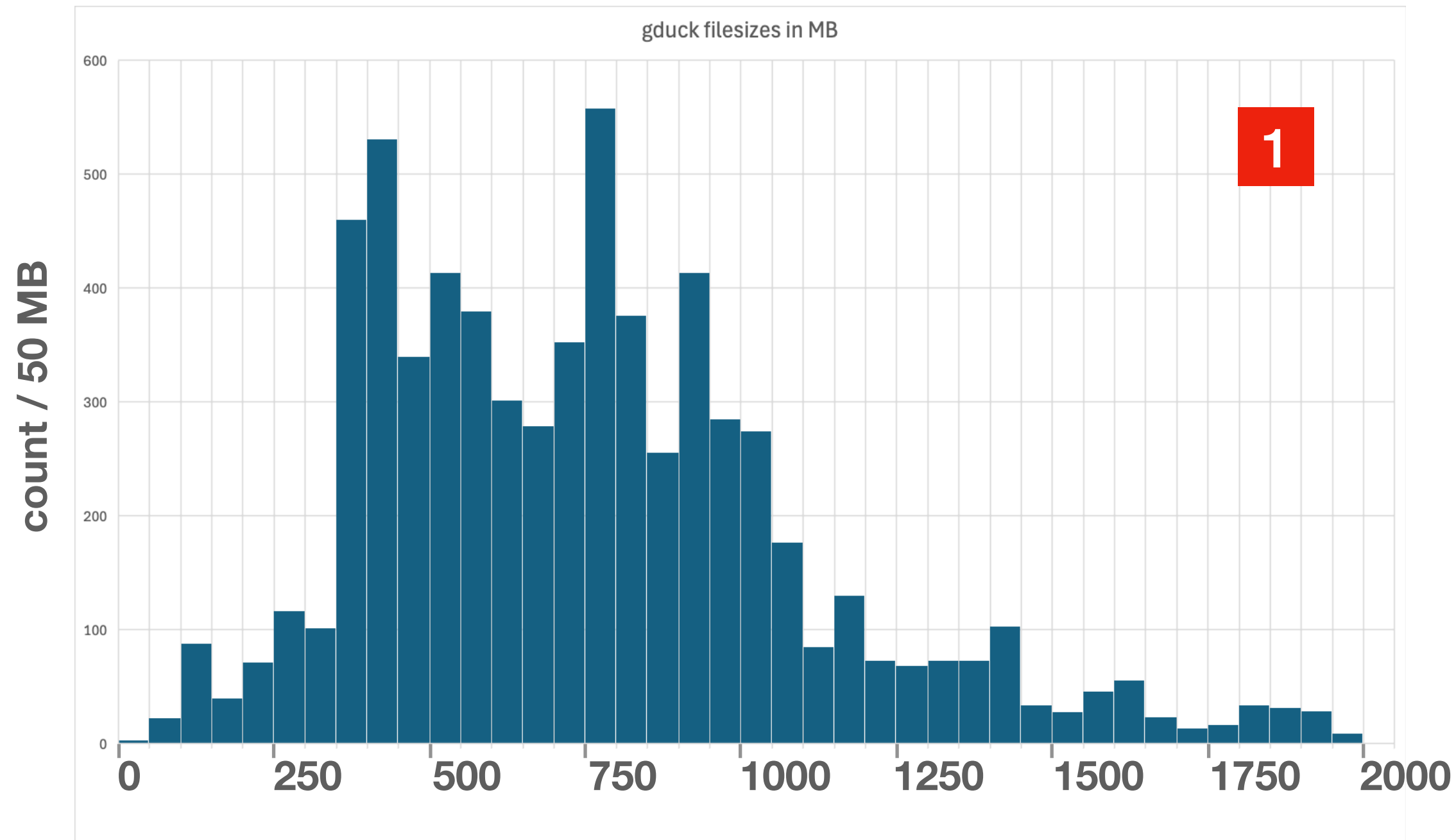


# **dCache - ARC stress tests**

**May 2026**

LHEP University of Bern - [gianfranco.sciacca@cern.ch](mailto:gianfranco.sciacca@cern.ch)

# Datasets



## data24 DAOD\_PHYSLITE

user.gduck:data24\_13p6TeV.physics\_Main.deriv.DAOD\_PHYSLITE.NHR\_test\_1

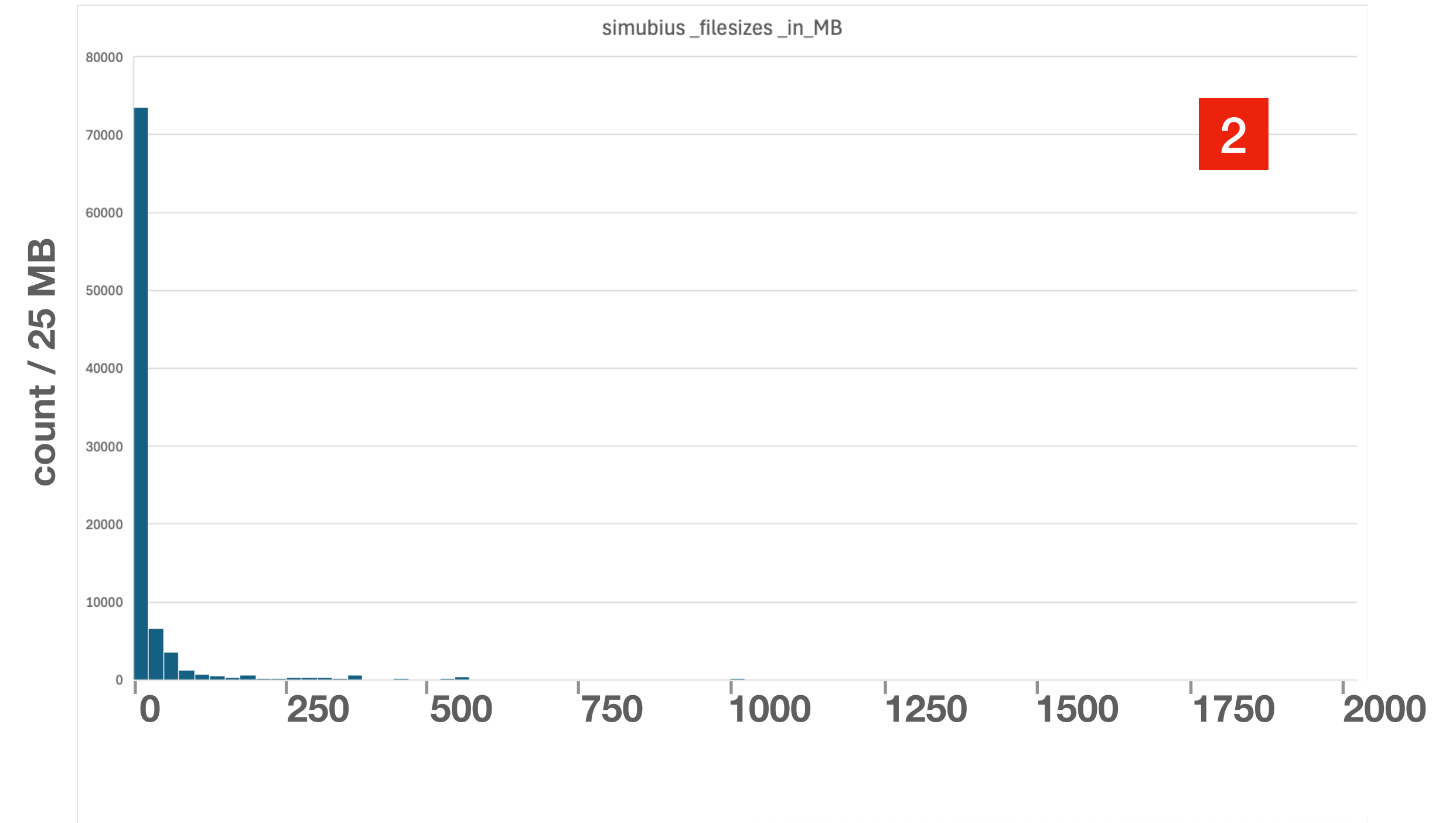
Total files : 6748

Total size : 5.118 TB (avg.750 MB / file)

Total events : 612,991,779

Size Range: 20 MB to 2030 MB

- Reads InDetTrackParticles
- Only a subset of branches used to mimic realistic jobs 20-30 %
- Fills some histograms, output .root files, few kB size



## Run3 - backgrounds - flat ntuples

user.ddaniele:flat\_MEL\_benchmark\_v1

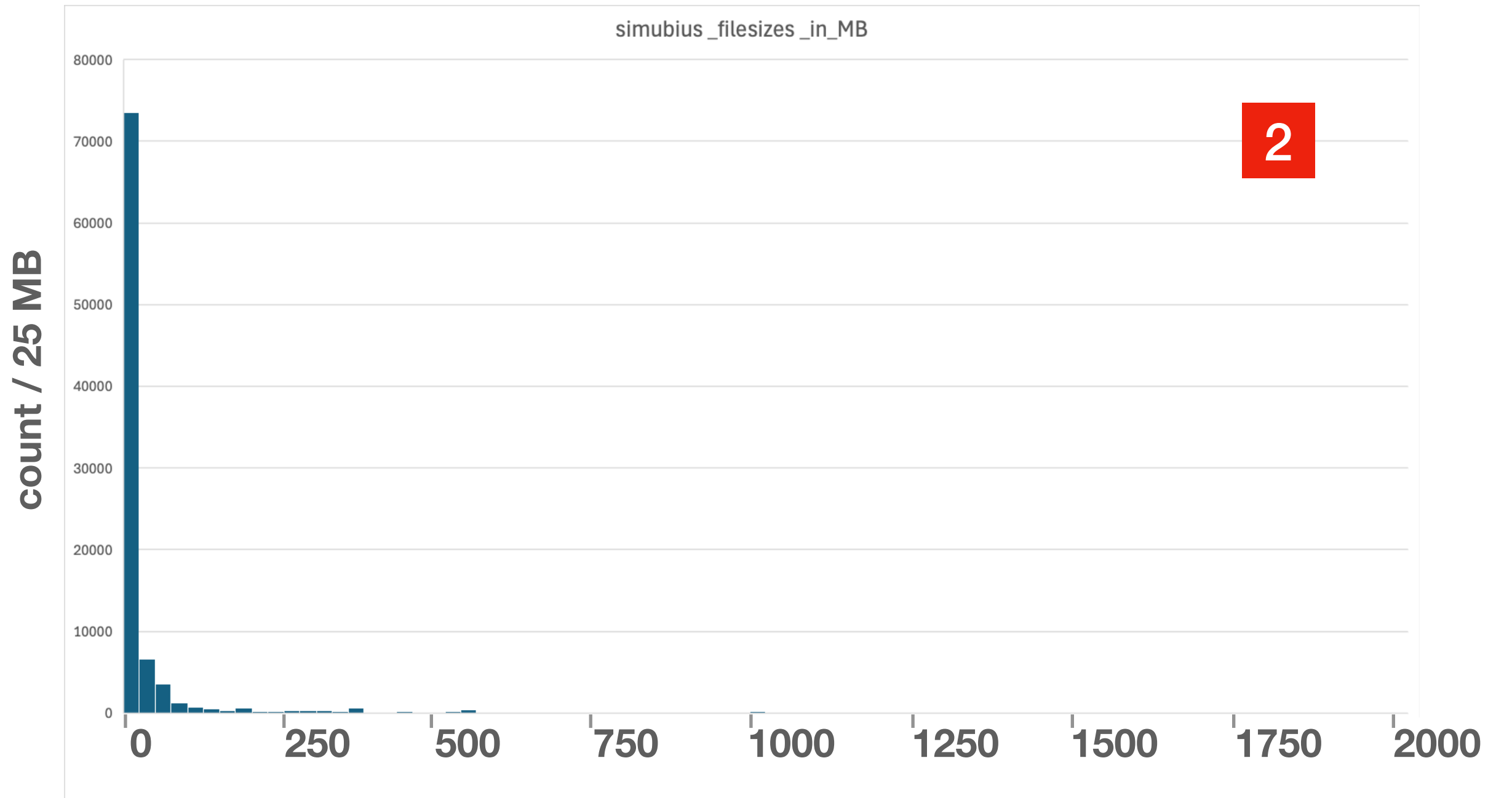
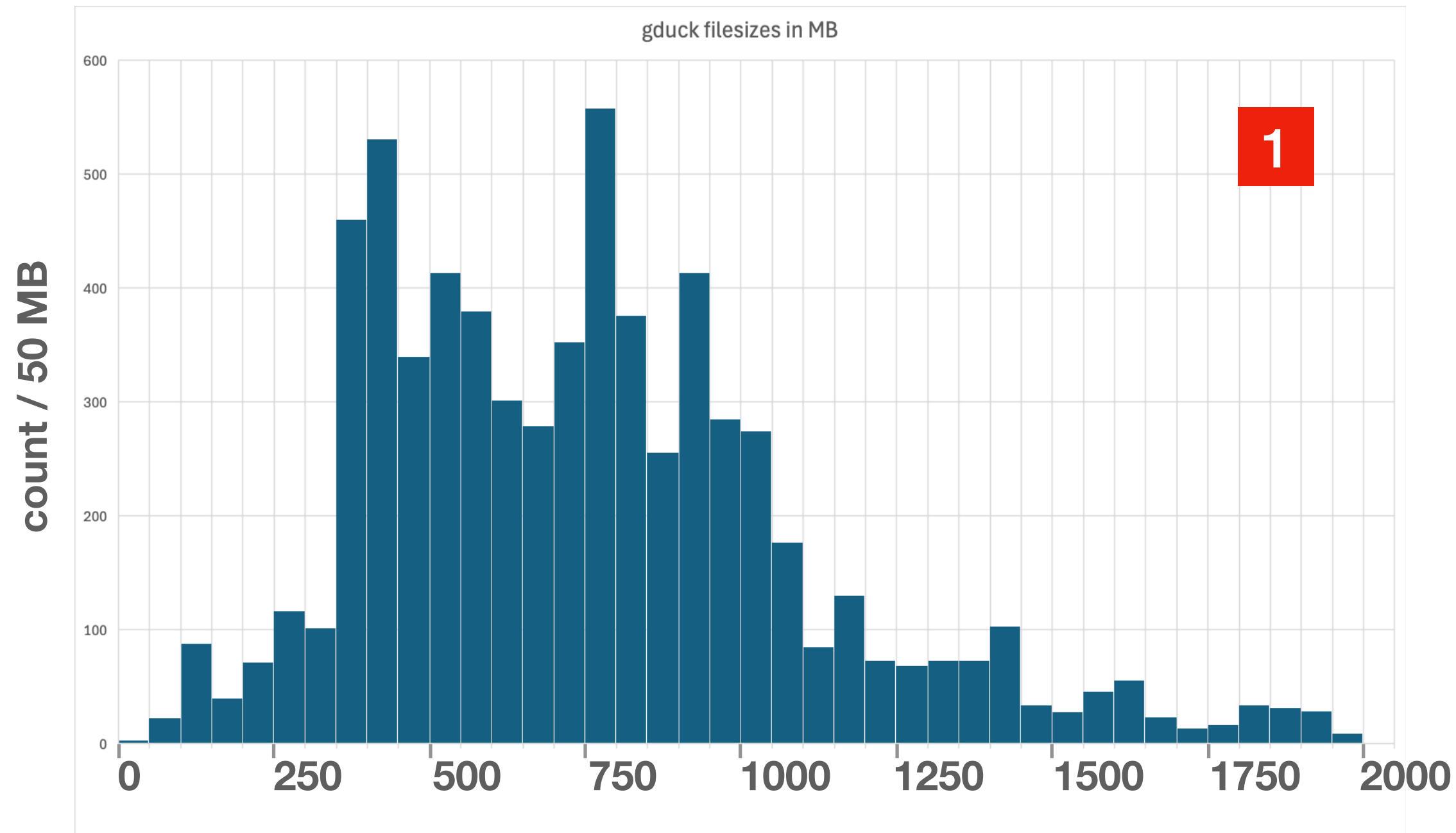
Total files : 90972

Total size : 3.445 TB (avg.38 MB / file)

Size Range: 1 kB to 4000 MB

- Reads flat ntuples .root files
- applies (close to) final cuts for signal searches

# Datasets



DATASET: user.gduck:data24\_13p6TeV.physics\_Main.deriv.DAOD\_PHYSLITE.NHR\_test\_1

RSE	FOUND	TOTAL
GRIF_DATADISK	162	6748
TRIUMF-LCG2_DATADISK	27	6748
IN2P3-LPC_DATADISK	646	6748
RAL-LCG2-ECHO_DATADISK	513	6748
<b>NDGF-T1_DATADISK</b>	<b>6748</b>	<b>6748</b>
INFN-T1_DATADISK	2163	6748
FZK-LCG2_DATADISK	6748	6748
LRZ-LMU_DATADISK	5719	6748
LRZ-LMU_LOCALGROUPDISK	6748	6748
NET2_DATADISK	297	6748
UAM-LCG2_SCRATCHDISK	1	6748
CERN-PROD_DATADISK	914	6748

● Active

DATASET: user.ddaniele:flat\_MEL\_benchmark\_v1

RSE	FOUND	TOTAL
<b>UNIBE-LHEP_LOCALGROUPDISK</b>	<b>90961</b>	<b>90972</b>
AU-MELBOURNE_DATADISK	5	90972
INFN-NAPOLI-ATLAS_SCRATCHDISK	411	90972

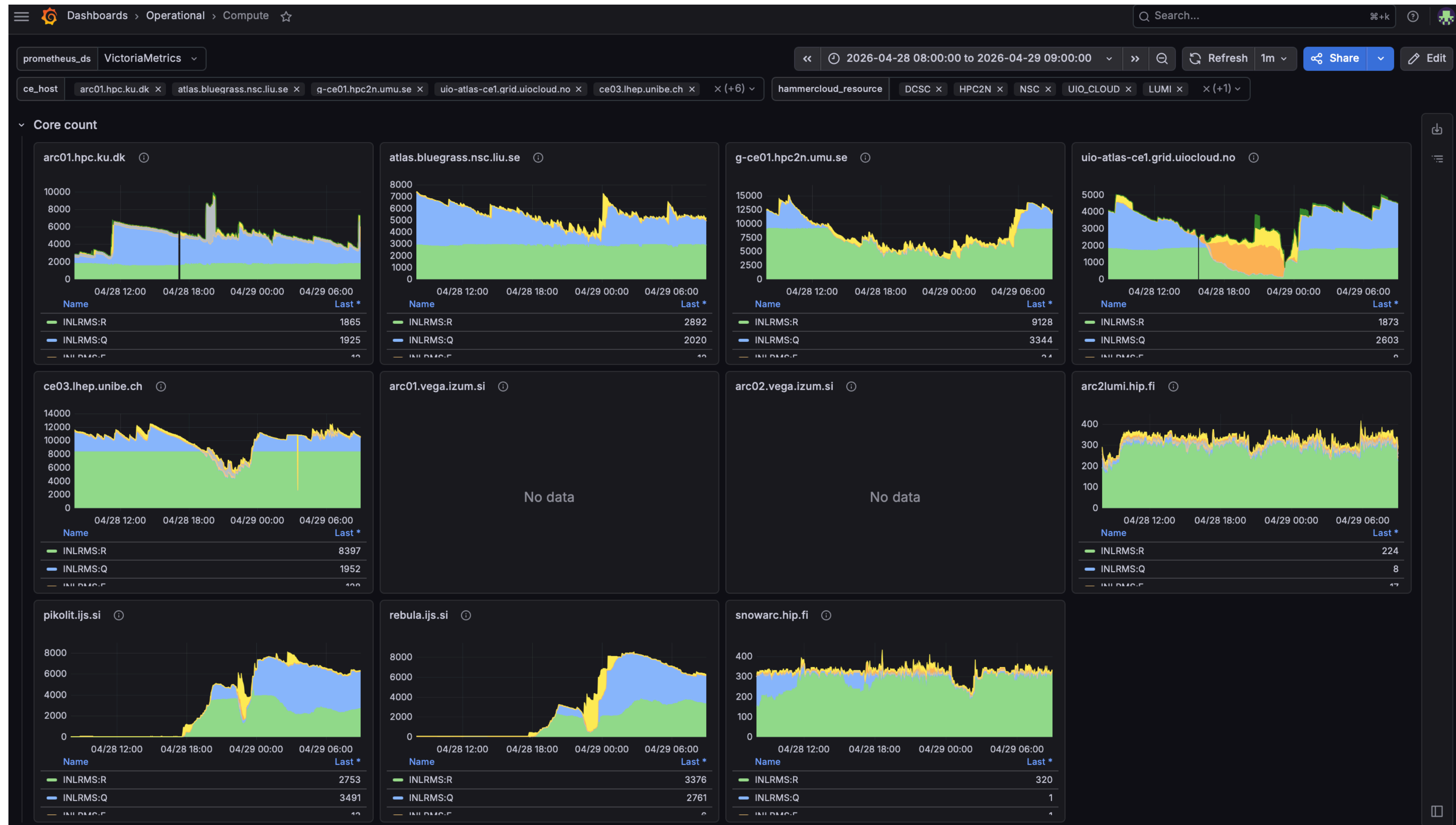
● In progress

# Stress test 28th April 2026 - All CEs 8h

On dataset 1  
Started 9:30 Ended 17:30

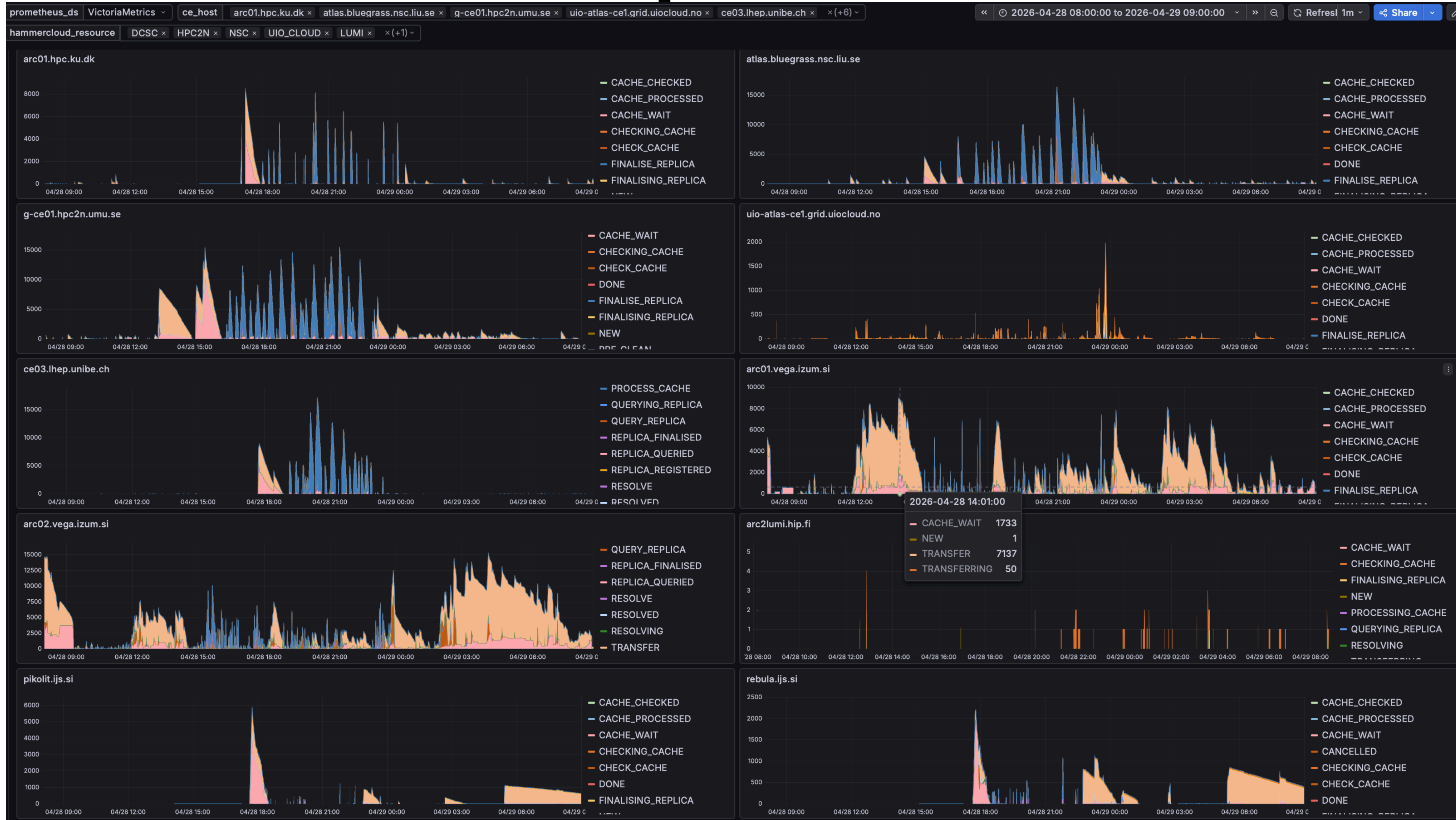
ARNES, DCSC, HPC2N,  
LUMI, NSC, PUHTI, SiNET,  
SiNET\_NSC, UIO\_CLOUD,  
UNIBE-LHEP, Vega

- There is a lead time for jobs to make it to the systems and it takes some hours to wrap down after end time
- Not all CEs ran test jobs, some monitoring missing
- The intense datastaging leads to a dip in the queued/running jobs in each system
- Most evident at UiO



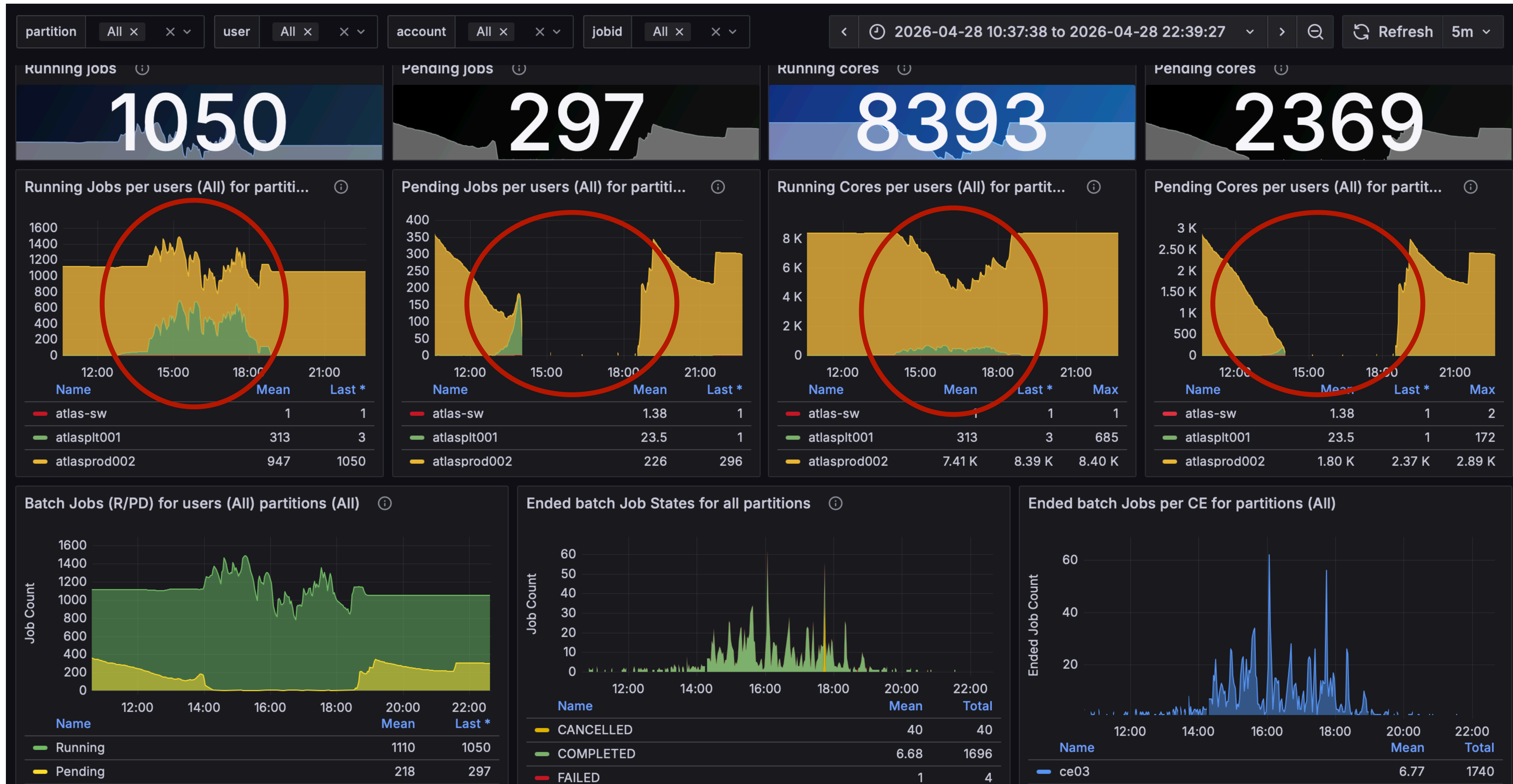
# Stress test 28th April 2026 - All CEs 8h

ARC transfers



# Stress test 28th April 2026 - UNIBE slurm 8h

These HC jobs are mapped to local user atlasplt001 (green in the job/cores graphs)

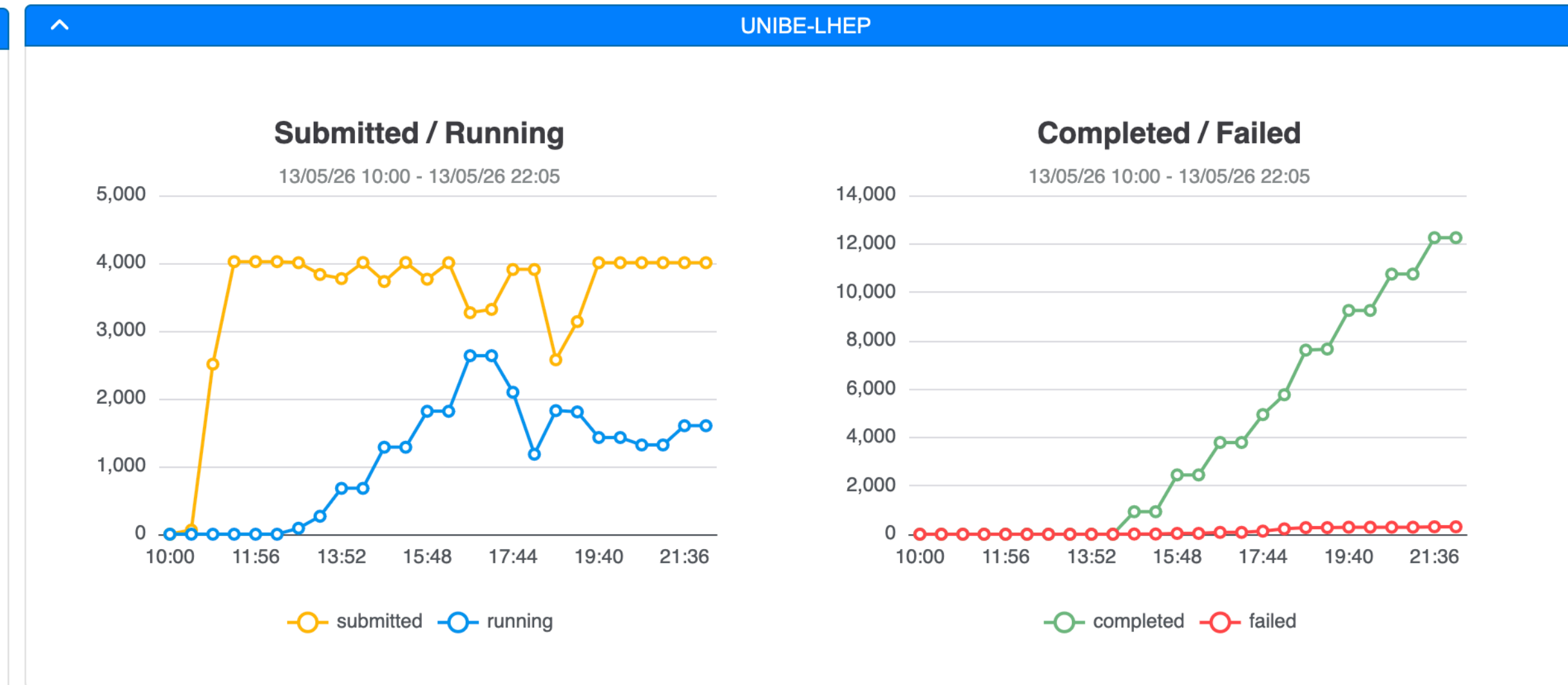
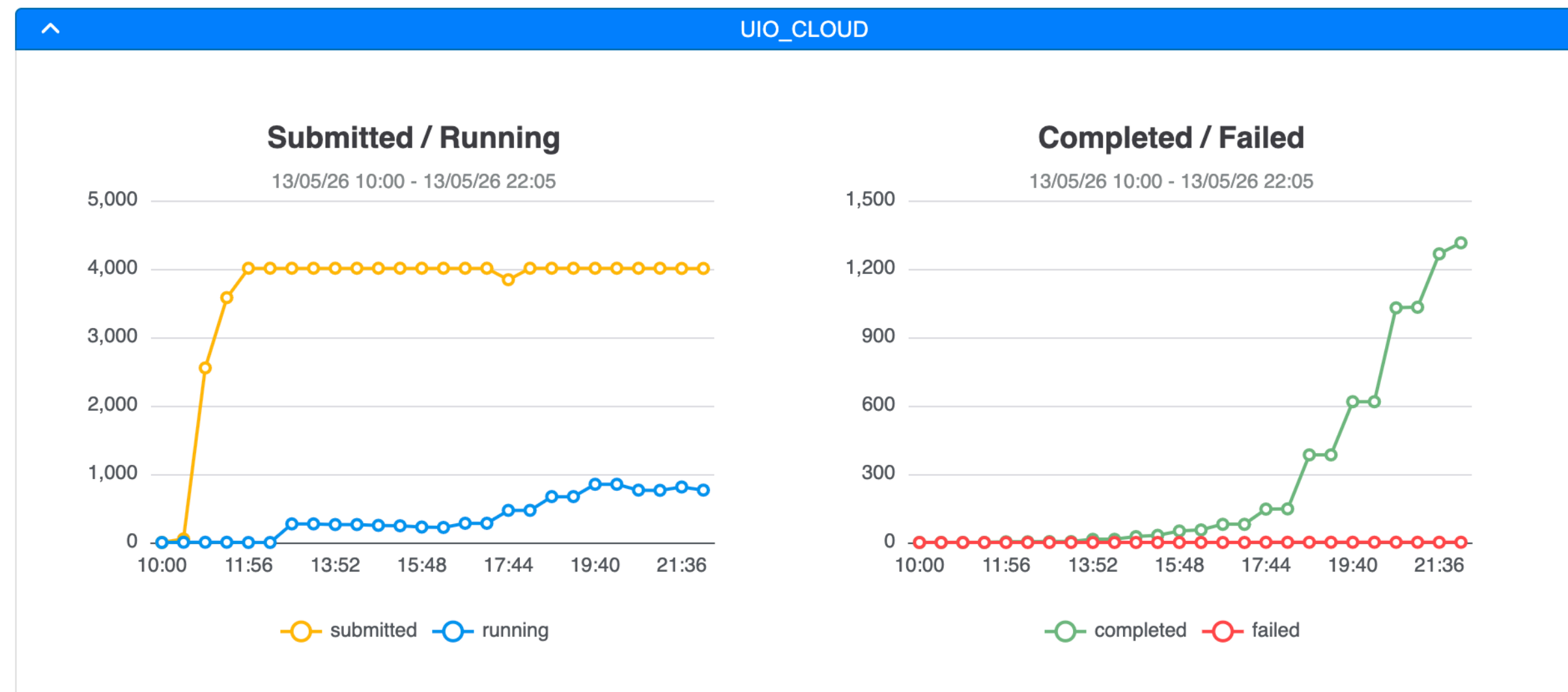
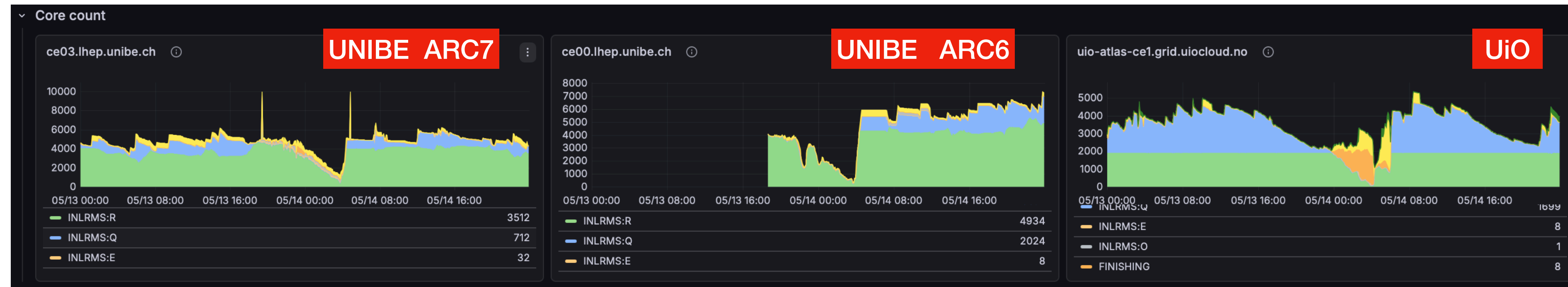


# Stress test 13th May 2026 - UiO+UNIBE 12h

On dataset 1  
Started 10:30 Ended 22:30

UIO\_CLOUD, UNIBE-LHEP

- Confirms what observed for the previous test



# User analysis @UNIBE (not a scheduled test)

## User running systematics on dataset 2

- With `arcsub`, data on UNIBE-LHEP\_LOCALGROUPDISK
- Killed the CE within 30 min
- Tried mitigating with a cron restarting ARC every hour
- Not enough, CE unresponsive overnight
- Could resume operations with a hard power-cycling and a cron job restarting ARC every 30 min (still in place to date)

