

# EXERCISE SESSION IN TRACKING DETECTORS

## Study of semiconductor sensor

### Preparations:

#### Level for beginners:

We will study basic features of semiconductor, junctions etc.  
You will need a computer with internet connection with Java.

#### Level for cruisers:

We will simulate semiconductor sensors using Archimedes which is free software under GNU for MC field simulations (similar to TCAD). The software can be downloaded from:

[HTTP://WWW.GNU.ORG/SOFTWARE/ARCHIMEDES/](http://www.gnu.org/software/archimedes/)

The installation instruction is found on the page. It runs under linux but should also work under windows with e.g. MinGW (I have not tested it though)

[HTTP://WWW.MINGW.ORG/](http://www.mingw.org/)

The output from Archimedes is in gnuplot format. Gnuplot is a free software and can be downloaded from:

[HTTP://WWW.GNUPLOT.INFO/](http://www.gnuplot.info/)

The files are simple ASCII files and can be viewed with your favourite plotting software (as long it is not EXCEL) e.g. ROOT.

There is a graphical interface for Archimedes called Rappture which you if you wish can install. It requires a bunch of additional packages in Linux and does not run in Windows. Te program is in my opinion not really necessary for the exercises. The input file is easily scripted in text using an editor.

Good luck!

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