

lcdtrk

Bruce Schumm has written a program to calculate covariance matrices with which to smear tracks. The covariance matrix is built up from a description of the detector which includes the geometry, the material, and the expected measurement uncertainties of the tracking detectors.

1.) get the code

```
> wget http://www.slac.stanford.edu/~schumm/lcdtrk20011204.tar.gz
```

```
> tar -zxvf lcdtrk20011204.tar.gz
```

```
> cd lcdtrk
```

2.) compile the code

```
> f77 -O2 lcdtrk.f -o lcdtrk.exe (native compiler on Solaris, not on Linux)
```

```
> ifort -O2 lcdtrk.f -o lcdtrk.exe (Intel compiler on Linux or Windows(O2))
```

3.) edit the detector description.

There is currently no direct binding between the compact detector description, so the description must be written by hand.

Modify an existing file and save as in.lcdtrk

4.) run the program

```
> lcdtrk.exe
```

The smearing matrices are written into files called

```
lookup.beamcon_cov
```

```
lookup.nobmcon_cov
```

These should be copied to the appropriate detector directory.