

Conventions of generator files for DBD study

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1. Top structure of ILC VO catalog for MC production work

[/grid/ilc/prod/clc/](#) : files for CLIC activity

[/grid/ilc/prod/ilc/](#) : files for ILC activity

Directories under prod/ilc is

[/grid/ilc/prod/ilc/mc-dbd/generated](#) : common generator files

[/grid/ilc/prod/ilc/mc-dbd/ild](#) : files for ILD studies

[/grid/ilc/prod/ilc/mc-dbd/sid](#) : files for SiD studies

2. Directories to store generated files

[cm-energy]-[machine_configuration]

for example,

[/grid/ilc/prod/ilc/generated/1000-B1b_ws/](#)

Definition of machine_configuration will be found at
<https://confluence.slac.stanford.edu/display/ilc/Standard+Model+Data+Samples>

3. Log file directory

Log files are saved at directories different from data directories to avoid problems storing small files on tape system. They are

[/grid/ilc/prod/ilc/mc-dbd.log/](#)

Directory structure below this directory is same as the data directory (generated.)

4. Convention of generator file names

File name consists of

one character of description keys + string, separated by “.”

no order specified and additional keys can be added

Following keys are used:

G: generator program ID and version number

E: center of mass energy in GeV and parameter name

P: process description string

e: electron polarization or photon nature

p: positron polarization or photon nature

e.g. eR80.pL30 (+80%,-30%), eL.pR (100% polarized)

B beam strahlung photon, W: Weizacker-Williams spectrum

eB.pR : beamstrahlung photon + positron

I: generator process ID

0 < ID < 100000 : produced at SLAC

100000 < ID < 200000 : produced at KEK

200000 < ID < 300000 : produced at DESY

300000 < ID < 400000 : produced at CERN

[0-9]: File sequence number

For example,

[E1000-B1b_ws.Ptth-lnqq-hnobb.eL.pR.Gp01-01.I106032.001.stdhep](#)

means

CM energy 1000 GeV, B1b_ws beam parameter

Process is tth, where tt decays to bblnqq and h to non-bb mode

Initial beam is left handed electron and right handed positron

Generator program is physsim, version 1-1

Process id is 106032

Sequence number of this file is 1

4. Meta-info in data files

It is suggested to store following meta data in simulated files and reconstructed files.

- CM energy and beam parameter
- cross section (in fb unit)
- electron polarization (ex. -1.0 for -100% pol) or photon nature
- positron polarization or photon nature
- process ID
- generator event number

5. Meta data in external text files

Generator job create a text file of meta information for each processes.

A typical file content is shown in Table 1.

Table 1. A sample text file for generator meta information

```
process_id=106023
job_date_time=110708-094926-GMT+0900
process_name=physsim-ttz-6q_zqq
process_type=physsim-ttz-6q_zqq
CM_energy_in_GeV=1000
program_name_version=physsim_110706
pythia_version=6.422
stdhep_version=5-06-01
OS_version_build=2.6.18-164.el5;x86_64/GNU/Linux
OS_version_run=2.6.18-164.el5;x86_64/GNU/Linux
libc_version=glibc-2.5-58.el5_6.2.x86_64
fortran_version=gfortran-4.4.0.20090414
hadronisation_tune=OPAL
tau_decay=tauola
beam_particle1=e1
beam_particle2=E1
polarization1=L
polarization2=R
luminosity=11063.7751658172
cross_section_in_fb=4.51853
cross_section_error_in_fb=0.00136746
lumi_linker_number=18
file_type=stdhep24
total_number_of_events=49992
number_of_files=2
file_names=p106023_01.stdhep;p106023_02.stdhep
number_of_events_in_files=44950;5042
fileurl=lfn:/grid/ilc/users/miyamoto/CDS/generated/1000
logurl=http://www-jlc.kek.jp/~miyamoto/CDS/1000/run_output/p106023
comment=
```

Reference:

1. This document is available at

<http://svnweb.cern.ch/guest/lcgentools/trunk/ILC/documents/generator-conventions.pdf>