# Software Coordinator's Report
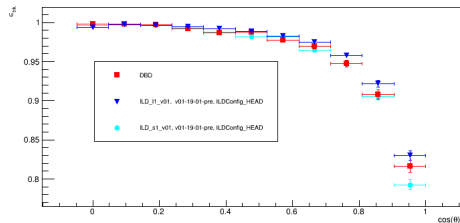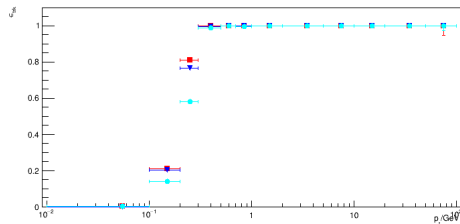
F.Gaede, DESY

ILD SW&Ana Meeting, Jan 11, 2017

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

- MB installed HEAD version of WHIZARD for cross checks
  - created steering file for upcoming MC mass production
  - should allow to run same scripts as for DBD production

- WHIZARD authors currently have a meeting in Siegen
  - working on the issues discussed at the Tokyo Generator Meeting before LCWS2016
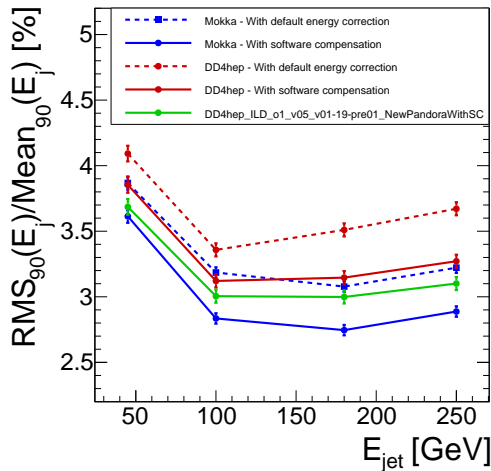
- compact descriptions of **ILD_l1_v01** and **ILD_s1_v01** models in lcgeo reorganised
  - common parts split into separate directory
  - tried to factorise overall subdetector envelope definitions from internal subdetector configurations
  - will be included in iLCSoft *v01-19-01*

- identified some issues in beampipe description due to rather strange paramerisations of transitions in the large conical part, and out-of-date parameters (with Henri Videau)
  - started to fix these, not yet done

- recently observed issue in TPC geoemtry driver:
  - *air used as material for cathode*
- now tracked down to issue (**bug**) in *materialScan* program
- under investigation . . .

# Reconstruction - Tracking <sub>S.Lu</sub>

- started to look into tracking efficiency for new ILD models

  - *ILD_l1_v01* with $r_{TPC} = 1800$ *mm* and B field 3.5 T
  - *ILD_s1_v01* with $r_{TPC} = 1460$ *mm* and B field 4.0 T

- observe degradation for smaller model

  - low $p_T$
  - in forward direction

- numbers are *preliminary*

# Reconstruction - PFA L.Tran

- progress in 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

- found issue with different *interaction
  lengths* for compound materials in Geant4
  and DD4hep (ROOT-TGeo)
  - under investigation . . .



Legend in figure:
- Mokka - With default energy correction
- Mokka - With software compensation
- DD4hep - With default energy correction
- DD4hep - With software compensation
- DD4hep_ILD_o1_v05_v01-19-pre01_NewPandoraWithSC

Axis labels: $RMS_{90}(E_j)/Mean_{90}(E_j)$ [%] vs $E_{jet}$ [GeV]

- preparing the infrastructure for the large scale Monte Carlo production on the Grid using ILCDirac

- started to produce requested samples for missing phase space of DBD samples: *4f_lowmee*

# ilcsoft v01-19-01

- **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)
- continued the transition of iLCsoft packages to Github:

    - `https://github.com/iLCSoft`

- **to be released end of week...**

pre-releases in afs:

`/afs/desy.de/project/ilcsoft/sw/x86_64_gcc49_sl6/v01-19-01-pre01`