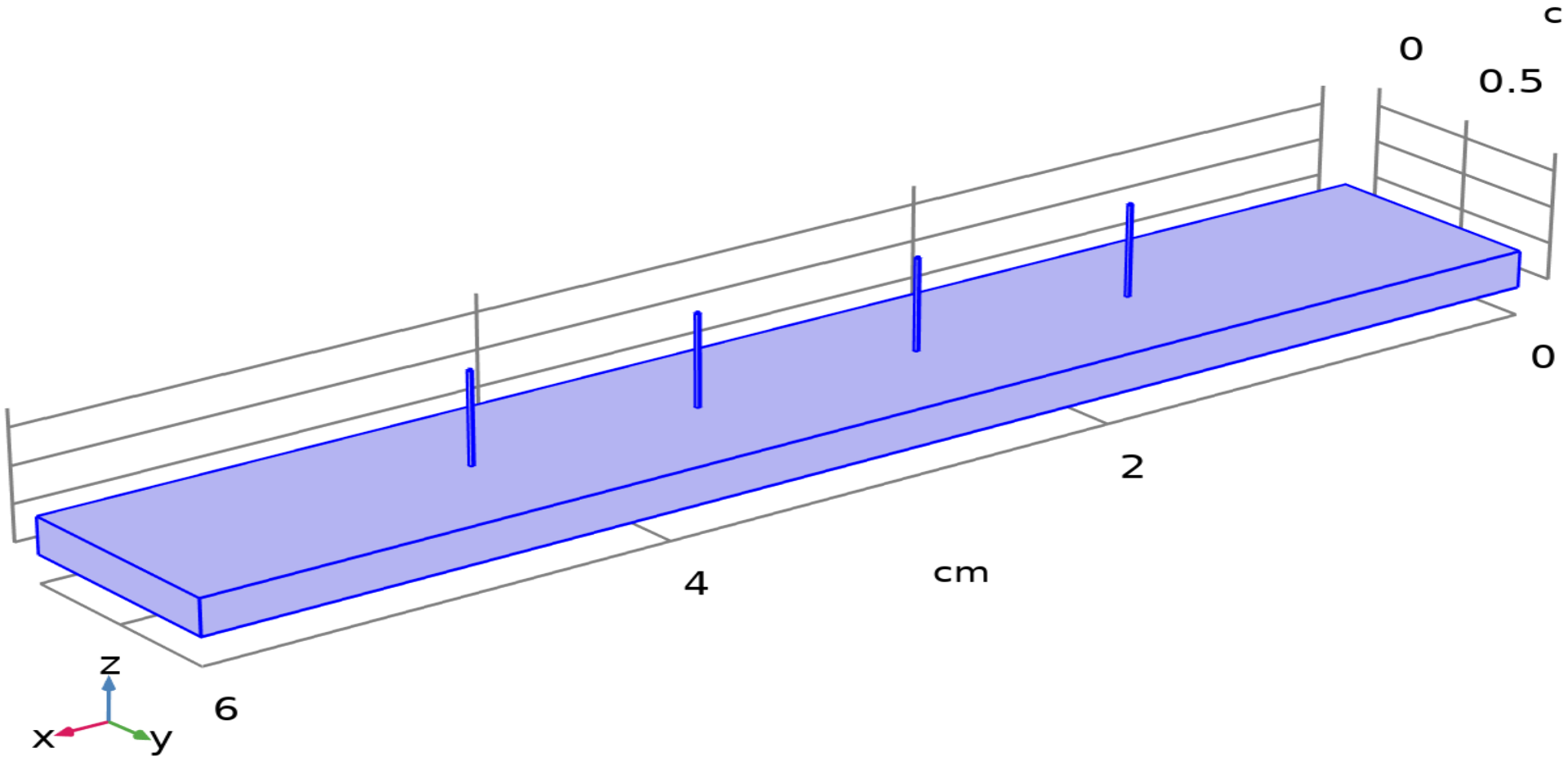
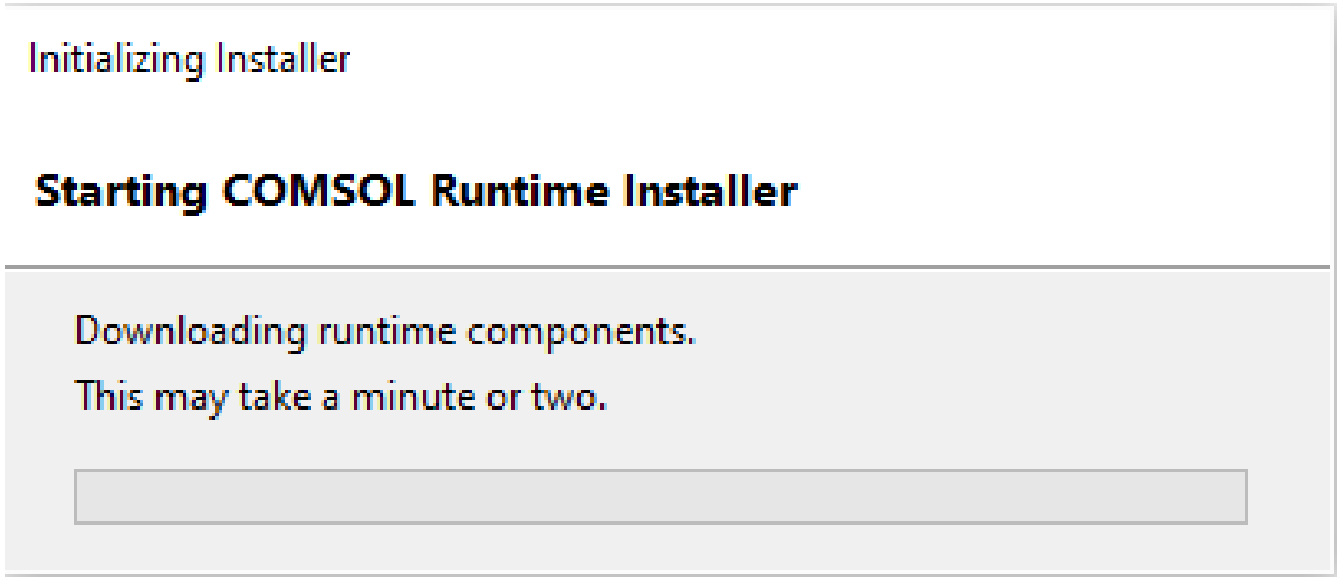
Four Probes COMSOL Application Manual

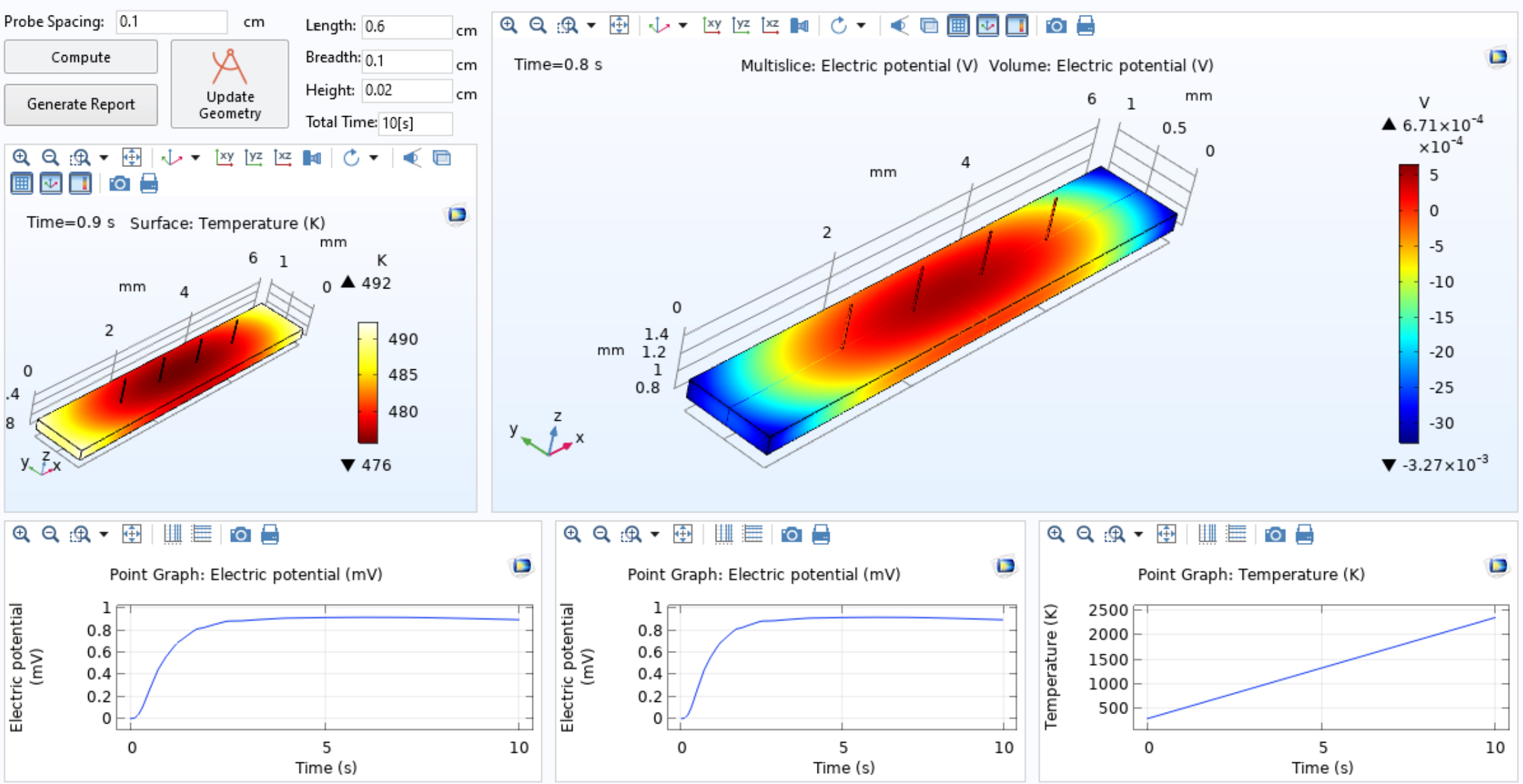


The Application requires to download runtime components



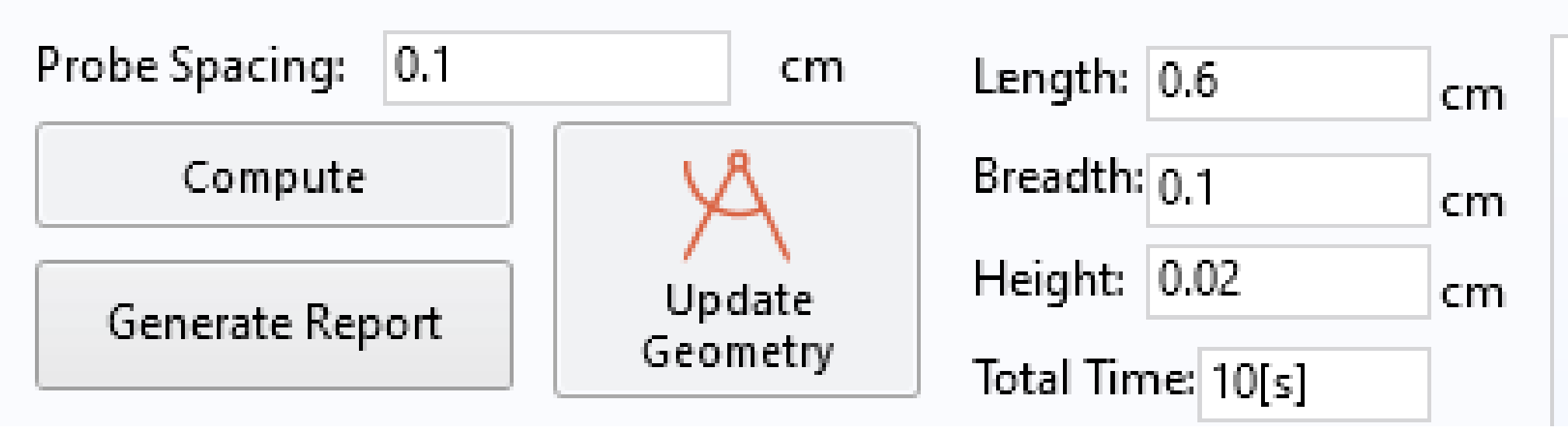
Once the download is complete the application would open.

This is the application GUI

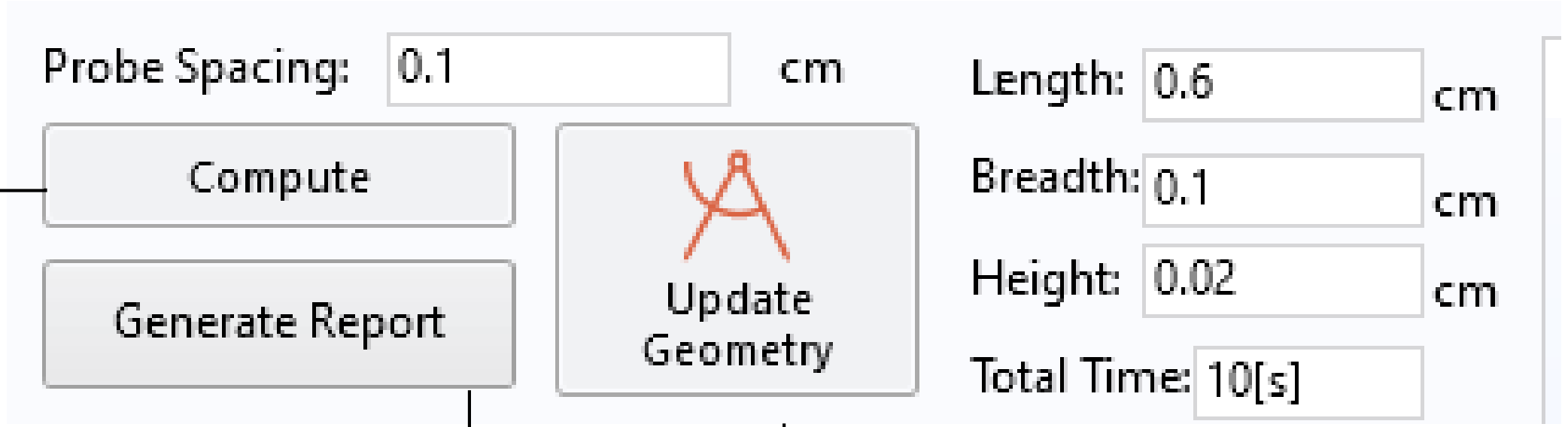


About

Use this to change the geometry and the time for experiment.



The three buttons control the application.

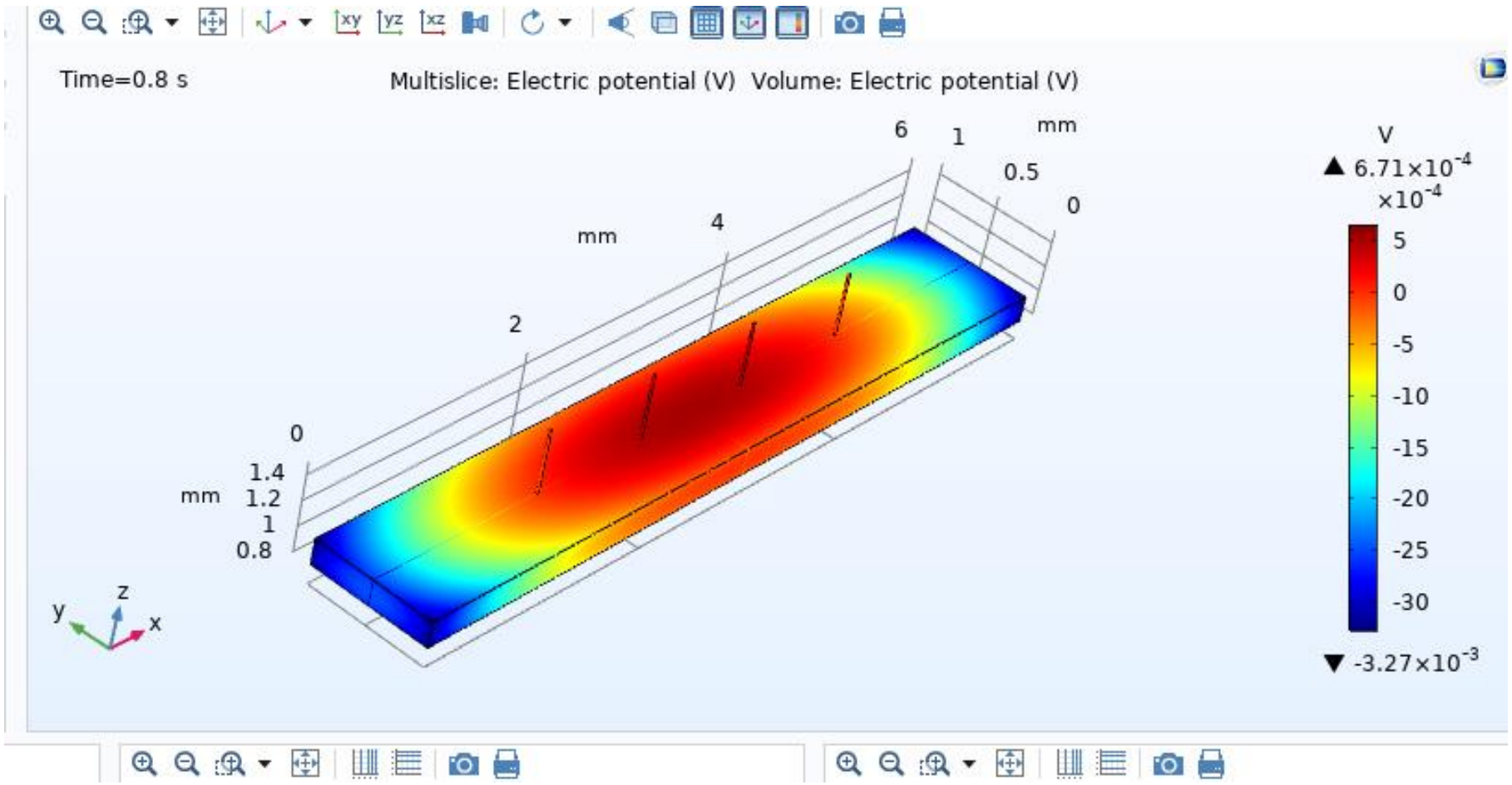


Computes the simulation for the given parameters and time.

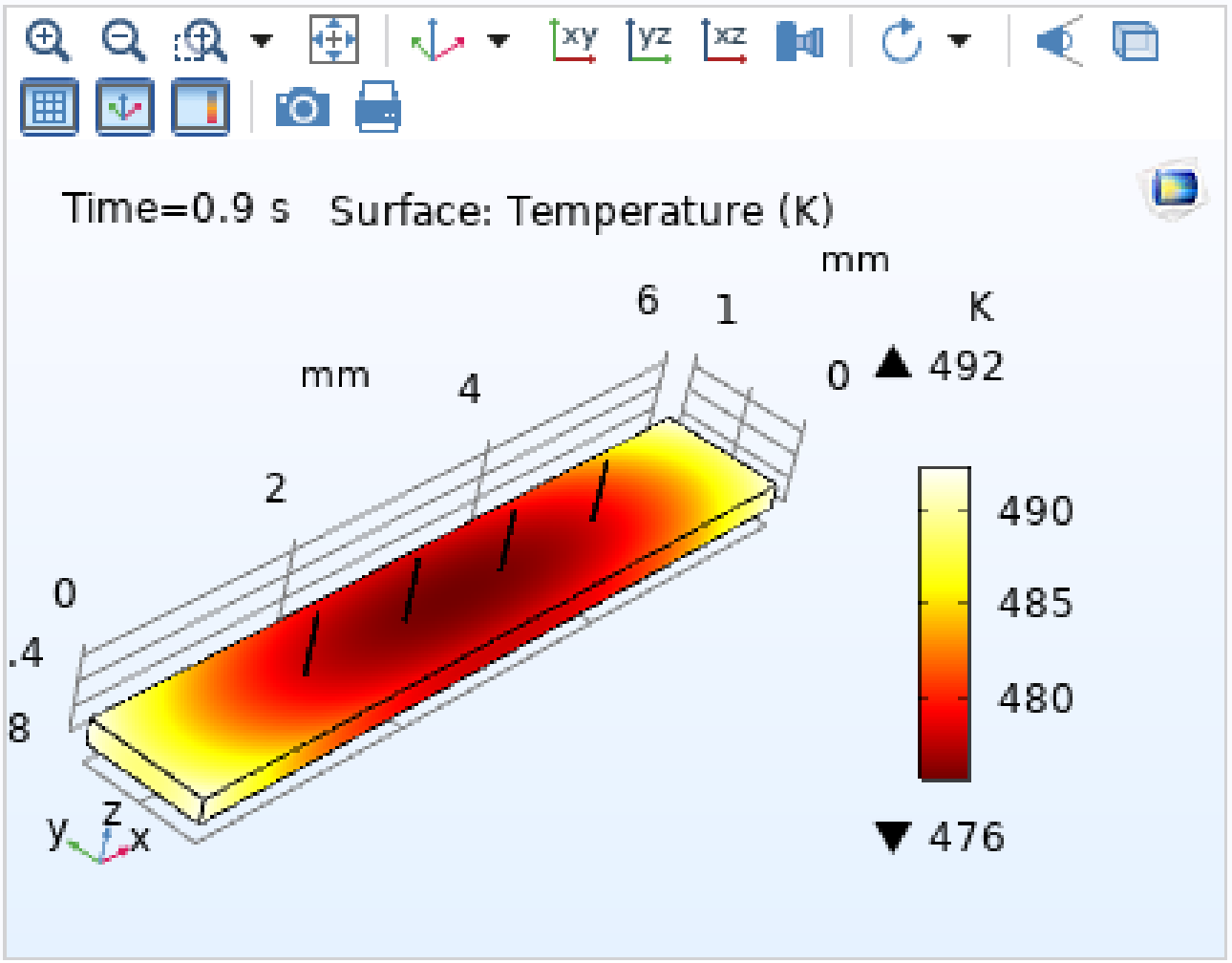
Updates the application for the specified geometry.

Generates the report for the simulation,

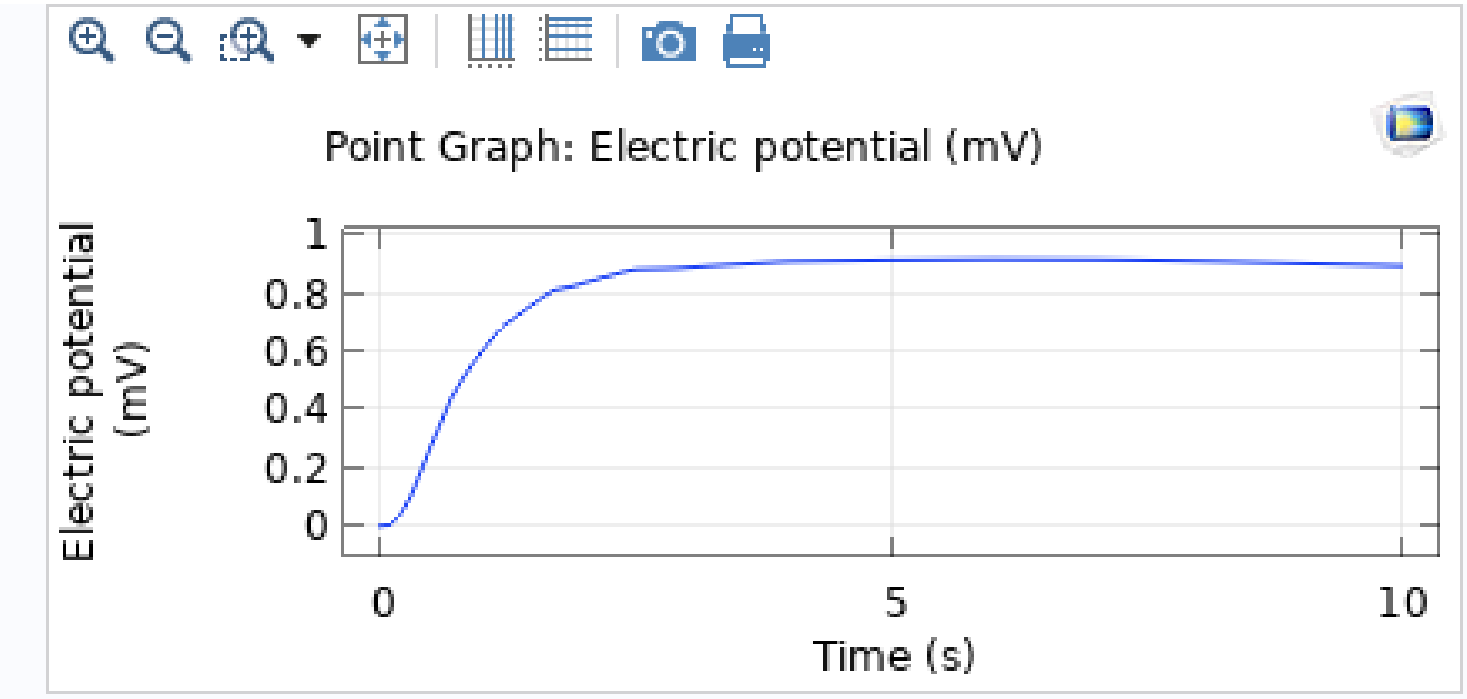
This is the 3D model for the Potential generated in the Model.



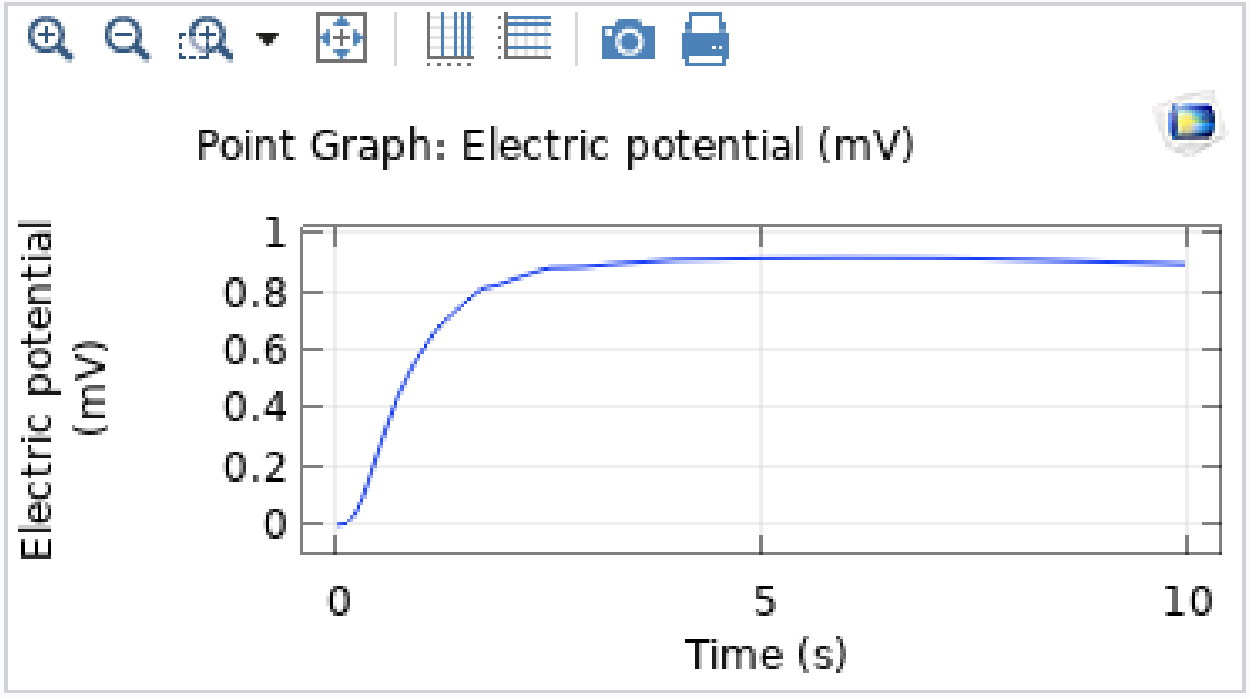
This is the 3D model for the Surface Temperature of the Model.



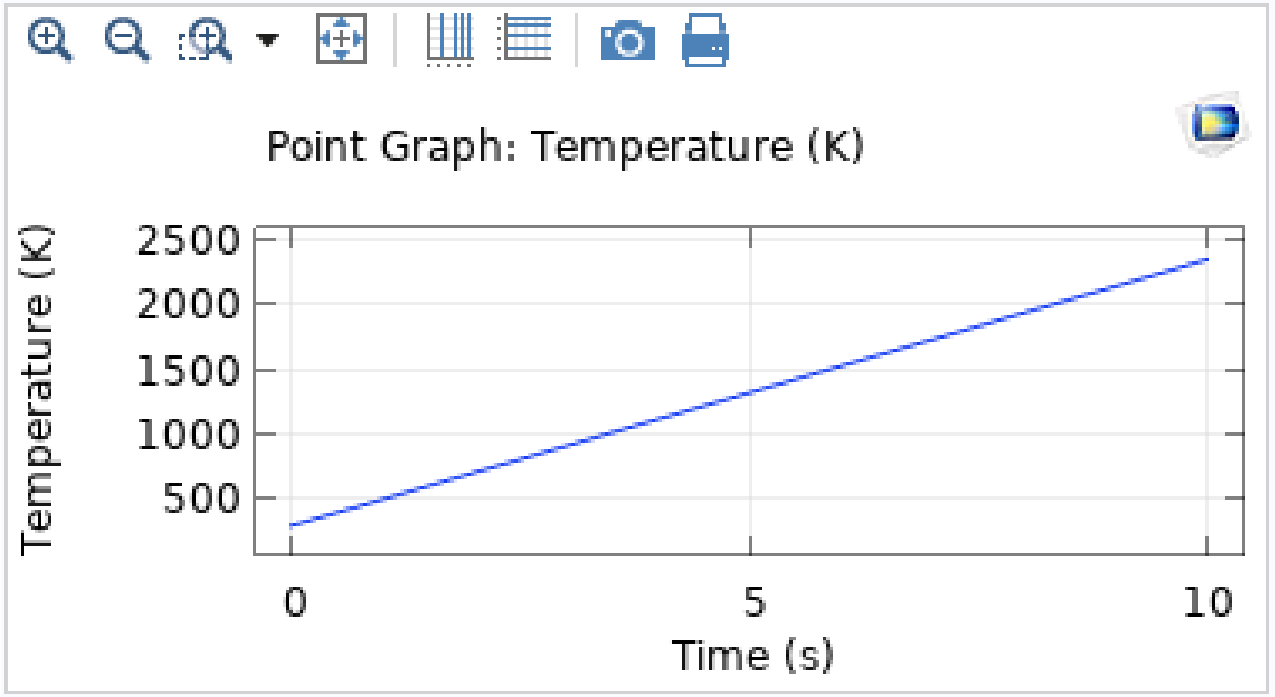
The plot of Electric Potential from the 2nd probe.



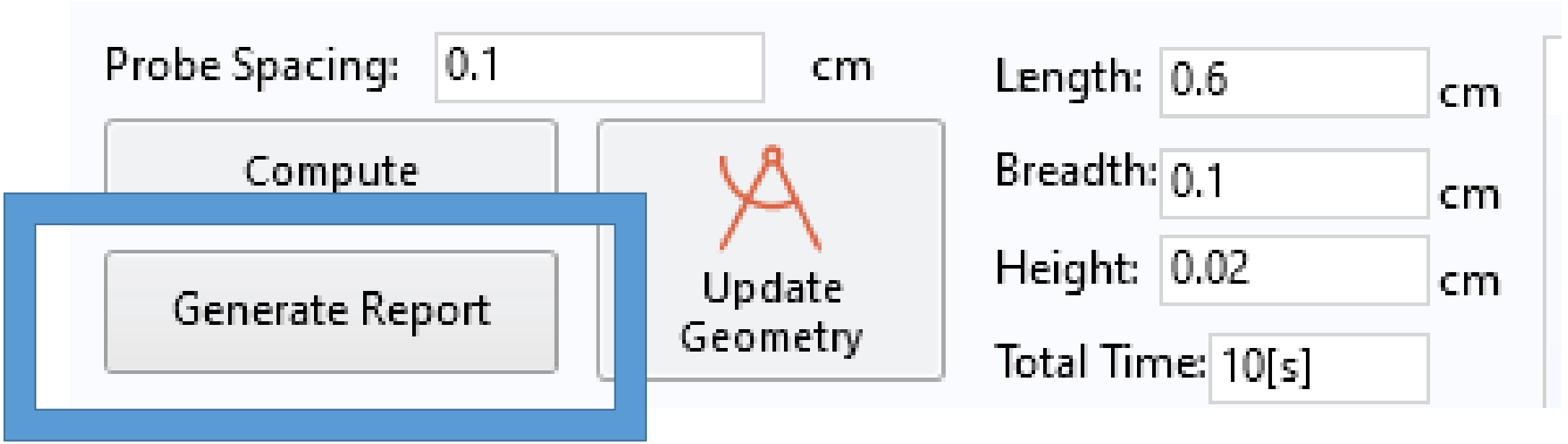
The plot of Electric Potential from the 3rd probe.



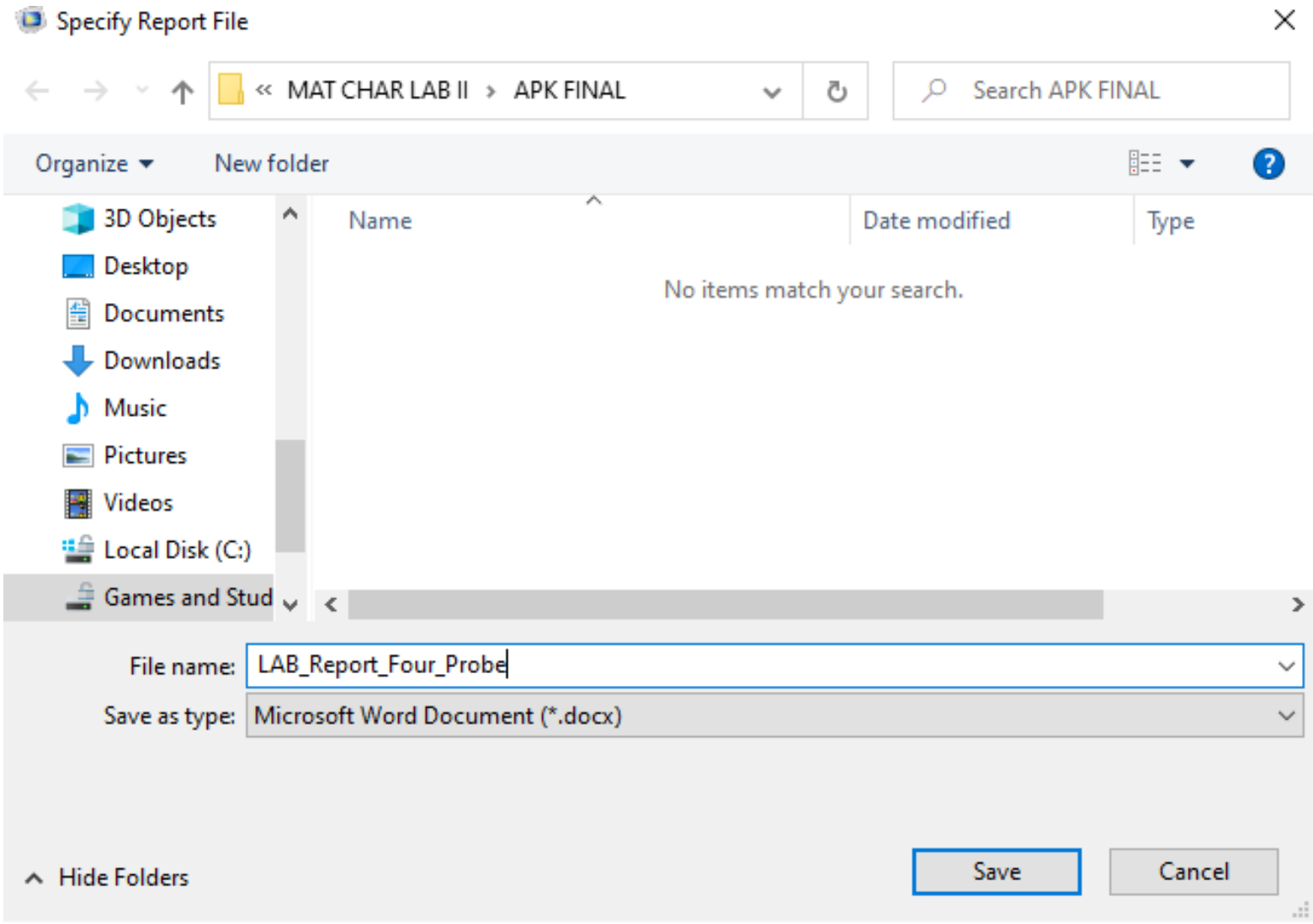
The plot of Temperature vs Time.



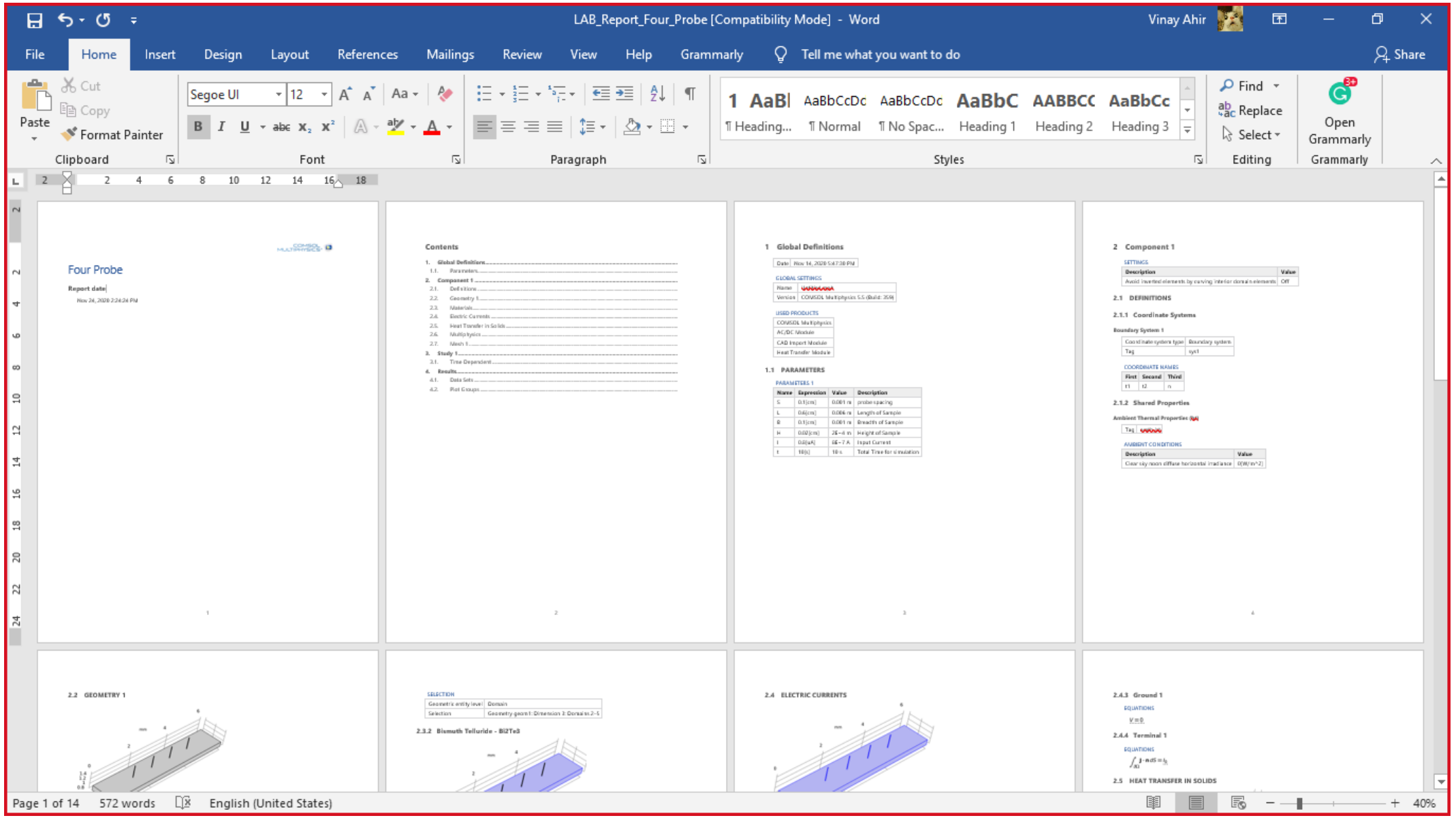
Once the simulation is complete use the Generate Report Button to generate the Report, and get the data exported.



Specify the report name and location for the export values.



The Report would be generated as such.



The Export Data would be saved in the location of the Report in .txt format.

What to do next?

- The Voltage data are form second and third probe, take the difference of the voltage data.
- Now calculate the resistivity of the material using Voltage difference.
- Plot the Resistivity vs Temp curve.

Pros - cons

- The comsol app makes the simulation easier and user friendly.
- Multiple parameters can be changed for the material and data can be uploaded.
- Having COMSOL will be handy to know the physics behind the app and one can clearly make changes.
- One can create their own app by doing minute tweaking and changing GUI in COMSOL.