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Introduction to Mokka

Mokka is a Geant4 based simulation software for the ILD detector concepts. It is also used for some TestBeam prototypes.

Running Mokka

Mokka can be run just by calling

```
Mokka -M <DetectorModel>
```

There are more command line options to give. More control over Mokka can be obtained by writing a steering file and running

```
Mokka <steeringfile.steer>
```

After Mokka instantiated the geometry a Geant4 Shell is provided, generator input files (stdhep or HEPEvt format) or the Geant4 particle gun can be used to start simulations.

The Mokka Steering File

Abridged example steering file from

<https://svnsrv.desy.de/viewvc/marlinreco/ILDConfig/trunk/StandardConfig/current/> Information on the Mokka commands is available from the `help` menu in the `geant4` shell

```
#Specify the output filename
/Mokka/init/lcioFilename bbudsc_3evt.slcio
#The database and user to obtain the geometry information
/Mokka/init/dbHost polui01.in2p3.fr
/Mokka/init/user consult
/Mokka/init/dbPasswd consult
#Overwrite existing LCIO output file
/Mokka/init/lcioWriteMode WRITE_NEW
#Chose the geant4 physicslist
/Mokka/init/physicsListName QGSP_BERT
#geant4 rangeCut
/Mokka/init/rangeCut 0.1 mm
#Macro file to give commands to geant once geometry instantiated
/Mokka/init/initialMacroFile bbudsc_3evt.g4macro
# no user interaction, no Mokka exits after the macro file was executed
/Mokka/init/BatchMode true
```

There are many more parameter that can be set Most important is the detector model

```
/Mokka/init/detectorModel ILD_o1_v05
```

Some of the parameters can also be set via command line

Macro File

Abridged example steering file from

<https://svnsrv.desy.de/viewvc/marlinreco/ILDConfig/trunk/StandardConfig/current/>

```
#set the generator input file
/generator/generator bbudsc_3evt.stdhep
#simulate 3 events
```

/run/beamOn 3

Detailed Information on Detector Models

- [Mokka Model Database Browser](#)
- [Mokka Geometry Database Cross-Reference](#)

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