Software Coordinators Report

F.Gaede, DESY
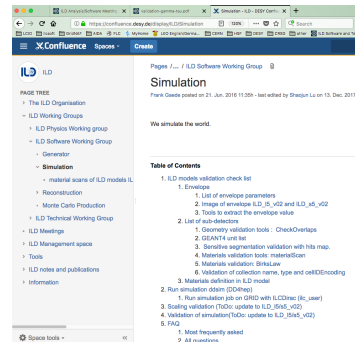
ILD SW&Ana Meeting, Dec 20, 2017

- Generator
- Simulation
- Reconstruction
- Monte Carlo Test Production
- Summary and Outlook

Generators M.Berggren, J.Tian

- almost all known issues fixed:
    - no more *stable quarks*
    - W/Z mass in 4f events is now correct
        - except for *non-resonant 4q* production
        - fix proposed
    - ISR spectrum is fixed: *same distributions as in DBD*
    - *pt-kick* in $\gamma\gamma$-events seems to be OK
        - currently verified by T.Barklow
    - tau polarization seems to be OK
- still need iteration on exact generator status codes in LCIO output generator files

should be able to prepare a 250 GeV SM sample rather soon next year !

Simulation D.Jeans, S.Lu

- update the documentation at ILD confluence page for latest models ILD_ls5_v02
  `https://confluence.desy.de/display/ILD/Simulation`

- model parameters
  - extensions
  - collection names
  - readout id strings
  - ...

- drawings

- validation tools and results

- no recent developments
- focus on *validation and performance checks* for test production
- seen many nice presentation in last weeks meeting
  - so far: *no major issue found*
  - please keep searching . . .

- see talk by D.jeans: *Validation of photon and tau samples*

Monte Carlo test production A.Miyamoto, H.Ono

- duplicated files reported last week.
  - resolved *automatically* by ILCDirac agent
- DESY-SRM disk space is **almost full** !
  - used for DST, splitted-stdhep, log files, ...
  - Please clean up your obsolete files in the user directory at DESY-SRM !!!
- uds and single particle samples are completed (except 3 single particle and 27 uds files)
- physics samples.
  - Higgs, zh->qqh, h->WW->4q and h->ZZ->4n , 20k events each
    - completed, with and without overlay
  - flavor tag 500 GeV, 6b, 6c, 6s, 6d, 6u samples, 100k events each
    - completed, with and without overlay
  - 500 GeV 6f_ttbar, semi-leptonic.
    - completed, with and without overlay
- **Note:** all jobs finished and available in DIRAC catalogue but about 5000 files are not yet copied to the destination, DESY-SRM

Monte Carlo test production - Issues A.Miyamoto, H.Ono

- missing run header in REC and DST files of physics samples:
  - have suggested fix for this (set *MaxRecordNumber=0*)
- currently all files have
  - run number = 0
  - start w. event number = 0
  - this causes problems later when events from several files are combined
- suggested fix:
  - use *run number = processID x 1000 + file-sequence-nr*
  - number events consecutively per run
  - need some code in stdhep splitter (and DD4hep)
- there is currently no meta data assigned to the LCEvent, e.g.
  - processID/Name, polarization, cross section,. . . .
  - need to implement this in DD4hep, DDSim and ILCDirac

Monte Carlo test production A.Miyamoto, H.Ono

- additional samples currently planned:
- ttbar fully hadronic
- sinlge mu+-, with fixed P, theta
- new calibration samples requested by G. Wilson
    - 10k events of single Jpsi, Eta, H->4mu and Z->2mu
- reconstruction of test samples w/ *ILD_l5_o2_v02* (SDHcal)
    - can do as soon as SDHcal group is confident that it will work

Summary and Outlook

- more test samples have been produced
- you can use the upcoming *quiet time* for running exhaustive validation and performance checks

- next meeting: **Wed, Jan. 10 (top/QCD)**
  - and *weekly* thereafter

Merry Christmas

and a Happy New Year !

メリークリスマス！

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