

Software Coordinators Report

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ILD SW&Ana Meeting, Jan 31, 2018

- Generator
- Monte Carlo Production

- LC Generator Group Meeting @ CERN last week
- agreement to store event/run number and meta data in LCEvent header
 - *processID, polarization, cross section, processName*
 - need **DDSim update** to copy information into output file
 - work has started (R.Ete)
- ongoing discussion on the generator status
 - would like to have clear identification of particles from *hard interaction* (matrix element)
 - proposed a solution to Whizard authors

- FG: proposed schema for generator status codes (under evaluation):

index	PDG	status	[daughters]	comment
0	11	3	[2]	incoming e- with nominal beam-parameters
1	-11	3	[3]	incoming e+ with nominal beam-parameters
2	11	4	[4,6]	post-beam-strahlung/pre-isr e-
3	-11	4	[5,7]	post-beam-strahlung/pre-isr e+
4	11	2	[8,9,10,11,12,13]	post-isr e-
5	-11	2	[8,9,10,11,12,13]	post-isr e+
6	22	1	[]	isr photon
7	22	1	[]	isr photon
8	5	2	[...]	hard interaction (M.E.) particles
9	-5	2	[...]	hard interaction (M.E.) particles
10	4	2	[...]	hard interaction (M.E.) particles
11	-3	2	[...]	hard interaction (M.E.) particles
12	13	1	[...]	hard interaction (M.E.) particles - stable
13	14	1	[...]	hard interaction (M.E.) particles - stable

- updated resource estimate for full optimization production

- complete 500 GeV SM sample used for DBD
- based on v01-19-05 (compiled w/ *optimization*)

- lower CPU needs but larger file sizes

- due to hybrid simulation for Ecal added after v01-19-04
- need to work on **reducing the file sizes** by removing un-needed information

New and old comparison

EvtClass	Ratio (v01-19-05/v01-19-04)				
	CPU day ratio		Data size ratio		
	Sim	Rec	SIM	REC	DST
2f	0.53	0.42	1.72	1.58	0.74
4f	0.52	0.49	1.52	1.41	0.65
5f	0.57	0.44	1.68	1.47	0.73
6f	0.63	0.37	1.69	1.45	0.85
aa_4f	0.58	0.44	1.65	1.42	0.70
higgs	0.57	0.36	1.74	1.48	0.81

Questions

- New DDSim is much faster than old DDSIM !
Is this what we expect ?
- ~ 50% increase in REC data size, due to
 - ✓ Hybrid-Ecal ?
 - ✓ Background overlay ?

Required resources

Total computing resources			
Nb. models		CPU years	Data Size(TB)
Sim	Rec		
1	1	28.8	215.8
2	2	57.6	431.5
2	4	74.6	678.6
2	6	91.6	925.6

- ◆ both *dst* and *dst-merged* counted.
- ◆ Replications are not considered.
- ◆ KEKCC CPU: 23.57 HEPSpec06

cf. resources for calibration samples of 2nd test production

- CPU : ~ 1 years (not incl. *flavortag*)
- Storage : (incl. *flavortag*)

Calibration files(TB)	
DST	0.154
Log	0.005
REC	3.094
SIM	1.344