Training Ion Implant Simulator Scheduling

10 days * 2 hours = 20 hours

Day 1

Executable code. Usage on Linux/Unix and Windows operating systems. One-dimensional version of simulator. How to understand the results. Plotting graphs: on-line and off-line. Test suite.

Day2

Three-dimensional version of simulator: Phase1 and unconditional replication. Showing results with visualize code.

Day3

Parallel version of 1D and 3D simulators. Running in an heterogeneous cluster of linux/unix computers. Configuration and permissions. Main file explanation.

Day 4

Compiling the source code. Different compilers. Overview of source files. Main file explanation and philosophy: binary collision approximation and simultaneous collisions corrections.

Day 5

Nuclear stopping. Calculus and tables. Theory. Usage of tables.

Day 6

Inelastic NonLocal stopping: electronic stopping power. Only one fitting parameter. How to change easily this model. Theory. Usage of tables.

Day 7

Inelastic Local stopping. Theory. Usage of tables. Computational algorithms to speed-up the code: statistical noise reduction.

Day 8

Damage accumulation model. 1D and 3D models. Theory. How to change easily this model. Explanations of how parallel version of the damage accumulation model works. Computational algorithms to speed-up the code: dose division.

Day 9

Crystal definition and atoms involved. Other computational units of the code: random number generator, vector unit, list unit, histogram units, etc.

Day 10

How to include more input parameters. How to obtain output parameters.