

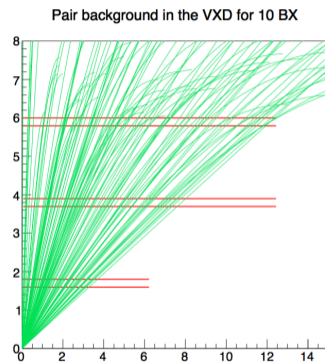
Software Coordinator's Report

F.Gaede, DESY

ILD Meeting, Feb 07, 2017

- Generator
- Simulation
- Reconstruction
- Monte Carlo Production
- ilcsoft release v01-19-01
- Workshops

- testing new *alpha* version of WHIZARD
 - implemented new LCIO output format
 - generator status
 - event meta data
- implement module in SGV to create pair-bg files for mass production



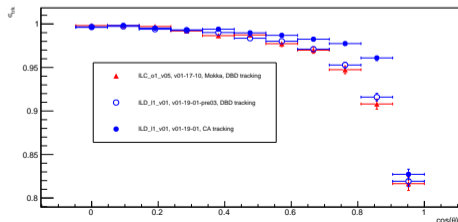
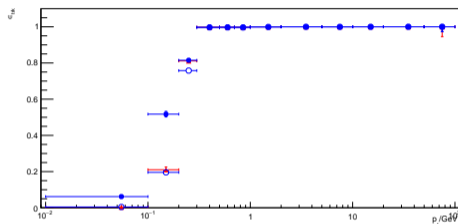
- simulation models **ILD_I1_v01** and **ILD_s1_v01** exist in lcgeo
- recently improved and reorganised
 - common parts split into separate directory
 - tried to factorise overall subdetector envelope definitions from internal subdetector configurations
 - released in iLCSoft *v01-19-01*

group	name	detectors/systems
Calo	Daniel Jeans	Ecal, Hcal
Si-Tracker	Marcel Vos	VXD, SIT, SET, FTD
VFS	Bogdan Pawlik	beamCal, LCal, LHCal
Yoke	Nicola d'Ascenzo	Muon, Coil
MDI	Karsten Buesser	beam pipe, cables, services
TPC	Dimitra Tsionou	TPC

validation process started

- TPC: fixed issue w/ overlapping volumes for cathode
- ECal: re-structured code and fixed a number of *minor* issues
- **need to intensify activity for other sub-detectors**

- new DD4hep/DDRec based tracking shows same tracking efficiency as observed for the DBD
- improved tracking efficiency with MiniVec-CA patrec (Y.Vouustinas) and new DDRec tracking

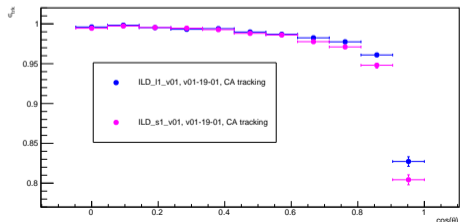
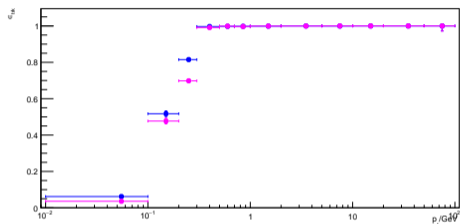


- compare tracking efficiencies for

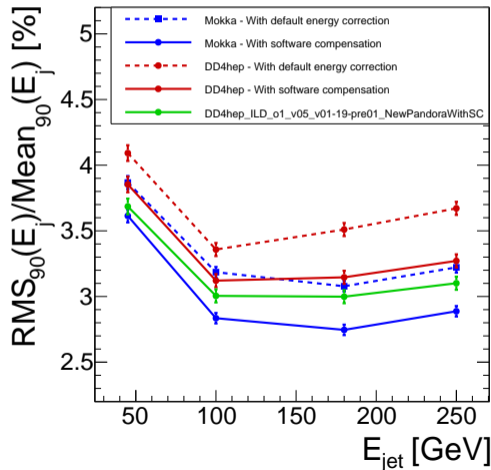
- ILD_I1_v01* with $r_{TPC} = 1800 \text{ mm}$ and $B = 3.5 \text{ T}$
 - ILD_s1_v01* with $r_{TPC} = 1460 \text{ mm}$ and $B = 4.0 \text{ T}$

- observe degradation for smaller model

- low p_T
- in forward direction
- numbers are **preliminary** !



- tracking down differences in JER between Mokka and DD4hep based sim/reco
 - fixed an issue w/ failed clustering of muon hits in PandoraPFA
 - re-calibrated the *ILD_o1_v05* model
- work in progress ...



- prepared the infrastructure for the large scale Monte Carlo production on the Grid using ILCDirac
- improved ILD production scripts in ILCDirac for old and new software chain
- produced requested events for missing phase space of DBD sample: $4f_{lowmee}$

- **lcgeo**: fixed spurious crash and updated new ILD models
- **DD4hep** some updates needed for CLICdp and SiD
- **PandoraPFA**: new release with bug fix for muon clustering (and other improvements)
- **MarlinReco**: new package *SiPID* w/ dE/dx for Si-trackers (CLICdp)

NB:

- moved to gcc4.9 for this release

reference installations:

```
/afs/desy.de/project/ilcsoft/sw/x86_64_gcc49_sl6/v01-19-01  
/cvmfs/ilc.desy.de/sw/x86_64_gcc49_sl6/v01-19-01
```

prepare for v01-19-02

- already fixed some small problems in ILD models ...

- March 20-24 at CERN
- <https://indico.cern.ch/event/606671/>

'hands-on' working meeting

- address open issues in iLCSoft and iLCDirac, such as:
 - finalize the transition to Github
 - restructure some of the iLCSoft packages
 - work on iLCDirac
 - implement new features
 - (e.g. TrackingCellIDEncoding singleton)

Monday	Tuesday	Wednesday	Thursday		Friday
	- tracking - PFA	- MDI and subdetector status	- HLR tools and application	- anti-DID Task Force	closing plenary - discussion - decisions
L	U	N	C		H
- core tools - generator - simulation and Grid tools	- status of sub-detector simulation models	- physics and optimization	- HCal geometry Task Force		

- April 24-28, in Lyon, France
- focus on software on Monday and Tuesday

sub-detector status report

- expect sub-detector software contacts to report on status
- ideally already **final validation ?**
- possibly decide on options for simulation model (HCal geometry)