

Software Coordinators Report

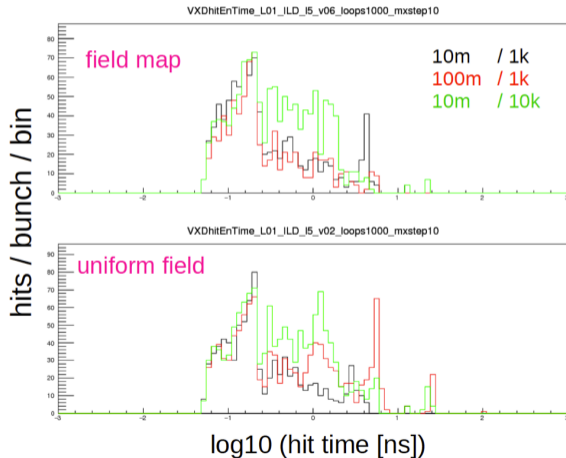
F.Gaede

ILD SW&Ana Meeting, Aug 22, 2018

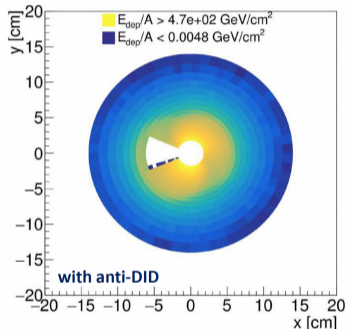
- Generator
- Simulation
- Reconstruction
- Monte Carlo Production
- iLCSoft v02-00-02
- known issues

- following Whizard HEAD releases
 - new proper release planned soon
- one minor issue w/ LCIO output
 - one redundant repetition of incoming particles
 - Whizard authors: “won’t fix”
 - => need to check if it causes problems in ddsim
- checked parallelization of Whizard
 - OpenMP and MPI
 - MPI gives rather linear speed-up w/ #cores
 - to be used for 1TeV benchmark signal samples (WW/ZZ)
- minor issue in 1TeV seeable pairs files:
 - no initial beam energy spread used
- created new uds, bb, cc benchmark samples w/ Whizard2
 - => need to check consistency of JER performance

- study of pair bg w/ different field tracking parameters:
 - *MaxStepLength* and *MaxLoopNumber*
- observe variations of 2-3 in hit numbers in VXD L0/L1
- **ongoing study . . .**



- prepared 1 TeV reconstruction steering files
 - using new background map for BeamCal
- re-discovered known issue:
 - 500 GeV samples for ILD_s5_v02 model used BeamCal background for large detector (and 3.5 T field)



- produced all additionally requested 500GeV samples :
- flavor tag training samples
- 6q-jets (u,d,s,c,b):
 - 500 GeV, >100k events each, w/wo overlay, ILD_ls5_o1_v02
- some leftover 500 GeV SM-background samples
 - 2f_Z_nuNg, 2f_Z_bhabhaNg, 4f_lowmee: w overlay, ILD_ls5_o1_v02
 - aa_lowpt/seeablepairs : reconstruction w.o. overlay (500 GeV)
 - light Higgs like samples : waiting generator files.
 - low mass Higgsino : waiting generator files.
- next step: 1 TeV vvqqqq :
 - required background and configuration files now available
 - production can start as soon as new iLCSoft release is available

Latest information in elog: <https://ild.ngt.ndu.ac.jp/elog/dbd-prod/>

- have created v02-00 for large scale Monte Carlo production
- important bug fix in v02-00-01
 - treatment of FSR for lepton(-pairs) was incorrect
 - used for **complete 500 GeV SM sample**
 - ILD_I5_v02 and ILD_s5_v02 *hybrid models*
- since then a number of issues identified and (partly fixed)
- preparing v02-00-02 for benchmark analyses and dedicated studies
 - see next slides for changed packages

to be released very soon

- **LCIO**
- bug fix in *dumpevent* (FG)
 - seg faults when browsing events with TOF-PID objects
- **lcgeo**
- apply anti-DID field map to small ILD models (D.Jeans)
 - assume same anti-DID field as for large models
- added QD0 and QDEX1A magnet strengths for 1 TeV (D.Jeans)
 - new models `ILD_(sl)5_v08(7)` : 1 TeV fwd magnets, solenoid field map, w/(w/o) anti-DID
- **DD4hep**
- bug fix in *Geant4EventReaderGuineaPig* (FG)
 - fix ignoring input lines with 'nan'

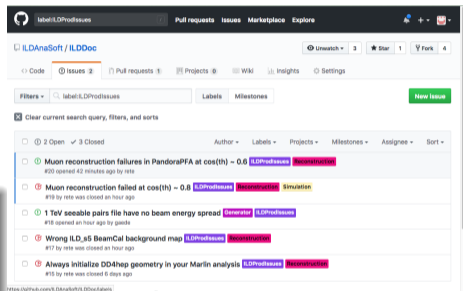
- **MarlinReco**
- added new analysis tool *TJjetsPFOAnalysisProcessor* (J.Beyer)
 - combine PFOAnalysis with TrueJet/TrueJet_Parser
- improved/fixed *IsolatedLeptonTagger* (J.Tian)
 - fixed issue with track impact parameters and IP-z-position smearing
 - minor updates about pre-cut values and symmetric treatment for d_0/z_0 significance
 - new weights trained for new samples are provided
- **KalTest**
- added Runge-Kutta (RK) track propagation functions (B.Li)
 - could be used for track fits in non-homogeneous B-fields
 - to be checked if this works w/ *MarlinTrk*

- **CEDViewer**
- improved CEDViewer/DDCEDViewer, ced2go (FG)
 - print run and event number at end of event
 - added missing new collections (mostly calo hits) from ILD mass production
- added a command line option, “-n 1” to ced2go (A.Miyamoto)
 - if this option is specified, glced server is not started
- **LCFIPlus**
- bug fix (R. Yonamine)
 - cope with events having no vertex track candidates
 - fix spurious crashes in production

- created a list of known issues in mass production (R.Ete): <https://github.com/ILDAnaSoft/ILDDoc/issues?utf8=%E2%9C%93&q=label%3AILDProdIssues>

important for benchmark analyses

- please check this page frequently
 - report any workaround, comment or new issue:
-
- <https://github.com/ILDAnaSoft/ILDDoc/issues/new>



The screenshot shows the GitHub interface for the repository 'ILDAnaSoft/ILDDoc'. The search filter is set to 'label:ILDProdIssues'. The page displays a list of five open issues, each with a title, a status icon (green for open, red for closed), and associated labels. The issues are:

- Issue #20: Muon reconstruction failures in PandoraPFA at $\cos(\theta) \sim 0.6$. Labels: ILDProdIssues, Reconstruction. Status: Open. Created 42 minutes ago by rete.
- Issue #19: Muon reconstruction failed at $\cos(\theta) \sim 0.8$. Labels: ILDProdIssues, Reconstruction, Simulation. Status: Closed. Closed an hour ago by rete.
- Issue #18: 1 TeV seeable pairs file have no beam energy spread. Labels: Generator, ILDProdIssues. Status: Open. Created an hour ago by gaede.
- Issue #17: Wrong ILD_s5 BeamCal background map. Labels: ILDProdIssues, Reconstruction. Status: Closed. Closed an hour ago by rete.
- Issue #15: Always initialize DD4hep geometry in your Marlin analysis. Labels: ILDProdIssues, Reconstruction. Status: Closed. Closed 6 days ago by rete.

- 500 GeV standard model sample completed (ILD_Is5_o1_v02)
 - **benchmark analyses have started**
- also all additional 500 GeV samples have been produced
- 1 TeV production will start soon
- some issues identified for mass production
- see *known issues page*
- some issues are fixed in *ilcsoft patch release v02-00-02*
- to be released soon