

Use the command `Eprouvette` in a terminal to launch the simulator. The command will read the data stored in file `Input.xml` and generate a file names `Result.csv`. The format of `Input.xml` file is described below. The `Result.csv` file contains the temperature in each radial layer as a function of depth and time.

<TimeControl>

This tag contains three values :

- The total simulation time (h)
- The numerical time step (s)
- The time interval for saving results (h)

<Radius>

This tag contains the number of radial layers followed by the radial thickness of each layer in meters.

<Height>

This tag contains the number of layers followed by the thickness of each layer in meters.

<ThermalConductivity>

This tag contains the thermal conductivity of each layer in $\text{W m}^{-1} \text{K}^{-1}$.

<InterfaceThermalConductivity>

This tag contains the thermal conductivity at the upper interface of each layer in $\text{W m}^{-2} \text{K}^{-1}$.

<VolumetricHeatCapacity>

This tag contains the volumetric heat capacity of each layer in $\text{J m}^{-3} \text{K}^{-1}$.

<InitialTemperature>

This tag contains the initial temperature of each layer in K^{-1} .

<FrontBoundaryCondition>

This tag contains the type of front boundary condition (1 for temperature imposed and 2 for flux imposed) followed by the name of the file containing the boundary condition values. The boundary condition values file is a csv file where the first column is the time in hour and the other columns are the values imposed for each radial layer. These values are in K when temperature is imposed as boundary condition and in W m^{-2} when flux is imposed.

<BackBoundaryCondition>

Idem as `FrontBoundaryCondition`.

<RadialBoundaryConditionValueOfFlux>

This tag contains the name of the file containing the boundary condition values. The boundary condition values file is a csv file where the first column is the time in hour and the other columns are the values of the flux imposed for each layer. These values are in W m^{-2} .