FUTURE CIRCULAR COLLIDER

MC production operations status

Analysis Tools and MC Productions

7 October 2026

Pantelis Kontaxakis, Juraj Smiesko, Birgit Stapf

FCC MC Production & GRID Tools Coordination

UNIVERSITÉ DE GENÈVE

CERN

CHEF

Meeting agenda

LFV: Preliminary samples are available

Since 23 September: From local tests to 10k events per charge on EOS.

KKMC Z → ττ SIGNAL SAMPLES

10000

$\tau^- \rightarrow \mu^-\gamma$

10000

$\tau^+ \rightarrow \mu^+\gamma$

Opposite tau inclusive. PHOTOS disabled.

Configs and validation: FCCDIRAC PR #20

UPDATED SIMULATION

Photon information and response

k4SimDelphes #161, with the IDEA card from Delphes 3.5.2pre02.

Gaudi vertex smearing

Applied before Delphes.
The output is stored in EDM4hep.

Before scaling: Review the photon response and validate a stable simulation release.
Current simulation uses the LCG nightly. Time-component propagation remains unvalidated.

DRS: Recent requests and follow-up

Recent DRS entries and follow-up with the physics-group MC contacts.

UNDER REVIEW

Rare flavour-changing Higgs decays

~1 GeV recoil-mass shift reported with current Winter2023 WHIZARD samples.

Shreyas Bakare | Higgs physics

7 October 2026

COMPLETED IN DRS

Samples for b2snunu update at the FCC-ee Z pole

FCC-ee MC at the Z pole with the IDEA detector.

Felicia Volle | Flavour physics

30 September 2026 | Winter 2023

Request follow-up: Vasilisa

Request recently handled. Production status and sample details to confirm.

Generator-level filtering: Work started

Initial work is under way. Event rejection in the Gaudi production chain still needs validation.

TECHNICAL FEASIBILITY FIRST

Gaudi functional-filter starting point

Reject events before simulation

Record event counts and weights

First step: A minimal demonstrator.
Check accepted events, output and normalisation.

PHYSICS REQUIREMENTS IN PARALLEL

01 Opposing LFV requirements make common cuts difficult.

02 Use survey responses to select a first physics use case.

03 Assess shared filters versus separate filtered samples.

Event filtering is distinct from collection thinning at the end of processing.

DiracX: Deployment and design review

6 October mini-hackathon update. Commissioning and design review continue.

ADDED ON voilcdirac901

- **WorkloadManagement services**
- **Agents (e.g. PilotStatusAgent)**
- **Optimizer executors**

TRANSFORMATION SYSTEM: DESIGN REVIEW

Architecture Decision Records: PR #1042

Follow-up review until 12 October.

NEXT VALIDATION

01 Check component health and configuration

02 Sign in and submit a test job

03 Track the job status and retrieve the output

Installation progress is not yet an end-to-end production validation.

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Survey follow-up: Physics group discussions

Invitation sent. One coordinated response per group. Each group will receive one slot.

PROPOSED FORMAT

45

minutes per group

15 min	30 min
Overview	Discussion

Priorities, MC sample needs, filtering use cases and analysis software.

Reply by Monday, 12 October

01 Nominate a speaker and involve MC contacts and interested analysts.

02 Submit one coordinated availability response per group.

03 Mark all suitable slots, including those already selected by other groups.

Open Doodle poll

Meeting series and agendas

Possible extra sessions: 14 October and 11 November.
Both remain to be confirmed according to availability and demand.

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MC contacts training: Scheduling now

One session between 21 and 23 October, lasting around 2 to 3 hours.

TRAINING WINDOW

21 to 23

OCTOBER

2 to 3 hours

EXACT SLOT TO CONFIRM

Announcement to follow

THE TRAINING WILL COVER

01 **How to launch MC productions**

02 **How to manage dataset requests**

in the Dataset Request System (DRS)

Choose a slot in Newdle

Register in the DRS

First production campaign planned for the end of October

Register in the DRS before training and bring your group's dataset needs to the discussion.

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Priorities for the coming weeks

Production validation, data management, storage and preparation for the autumn campaign.

AREA	NEXT ACTION	TIMING
LFV production	Review the photon response and agree stable software, cards and radiation settings. Validate a central pilot.	**Before scaling**
Generator-level filtering	Build a minimal Gaudi example. Check event rejection, output, counts and weights.	**Next step**
Group discussions	Nominate a speaker and return one coordinated availability response per group.	**12 October**
Contacts training	Register in the DRS and select the training slot.	**21 to 23 October**
Data and storage	Set up the DIRAC–Rucio connection. Follow up the ongoing request for more storage.	**To do / Ongoing**
Autumn campaign	Prioritise samples and event counts. Estimate computing time and storage.	**End of October (planned)**

In parallel: DiracX component / job tests and Transformation System ADR review by 12 October.

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Backup

Technical details and validation

P.Kontaxakis, B.Stapf, J.Smiesko

LFV: Sample access and validation details

Preliminary KKMC τ → μγ samples. Validation reports are in the same EOS folder.

EOS DIRECTORY

```
/eos/experiment/fcc/prod/fcc/prod/lfv/preliminary/20260930_10k_v1/merged/

lfv_tauminus_10000evt_preliminary.edm4hep.root
lfv_tauplus_10000evt_preliminary.edm4hep.root
```

Software	Generation: Key4hep 2026-04-08. Simulation: Default LCG nightly. IDEA card: Delphes 3.5.2pre02. Photon information: k4SimDelphes #161.
Radiation / BES	PHOTOS disabled. KeyBES=0 confirmed in inputs and runtime messages. These jobs are not affected by the reported BES bug.
Cluster caveat	8 in τ− and 17 in τ+: Energy <10 MeV, zero position, NaN position covariance. Retained in ROOT files. Excluded only from diagnostics. No events removed.
Vertex / timing	Spatial vertex smearing checked. Propagation of the time component has not been validated.

FCCDIRAC #20 k4SimDelphes #161 KKMCee BES fix #5

DiracX: Deployment context and open checks

Deployment services, configuration, data management and storage follow-up.

HOSTED AT CERN

Platform	paas.cern.ch Project: ilcdiracx-prod
S3	ILC Dirac OpenStack project
MySQL	CERN DBOD
OpenSearch	CERN OpenSearch service
Redis	Pod
Identity	CERN SSO / fcc-auth.cern.ch

DiracX web interface

CONFIGURATION AND OPERATIONS CHECKLIST

Configuration checks and operational follow-up with the deployment team.

- Automate DIRAC → DiracX config sync (cron).
- Configure iLCDIRAC CI and FCC VO tests.
- Add ILC / CALICE VOs and FCC groups.
- Add and validate computing / storage resources.
- Set up the DIRAC–Rucio connection.
- Additional storage request: Ongoing.

Next: Full job test and FCC feedback on PR #1042.