

# Table of Contents

<b>Using SLIC from lxplus.....</b>	<b>1</b>
Script usage.....	1
Examples.....	2
Bugfixes.....	2

# Using SLIC from Ixplus

When simulating events with slic it is usually better to do this as a batch job, like on the CERN Ixplus batch queues.

For easy submission of multiple jobs to the batch queues (splitting the job for parallel processing) a script has been set up. It can be found on the common AFS space:

```
/afs/cern.ch/eng/clic/software/scripts/slic_submit.sh
```

This script allows easy submission of multiple similar jobs, splitting of simulation of a larger stdhep input file, automatic naming of the output files, creates automatic slic macros for some generic particle sources etc.

The script requires the detector definition file (\*.lcss) to be located at

```
/afs/cern.ch/eng/clic/data/detectors/DETECTORNAME/DETECTORNAME.lcss
```

The lcio outputfiles are created at

```
/afs/cern.ch/eng/clic/work/events/DETECTORNAME/
```

## Script usage

- connect to an Ixplus machine using your CERN account

```
ssh Ixplus
```

- run the script with the according parameters

```
./slic_submit.sh -...
```

- the possible parameters are:
  - ◆ -h or --help : lists all possible parameters with a short description
  - ◆ -a ANGLE: sets the opening angle for the point-like particle source (default=1)
  - ◆ -d DETECTORNAME: sets the name of the detector to be used (default=clic000)  
the script also checks if the necessary detector description is located at  
`/afs/cern.ch/eng/clic/data/detectors/DETECTORNAME/DETECTORNAME.lcss`
  - ◆ -e ENERGY : sets the particle energy (in GeV) for all particle sources except stdhep input (default=50)
  - ◆ -f FILENAME : sets the file name of the stdhep input file
  - ◆ -g GENERATOR : sets the particle generator, **this parameter is mandatory**. It can be
    - ◇ *file* for stdhep input
    - ◇ *beam* for a testbeam-like particle generator **in z-direction**
    - ◇ *gun* for particles generated in a straight line **in z-direction**
    - ◇ *point* for a point-like particle generator shooting in **z-direction**
  - ◆ -j JOBS : sets the number of equal jobs to be submitted (default=1)  
for stdhep input the jobs are sequentially, ie. job1 will simulate events 0-99, job2 will simulate events 100-199, ...
  - ◆ -l PHYSLIST : sets the physics list to be used (default=QGSP\_BERT)
  - ◆ -n NEVENTS : sets the number of events per submitted job (default=100)
  - ◆ -p PARTICLE : sets the particle type for all particle sources except stdhep input (default=pi+)  
important : use the GEANT4 particle naming convention
  - ◆ -q QUEUE : sets the Ixplus batch queue, **this parameter is mandatory**.  
It has to be one of the following: *8nm, 1nh, 8nh, 1nd, 2nd, 1nw, 2nw*

## Examples

- `slic_submit.sh -g file -f yourinput.stdhep -n 100 -j 10 -q 1nd`

this will simulate the first 1000 events from *yourinput.stdhep* in the default detector (clic000) equally split into 10 jobs on the 1day queue.

- `slic_submit.sh -g gun -d cliccalstack -p e+ -e 500 -n 1000 -j 2 -q 1nw`

this will simulate 2000 positrons split into 2 jobs with an energy of 500 GeV shot on the *cliccalstack* in z-direction on the 1week queue.

## Bugfixes

- 30 Oct 2008 fixed naming of lcio output files when using stdhep input
- 31 Oct 2008 fixed random seed being NOT random
- 24 Nov 2008 introduced better feedback of parameters used

For questions and comments please contact ChristianGrefe

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This topic: CLIC > SlicLxplus

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