Software Coordinators Report

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ILD SW&Ana Meeting, Sep 19, 2018

Outline

- Generator
- Simulation
- Reconstruction
- Monte Carlo Production

Generator M.Berggren

- sent some patches to Whizard authors, fixing previously reported issues
  - stable quarks in 6j
  - duplication of output lines in LCIO
- accepted by Whizard authors
- to be tested as soon as release is installed

Simulation S.Lu

- investigating setting of geant4 B-field stepping parameters
- study the effects on
  - hit creation
  - MCParticle endpoints
  - **tracking efficiency**

Tuning Geant4 Configuration

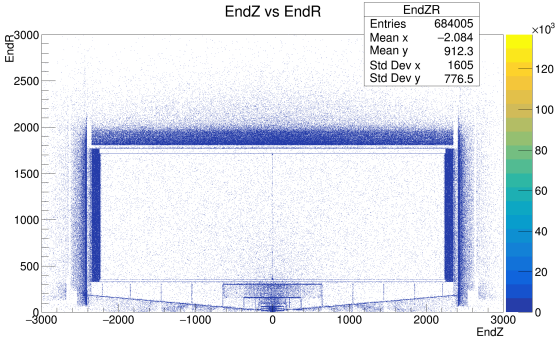
```
##################################################
## Configuration for the magnetic field (stepper)
##################################################
## --- used in v01-19-05 :
##SIM.field.delta_chord = 1e-05
##SIM.field.delta_intersection = 1e-05
##SIM.field.delta_one_step = .5e-03*mm
##SIM.field.eps_max = 1e-04
##SIM.field.eps_min = 1e-05
##SIM.field.equation = "Mag_UsualEqRhs"
##SIM.field.largest_step = 10.*m
##SIM.field.min_chord_step = 1.e-2*mm
##SIM.field.stepper = "HelixSimpleRunge"

## ---  default values in ddsim
SIM.field.delta_chord = 0.25
SIM.field.delta_intersection = 0.001
SIM.field.delta_one_step = 0.01
SIM.field.eps_max = 0.001
SIM.field.eps_min = 5e-05
SIM.field.equation = "Mag_UsualEqRhs"
SIM.field.largest_step = 10000.0
SIM.field.min_chord_step = 0.01
SIM.field.stepper = "G4ClassicalRK4"
```

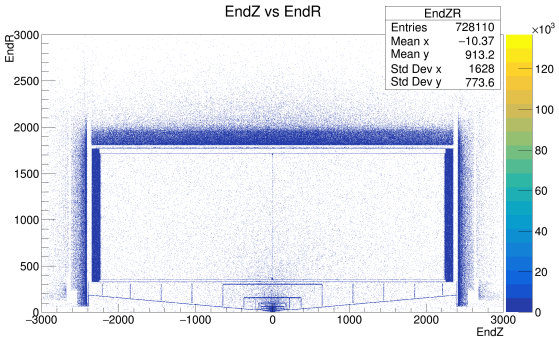
"delta_chord" effect or MC particles endpoint and tracking accuracy

Effect may come from potential combination

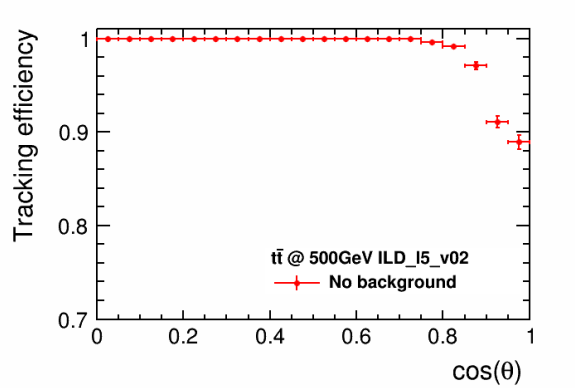
Not yet studied

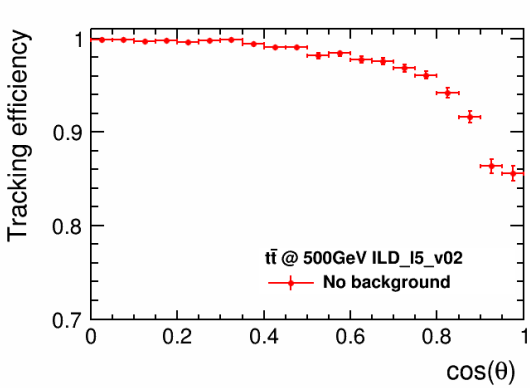
Simulation S.Lu





Simulation S.Lu





- work in progress . . .

Reconstruction R.Ete

- have created new uds and b,c di-jet samples w/o ISR
  - using Whizard2
- currently investigating whether its compatible w/ old Cambridge samples
- different Monte Carlo truth history
  - cannot run *PandoraAnalysis* tools out-of-the-box
  - work in progress
- LCFIPlus
  - see talk later today

Monte Carlo Production A. Miyamoto

- finished production of missing 1 TeV vvqqqq *benchmark sample*
  - with iLCSoft release v02-00-02
- all SIM, REC and DST files are produced
- observed issue with desy-SE storage during production of *dst-merged* files
  - currently under investigation by IT experts