June, San Francisco**

- <https://indico.cern.ch/event/1298458>
- General Higgs overview talk, Higgs couplings and Higgs/Top properties

## **ICHEP, 18-24 July, Prague**

- <https://indico.cern.ch/event/1291157/>
  - Talk “Higgs physics opportunities at the FCC” (Giovanni Marchiori)
  - Poster on Higgs mass/ZH cross-section of 240+365 GeV (Gregorio B, Ang. L, Kevin D, Jan E.)

## **ECFA workshop on EWK factories, 9-11 October, Paris**

- <https://indico.cern.ch/event/1399276/>

## **2nd FCC Italy-France Workshop, 4-6 November, Venice**

- <https://agenda.infn.it/event/37960/>

**Produced large batch of samples at 365 GeV for Top/Higgs studies – thanks Louis Portales!**

Samples are here: [https://fcc-physics-events.web.cern.ch/fcc-physics-events/FCCee/winter2023/Delphisevents\\_IDEA.php](https://fcc-physics-events.web.cern.ch/fcc-physics-events/FCCee/winter2023/Delphisevents_IDEA.php)

- **Higgs samples**

- All samples produced  $Z(XX)H(YY)$  with Whizard @365
- wzp6\_ee\_mumuH\_ecm365 produced with identical seed → being reproduced now
- FCNC Whizard cards debugged but to be produced centrally

- **Top samples**

- WbWb split in hadronic, semileptonic, and leptonic (Whizard)
- Center-of-mass energies 345, 350, 355 and 365 GeV

- **Background samples**

- WW/ZZ Pythia
- $Z/\gamma$  with Whizard – also Pythia under production to have same generator as 240 GeV (p8\_ee\_Zqq\_ecm365)
- Rares

**Let us know if you need additional samples**

# Agenda for today



## Higgs/Top Performance meeting

Monday May 13, 2024, 2:00 PM → 4:05 PM Europe/Brussels  
4/S-030 (CERN)

Videoconference Higgs Performance meeting [Join](#) 4/S-030

- 2:00 PM** → 2:20 PM **News** ⌚ 20m

Speakers: Jan Eysermans (Massachusetts Inst. of Technology (US)), Michele Selvaggi (CERN)

- 2:20 PM** → 2:40 PM **First look at top threshold scan** ⌚ 20m

Speakers: Ankita Mehta (CERN), Matteo Defranchis (CERN)

- 2:40 PM** → 3:00 PM **Top scan parton level study (TBC)** ⌚ 20m

Speaker: Zohreh Bahariyoon

- 3:00 PM** → 3:20 PM **Vts and jet clustering** ⌚ 20m

Speaker: Xunwu Zuo (KIT - Karlsruhe Institute of Technology (DE))

Vts - jet definition a...

- 3:20 PM** → 3:40 PM **ZH cross-section at 365 GeV** ⌚ 20m

Speaker: Kevin Dewyspelaere (Centre National de la Recherche Scientifique (FR))

- 3:40 PM** → 4:00 PM **Higgs mass at 365 GeV** ⌚ 20m

Speaker: Jan Eysermans (Massachusetts Inst. of Technology (US))