# Changes to run_cdfSim.tcl & more

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## Today's brief menu:

- **User-friendly use of run_cdfSim.tcl**
- **Integrate additional modules in cdfSim**
- **Make misalignment default in simulation**

# User-friendly Use of run_cdfSim.tcl

```
##########################################################################
#  cdfSim master configuration file                                      #
##########################################################################
### Event number business
###### Set number of events to generate
set cdfSim_NUM_EVENTS 50
###### Set report frequency
set cdfSim_REPORT_FREQUENCY 1
###### Set event number of first event to generate
set cdfSim_FIRST_EVENT 1
##########################################################################
### Random number business
###### Read initial random seeds for random number streams from file
set cdfSim_RANDOM_SEED_INPUT $TCL_LOCATION/setup_random_seed.dat
###### Specify file name to store random seeds at end job
set cdfSim_RANDOM_SEED_OUTPUT CdfRnStat.dat
##########################################################################
### Beamline and primary vertex settingss
###### Set beam width in x and y [cm]
set cdfSim_BEAM_sigma_x  0.0025
set cdfSim_BEAM_sigma_y  0.0025
##### Set sigma(Z) of the interaction region [cm]
set cdfSim_BEAM_sigma_z  28.0
# Set beam position and slope
set cdfSim_BEAM_pv_central_x    0.064
set cdfSim_BEAM_pv_central_y    0.310
set cdfSim_BEAM_pv_central_z    2.5
set cdfSim_BEAM_pv_slope_dxdz  -0.00021
set cdfSim_BEAM_pv_slope_dydz   0.00031
```

# User-friendly Use of run_cdfSim.tcl

```
##########################################################################
### Set Silicon Charge Deposition Model by choosing one of the following
set cdfSim_SILICON_CDM GEOMETRIC; set cdfSim_PARA_CDM_SET 0
#set cdfSim_SILICON_CDM PHYSICAL; set cdfSim_PARA_CDM_SET 0
#set cdfSim_SILICON_CDM PARAMETERIZED; set cdfSim_PARA_CDM_SET 1
##########################################################################
### To generate realistic MC with misalignment and beamline from DB
### set cdfSim_REALISTIC_MC to 1 and uncomment the following settings
set cdfSim_REALISTIC_MC 0
###### Specify run number
#set cdfSim_RUN_NUMBER 151435
###### Specify alignment table
#set cdfSim_ALIGN_TABLE "ofotl_prd_read     100030 1 GOOD "
##########################################################################
### Here a few settings that are sometimes used
##########################################################################
### Set variable cdfSim_SI_PASSIVE to false
### to turn off simulation of Si passive material
set cdfSim_SI_PASSIVE true
### Set cdfSim_B_FIELD to 0.0 to turn off simulation of magnetic field
set cdfSim_B_FIELD 14.116
### Set to true to enable creation of PropagatedSiParticleColl
set cdfSim_SI_PROP_PART false
##########################################################################
### Finally, specify name of your output file
set cdfSim_OUTPUT_FILE cdfSim_test.root
```

# User-friendly Use of run_cdfSim.tcl

```
##########################################################################
##########################################################################
### Setup simulation
source $TCL_LOCATION/setup_input.tcl

##########################################################################
### Put here the tcl file for your favourate generator
source setup_herwig.tcl
##########################################################################

source $TCL_LOCATION/setup_simulation.tcl
source $TCL_LOCATION/setup_output.tcl

begin -nev $cdfSim_NUM_EVENTS
show timer
exit
```

# New Modules for cdfSim

- **Integrate additional modules in cdfSim for use of standard executables for large scale MC production:**
- **From runMC:**
  - **XFTSim, XTRPSim, svtsim ???**
  - **HEPGFilter (HepgFilter?)**
  - **GenTrigBFilter**
- **From SVT trigger simulation:**
  - **SiClusteringModule**
  - **svtfilter**
- **What else?**

# Misalignment as Default in Simulation

- **Misalign all simulation by default?**

  **=> use beamline database, used sets, ...**

- **What else?**