Running SLIC at SLAC

Along with other software for LCD research, a common distribution of the SLIC simulator package is available for SLAC Unix users.



Access to NFS

Access to SLAC NFS can be requested from the Unix Administration List. (Of course, you must already have a SLAC Unix account to get NFS access.)

Open a connection to a SLAC Unix machine.

ssh [YOURACCOUNT]@iris.slac.stanford.edu

Replace YOURACCOUNT with your actual SLAC Unix account.

Now, switch to the bash shell.

bash

You need to setup the project environment to access the common software distribution

source /nfs/slac/g/lcd/mc/prj/bin/prj.sh

Now, you should be able to run slic from \$PRJ_BIN.

slic [arguments]



SLIC Command Line Interface

The SLIC command line interface maps directly to Geant4 macro commands.

To see available command line options, invoke the help command.

slic --help

There are a number of different ways to run SLIC, including purely macro or command-line driven.

For instance, here is a command to load the SDJan03 test geometry and start an interactive terminal.

slic -g \$PRJ_DIST/slic/current/examples/sdjan03/SDJan03.lcdd -n



LCDD files for Common Detectors

The LCDD files for common detectors such as SiD are kept at /nfs/slac/g/lcd/mc/prj/data/detectors, which should be accessible from the SLAC Linux machines.

Now, in order to have a work area for your SLIC usage, checkout the package from CVS.

export CVSROOT=:pserver:anonymous@cvs.freehep.org:/cvs/lcd cvs co slic cd slic $\,$

Within this directory, you will be able to write LCIO files.

This is an example of visualizing a single muon event in the SDJan03 test detector using GPS. From your slic directory, execute the following commands.

```
slic -g examples/sdjan03/SDJan03.lcdd -n
Idle>/control/execute macros/vis_gl.mac
Idle>/control/execute macros/gps.mac
Idle>/run/beamOn
```

You could also dump a heprep.

```
Idle>/control/execute macros/heprep2.mac
```

Or you may want to check for overlaps in the detector.

```
Idle>/geometry/test/recursive_test
```

A purely macro-driven job can be executed from the slic directory like so.

```
slic macros/sdjan03_dbg.mac
```

You can dump this event using an LCIO utility.

```
lcio-dumpevent outfile.slcio 0 0
```

In general, a minimalist SLIC session will be started as follows.

```
slic -g /path/to/geometry/file -n
```

The -n will start an interactive session.

Alternately, you may start up in interactive mode and manually input all required commands.

```
slic -n
Idle>/lcdd/setURI examples/sdjan03/SDJan03.lcdd
Idle>/run/initialize
```

An input file in StdHep or LCIO format can be specified with the -i option or using the <code>/generator/filename</code> command from the <code>PreInit></code> prompt. When you call <code>/run/beamon</code>, the events from this file will be used as input to the simulator.



Batch job submission

Here is a set of commands that may be useful for batch submission.

```
slic -g geom_file -i input_file -p path_for_output_file -o output_file -s #_events_to_skip -r #_events
```