

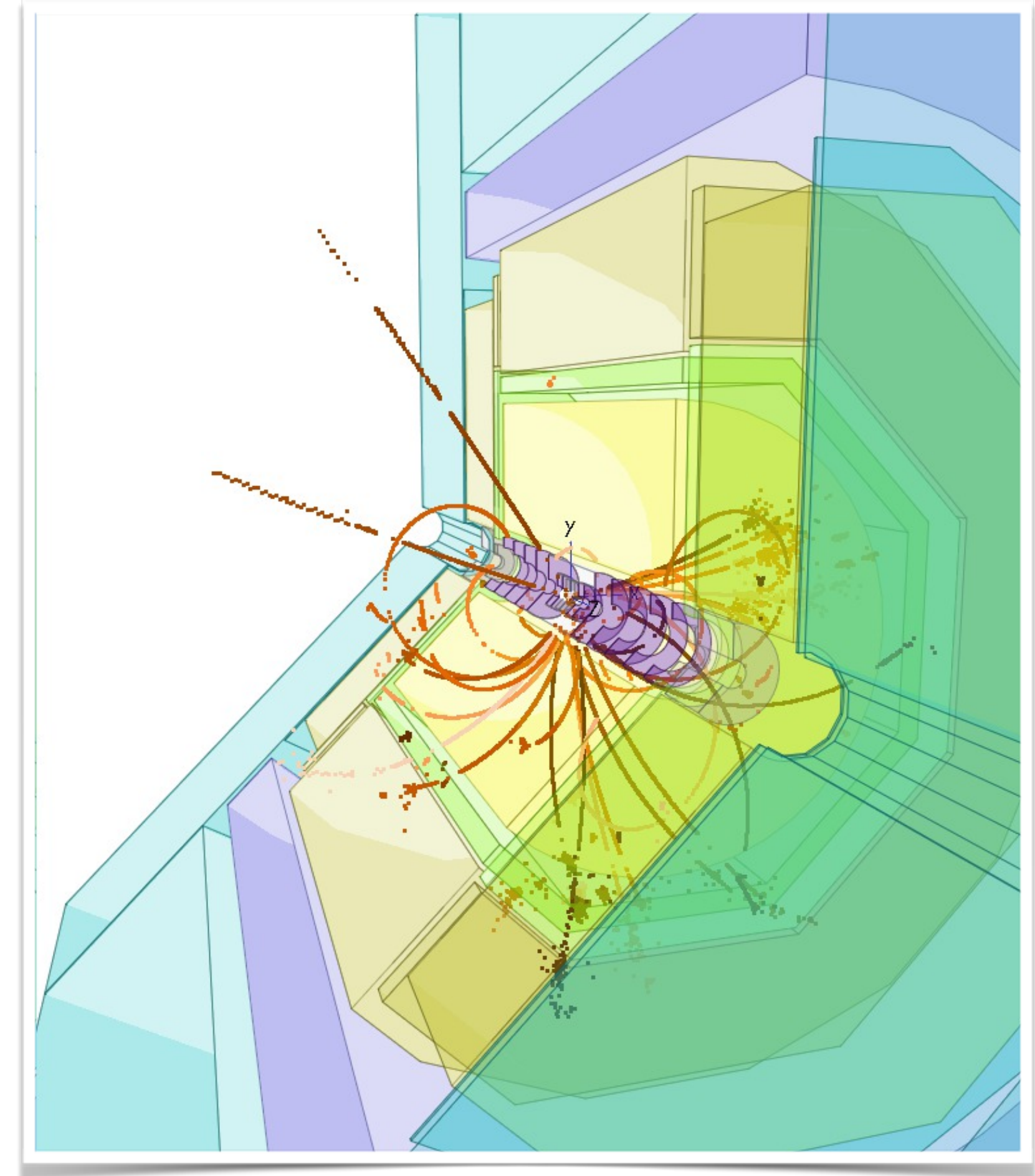
Software Coordinator Report

ILD Software and Analysis Meeting

Frank Gaede, DESY, 13.01.21

Outline

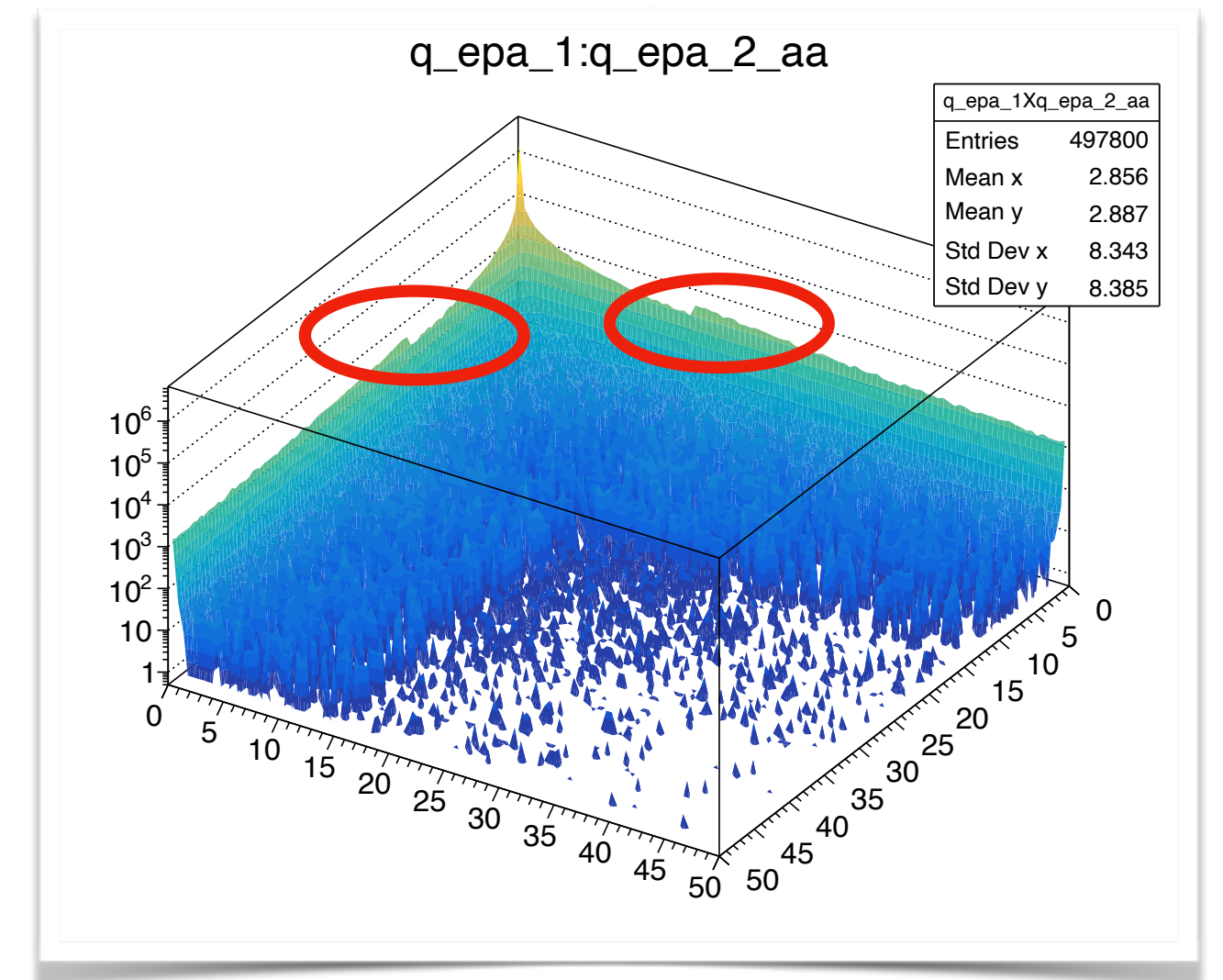
- Generator
- Simulation
- Reconstruction
- Monte Carlo Production
- next iLCSoft release



Generator

M.Berggren

- no news yet on problem with cross section of samples with virtual photons
 - still work in progress w/ Whizard authors
- continue work on new TrueJet implementation
- running with new MCParticle format
- observe some technical issues
 - w/ 94 objects (created in Pythia) and incoming/outgoing momenta
 - observe small (\sim per mille) discrepancies in total energy for tau-decays
 - unclear if this is due to crossing angle or geant4 kinematic in pre-assigned decays



Simulation

D.Jeans

- continued to investigate spurious crashes observed in running mass production
 - ~ one per mille of 2f -> had jobs crashed
 - currently investigating one suspicious event
 - given the low occurrence of this, SW convenors agreed that this is not a problem for current production
- report from SDHCal experts:
 - observe inconsistent hit numbers between AHCAL and SDHCal in hybrid simulation
 - to be investigated...

Reconstruction

R.Ete

- continued work on realistic treatment of timing measurement in CaloDigitizer
- agreement on parameterisation of timing measurement w/ Calo experts
 - got first numbers for SiW ECal and AHCAL
 - (SciW ECal (should be similar to AHCAL) and SDHCAL pending)
 - -> will have a talk in one of the next SW&Ana meetings
- fixed bug in LCIO wrt re-creating TOC in old/broken files
 - no effect on current production

Monte Carlo Production

A.Miyamoto, H.Ono

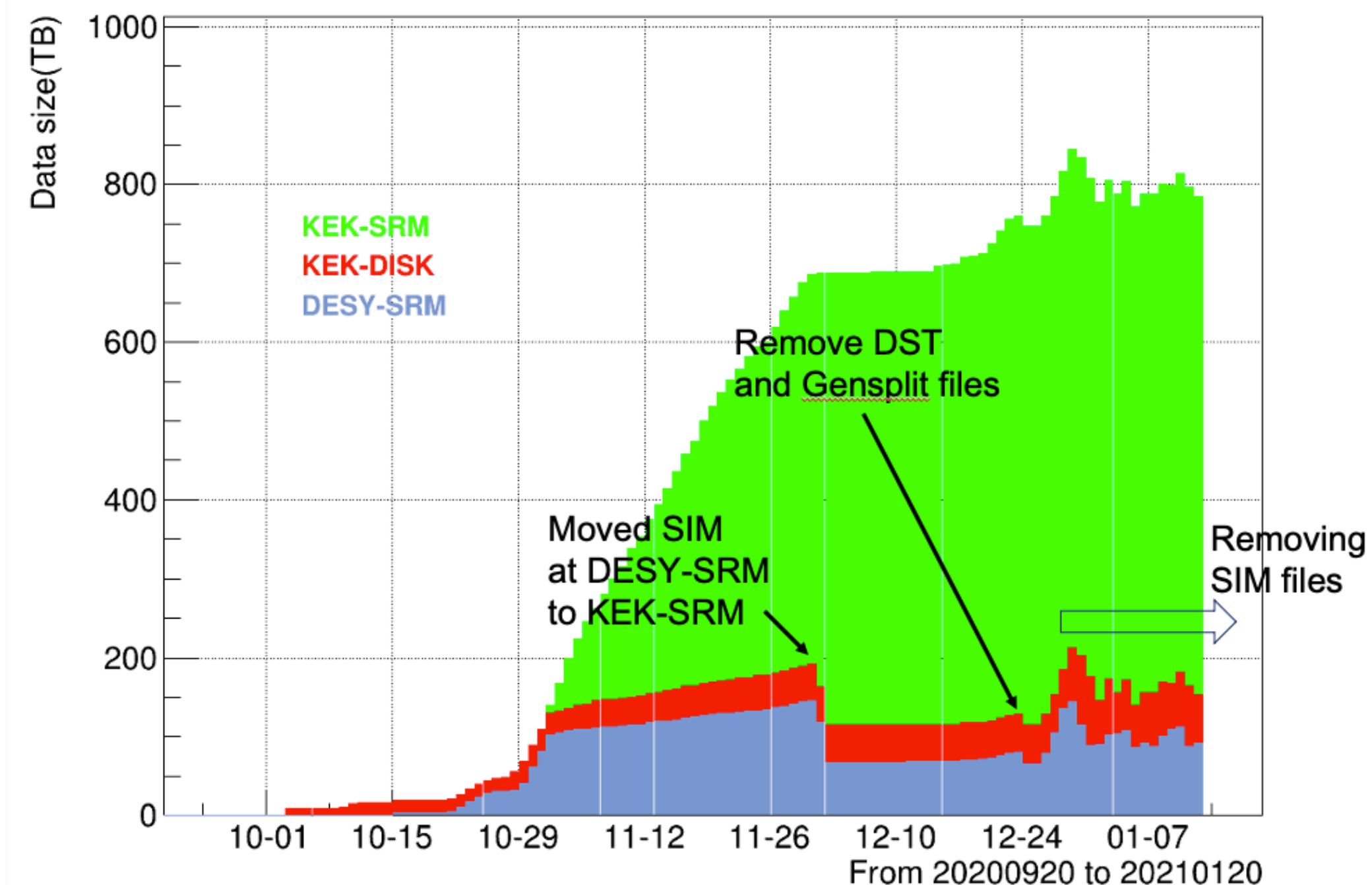
Status

- Continue production based on the plan of 2-Dec-2020.
 - **ILD_I5_o1_v02** reconstruction only.
 - **Removing SIM** files when DST-merged files are created (large σ samples)
 - Use DESY-SRM and KEK-DISK alternatively.
 - Suspend next sample prod. if the size of mc-2020/sim at DESY-SRM (KEK-DISK) exceeds 60 (80)TB.
- Samples completed since then
 - Left over small samples
 - qqh_bb.eL.pR, aa_4f,
 - Flavortag-250-qq
 - Several 4f
 - aa_2f : 0 fb⁻¹ → Done 1000fb⁻¹. (~2/3 without SIM files.)
 - 3f : 0 fb⁻¹ → 300~200 fb⁻¹ with SIM files.
 - 2f_z_h : ~100fb⁻¹ (w. SIM) → ~400fb⁻¹ (w/o SIM)

- ✓ All process are covered. At least 200 fb⁻¹
- ✓ Now aiming to
 - ✓ All channels have at least 1000 fb⁻¹ ~ O(30) days (2f & 3f)
 - ✓ All 4f channel have 5000 fb⁻¹ ~ O(30) days

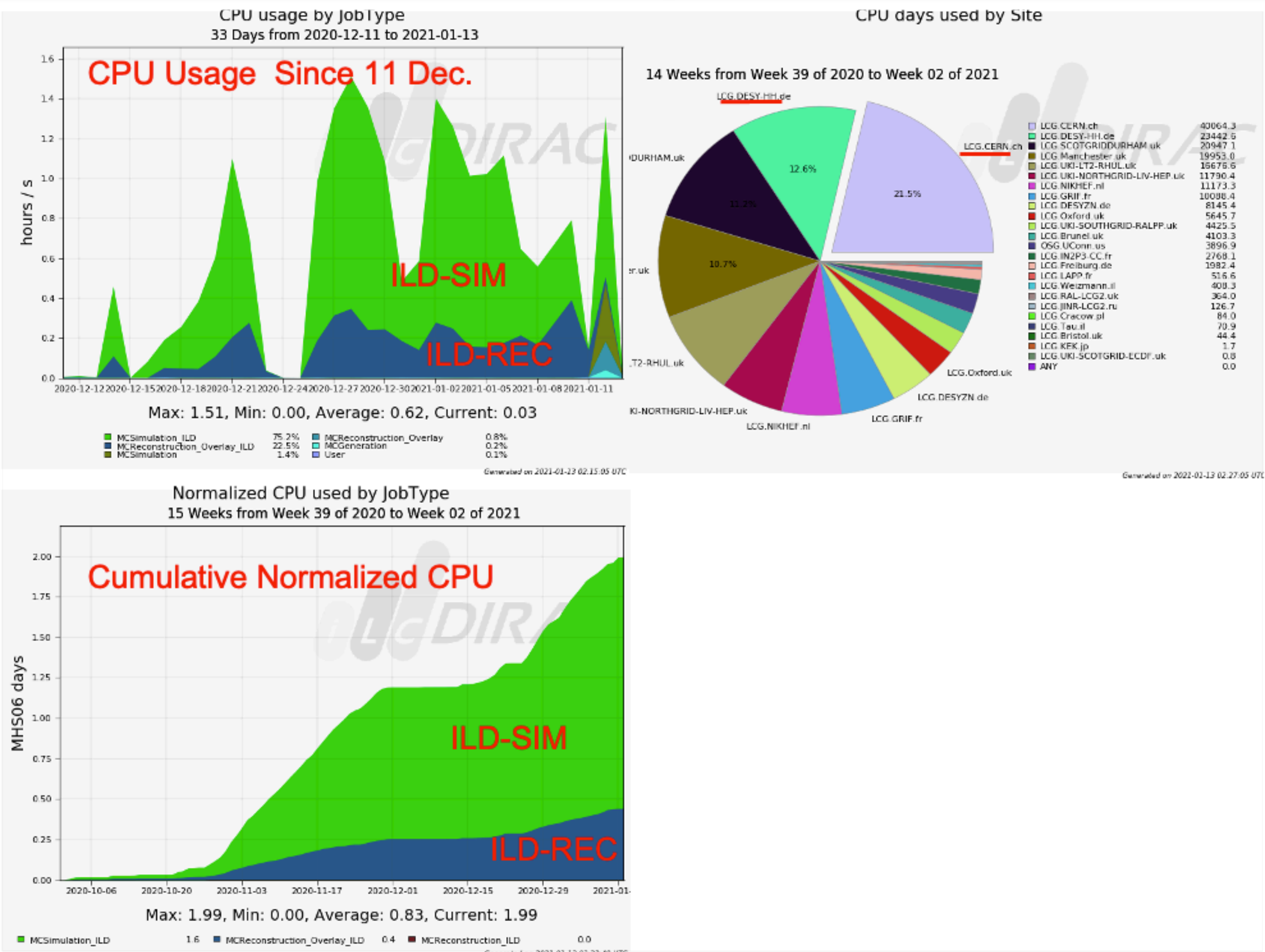
Another O(60) days for 2f 5000 fb⁻¹

Daily storage space



Monte Carlo Production

A.Miyamoto, H.Ono



Insufficient samples as of 13 Jan, 2020

Full list is at

<https://ild.ngt.ndu.ac.jp/mc-prod/prodmon/prodsum-mc2020.html>

250-SetA, ILD_I5_o1_v02

process_type	pol	processID	NbEvents	int.lumi(1/fb)	Done %	ElogID(s)
2f : Produced rate 14.74% (N_Prod/N_Gen = 173991400/1180500000)						
2f_z_h	eL.pR	500010	51138800	399	8	370,402,403,404
	eR.pL	500012	28361600	402	8.1	371,405,406,407
2f_z_l	eL.pR	500006	53494000	2521	50.2	372
	eR.pL	500008	40997000	2505	50	369
4f : Produced rate 35.70% (N_Prod/N_Gen = 156212200/437620000)						
4f_sw_sl	eL.pR	500106	5199800	506	10.1	375
4f_size_l	eL.pR	500114	16500000	2857	56.9	378
	eR.pL	500116	16999400	2995	59.6	379
4f_ww_h	eL.pR	500066	7499600	504	10.1	368
4f_ww_l	eL.pR	500094	4000000	2558	50	354
4f_ww_sl	eL.pR	500082	9399600	500	10	374
4f_zzorww_h	eL.pR	500070	6199200	500	10	373
3f : Produced rate 30.23% (N_Prod/N_Gen = 129004000/426740000)						
ae_3f_z_h	eB.pL	500046	1595800	349	18.1	396
	eB.pR	500048	1595200	346	18.1	396
ea_3f_z_h	eL.pB	500026	1591600	347	18.1	397
	eR.pB	500028	1584400	348	18	397
ea_3f_z_l	eL.pB	500014	9600000	186	9.8	399
	eR.pB	500016	9600000	187	9.8	399

check status of production at this
web page:

[https://ild.ngt.ndu.ac.jp/mc-prod/
prodmon/prodsum-mc2020.html](https://ild.ngt.ndu.ac.jp/mc-prod/prodmon/prodsum-mc2020.html)

next iLCSoft release

v02-02-01

- plan to prepare a patch release for v02-02
 - w/ fixes and new features useful for analysis
 - candidates for updated packages
 - **LCIO** (SIO)
 - **CaloDigi** w/ timing
 - **TrueJet**
 - **ErrorFlow** (Yasser)
- if you would like your package to be included:
 - we need PRs by next ILD SW convenors meeting in 2 weeks (Jan 27)