List of hands-on exercises

Exercise	Activity	Room	# students	Action
1	Drift tube characterisation	D11.04	4	Characterise a drift tube (gas detector) with a cosmics and a radioactive source, and derive the gas gain factor from the data
2	Micro-pattern gas detector, measure mu-RWELL efficiency	D11.09	4	Measure mu- RWELL performance with a cosmic-ray telescope
3	Cosmo boxes	F13.11	8	Set up of a scintillator array and readout, and determine cosmic muon features
4	Microchannel plate photomultipliers (MCP-PMT) with delay-line anode	G11.10	4	Learn how to measure with a MCP-PMT, and determine its time resolution and spatial resolution
5	Silicon photomultiplier (SiPM)	G11.05	6	Find out about core features of a SiPM avalanche photo-detector and see single photo-electrons
6	Silicon pixel detector	G11.24/05	4	Learn basics about a silicon pixel detector, calibrate the device and measure photons and ionising particles using a radioactive source.

Exercise	Activity	Room	# students	Action
7	Silicon strip detector, Landau distribution	G11.04	4	Set up a silicon strip detector with its readout chain, and reconstruct the Landau charge distribution using a radioactive source
8	Do-it-yourself particle detector	D11.12	6	Build your own silicon pixel detector and see signals from daily-life sources
9	ROOT tutorial	F13.15	6	Learn how to use ROOT for your data analysis and presentation of results
10	Geant4 tutorial	F13.17	6	Learn how to use Geant4 for modeling your experiment and for simulating particle interactions in your detector
11	Simulation of silicon pixel detector and spatial resolution	D11.01	6	Simulate detailed signal formation in your silicon pixel detector, and determine its performance as a function of detector features
12	Analysis of silicon pixel test beam data	D11.01	6	Analyse a set of test-beam data to characterise your pixel sensor and determine its performance