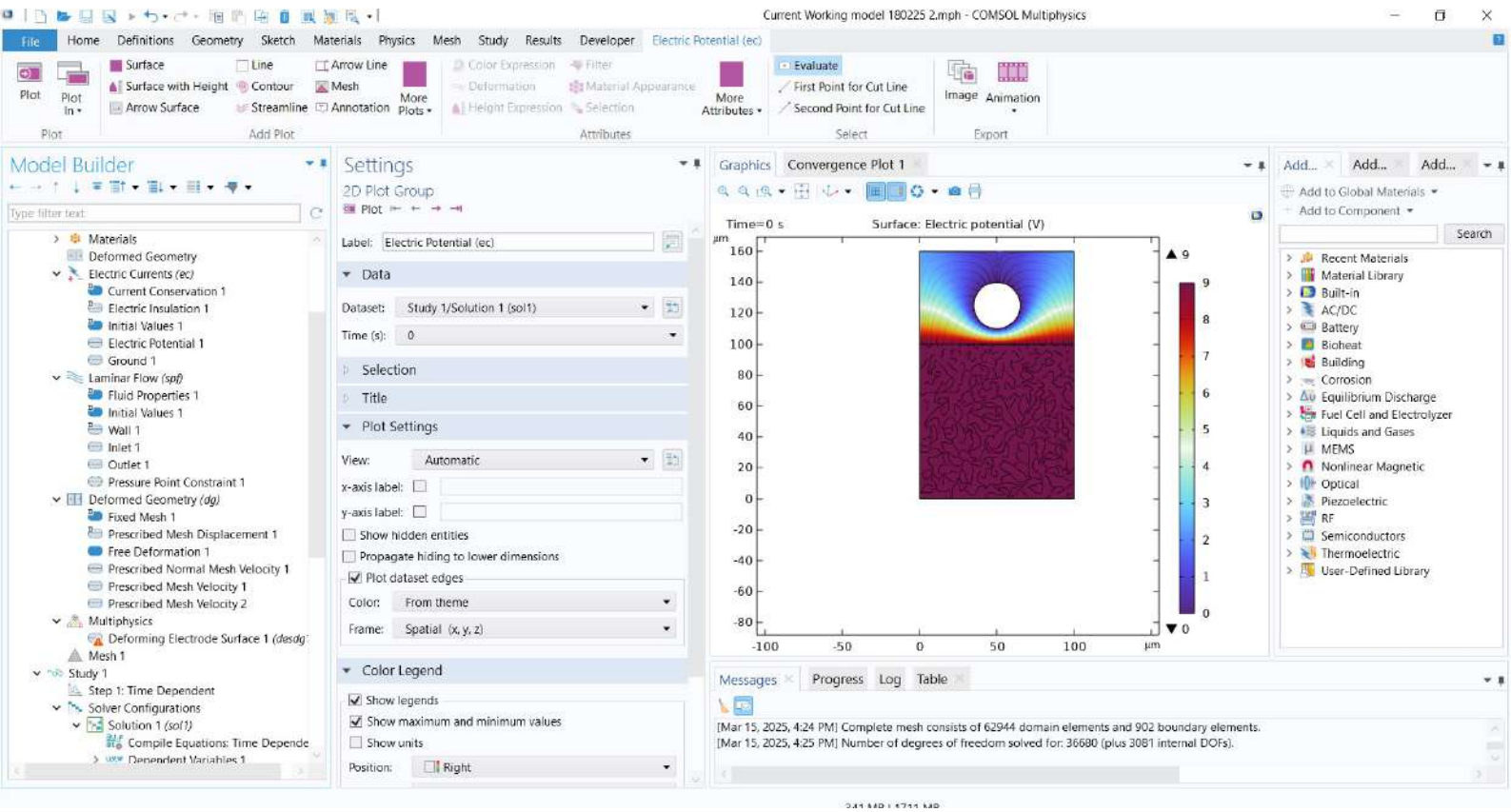
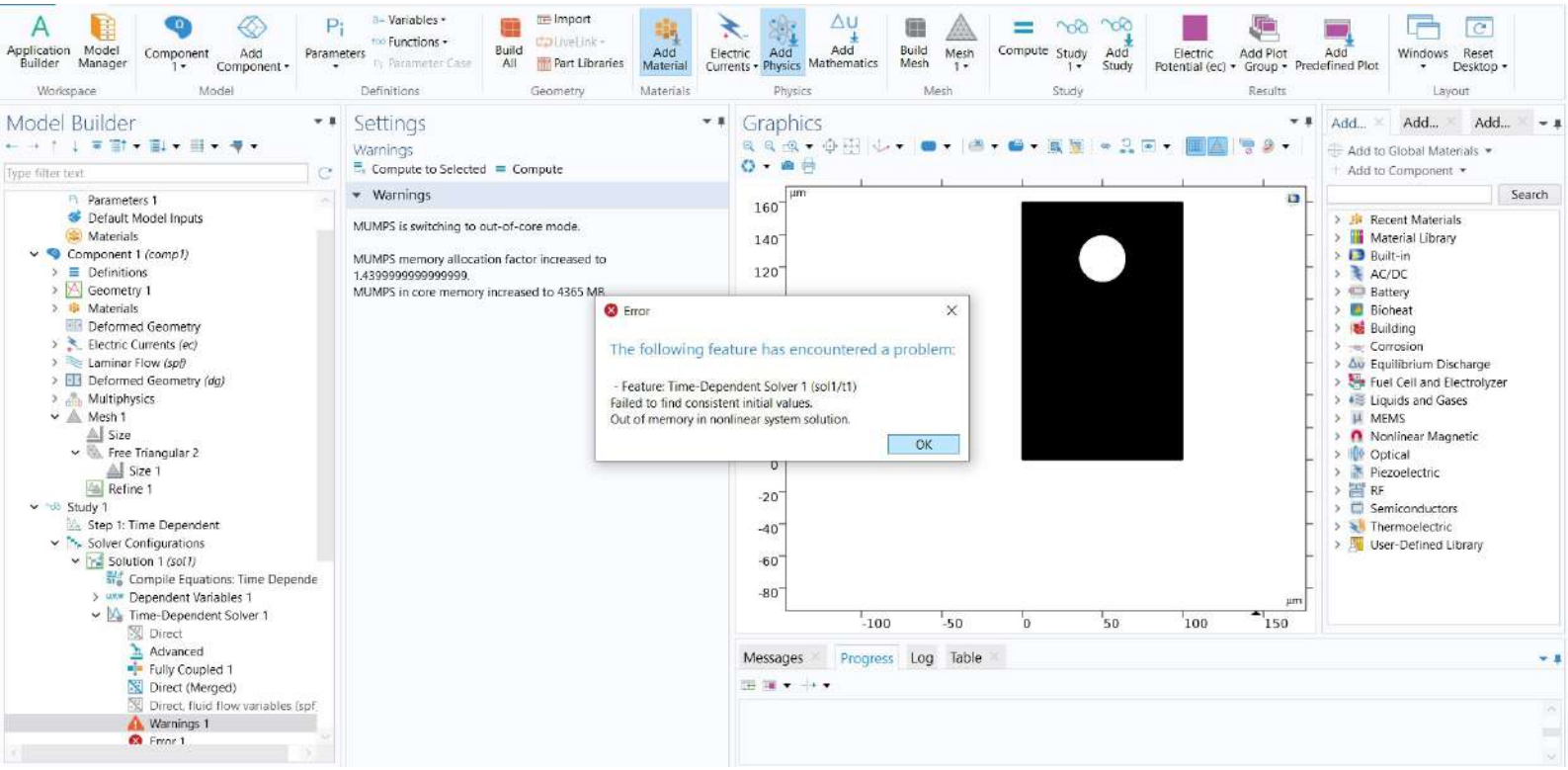
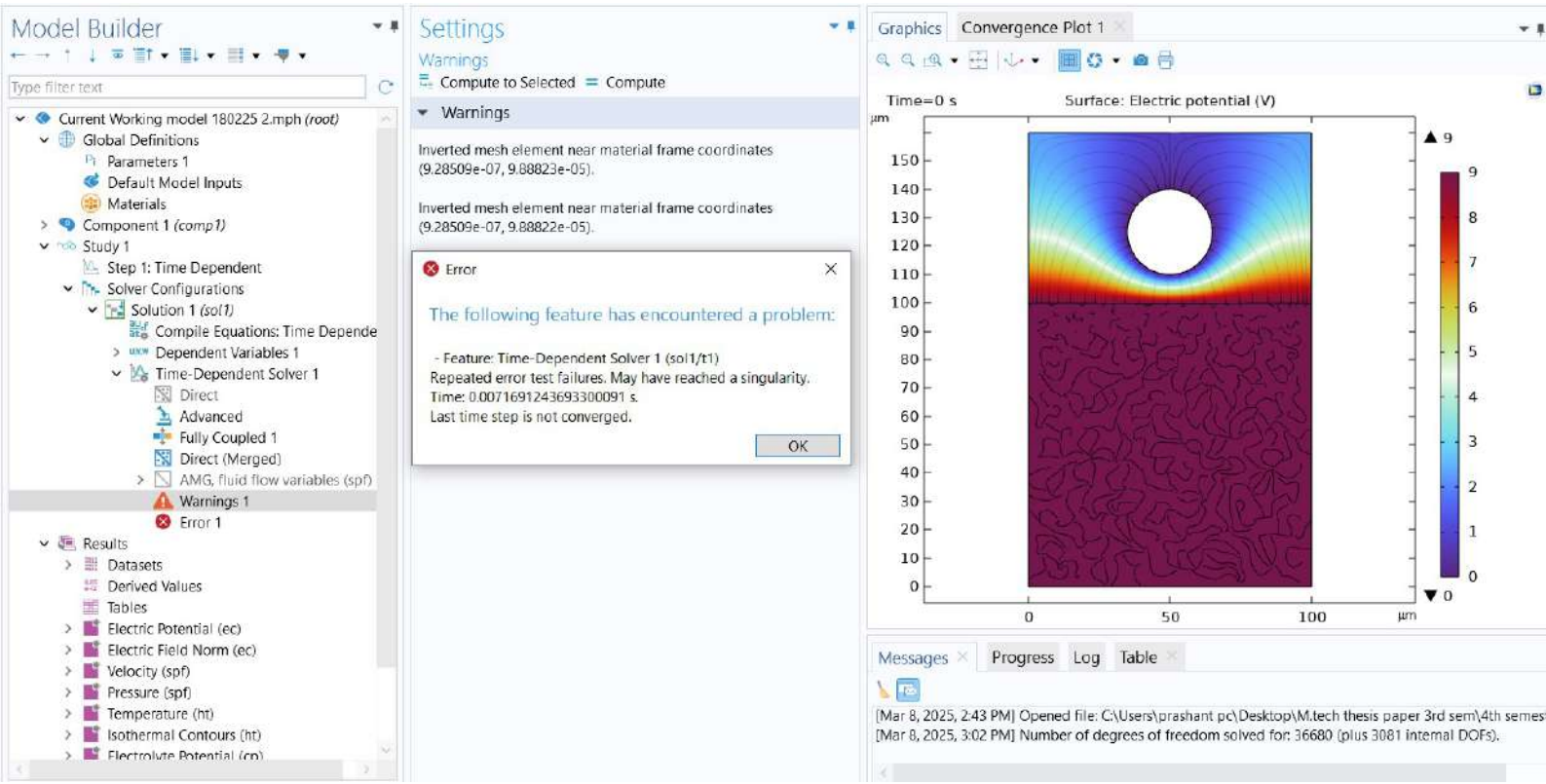
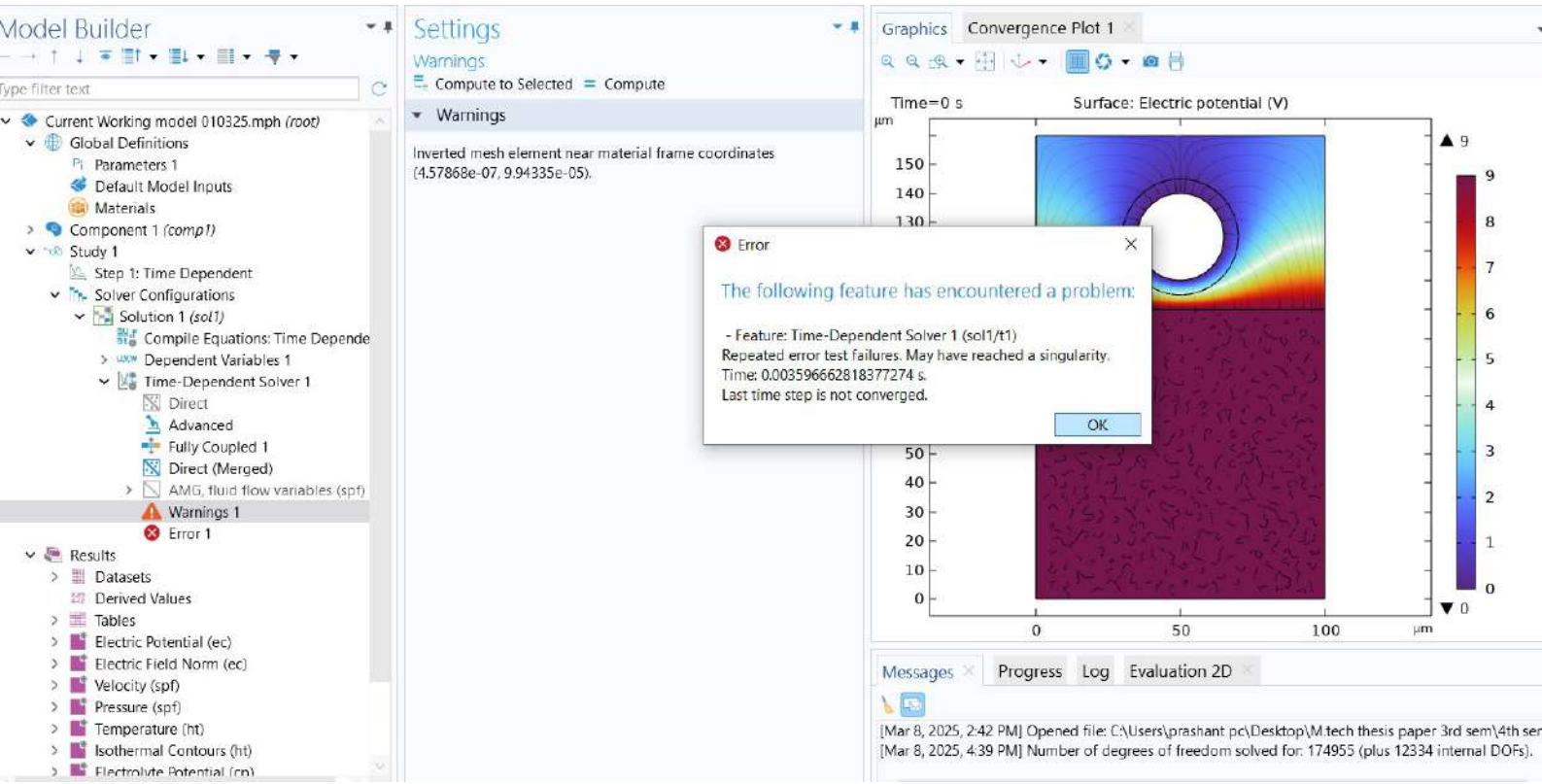

Current Working model 180225 2.mph - COMSOL Multiphysics
File
Home
Definitions
Geometry
Sketch
Materials
Physics
Mesh
Study
Results
Developer
Electric Potential (ec)
Plot
Plot In
Surface
Surface with Height
Arrow Surface
Line
Contour
Streamline
Arrow Line
Mesh
Annotation
More Plots
Color Expression
Deformation
Height Expression
Filter
Material Appearance
Selection
More Attributes
Evaluate
First Point for Cut Line
Second Point for Cut Line
Image
Animation
Plot
Add Plot
Attributes
Select
Export
Model Builder
Type filter text
Materials
Deformed Geometry
Electric Currents (ec)
Current Conservation 1
Electric Insulation 1
Initial Values 1
Electric Potential 1
Ground 1
Laminar Flow (spf)
Fluid Properties 1
Initial Values 1
Wall 1
Inlet 1
Outlet 1
Pressure Point Constraint 1
Deformed Geometry (dg)
Fixed Mesh 1
Prescribed Mesh Displacement 1
Free Deformation 1
Prescribed Normal Mesh Velocity 1
Prescribed Mesh Velocity 1
Prescribed Mesh Velocity 2
Multiphysics
Deforming Electrode Surface 1 (desdg
Mesh 1
Study 1
Step 1: Time Dependent
Solver Configurations
Solution 1 (sol1)
Compile Equations: Time Depende
Dependent Variables 1
Settings
2D Plot Group
Plot
Label: Electric Potential (ec)
Data
Dataset: Study 1/Solution 1 (sol1)
Time (s): 0
Selection
Title
Plot Settings
View: Automatic
x-axis label:
y-axis label:
Show hidden entities
Propagate hiding to lower dimensions
Plot dataset edges
Color: From theme
Frame: Spatial (x, y, z)
Color Legend
Show legends
Show maximum and minimum values
Show units
Position: Right
Graphics
Convergence Plot 1
Time=0 s
Surface: Electric potential (V)
μm
160
140
120
100
80
60
40
20
0
-20
-40
-60
-80
-100
-50
0
50
100
μm
▲ 9
9
8
7
6
5
4
3
2
1
0
▼ 0
Add...
Add...
Add...
Add to Global Materials
Add to Component
Search
Recent Materials
Material Library
Built-in
AC/DC
Battery
Bioheat
Building
Corrosion
Equilibrium Discharge
Fuel Cell and Electrolyzer
Liquids and Gases
MEMS
Nonlinear Magnetic
Optical
Piezoelectric
RF
Semiconductors
Thermoelectric
User-Defined Library
Messages
Progress
Log
Table
[Mar 15, 2025, 4:24 PM] Complete mesh consists of 62944 domain elements and 902 boundary elements.
[Mar 15, 2025, 4:25 PM] Number of degrees of freedom solved for: 36680 (plus 3081 internal DOFs).


Application Builder
Model Manager
Component 1
Add Component
Parameters
Variables
Functions
Parameter Case
Build All
Import
LiveLink
Part Libraries
Add Material
Electric Currents
Add Physics
Add Mathematics
Build Mesh
Mesh 1
Compute
Study 1
Add Study
Electric Potential (ec)
Add Plot Group
Add Predefined Plot
Windows
Reset Desktop
Workspace
Model
Definitions
Geometry
Materials
Physics
Mesh
Study
Results
Layout
Model Builder
Type filter text
Parameters 1
Default Model Inputs
Materials
Component 1 (comp1)
Definitions
Geometry 1
Materials
Deformed Geometry
Electric Currents (ec)
Laminar Flow (spf)
Deformed Geometry (dg)
Multiphysics
Mesh 1
Size
Free Triangular 2
Size 1
Refine 1
Study 1
Step 1: Time Dependent
Solver Configurations
Solution 1 (sol1)
Compile Equations: Time Depende
Dependent Variables 1
Time-Dependent Solver 1
Direct
Advanced
Fully Coupled 1
Direct (Merged)
Direct, fluid flow variables (spf
Warnings 1
Error 1
Settings
Warnings
Compute to Selected
Compute
Warnings
MUMPS is switching to out-of-core mode.
MUMPS memory allocation factor increased to 1.4399999999999999.
MUMPS in core memory increased to 4365 MB.
Error
The following feature has encountered a problem:
- Feature: Time-Dependent Solver 1 (sol1/t1)
Failed to find consistent initial values.
Out of memory in nonlinear system solution.
OK
Graphics
μm
160
140
120
0
-20
-40
-60
-80
-100
-50
0
50
100
150
μm
Add...
Add...
Add...
Add to Global Materials
Add to Component
Search
Recent Materials
Material Library
Built-in
AC/DC
Battery
Bioheat
Building
Corrosion
Equilibrium Discharge
Fuel Cell and Electrolyzer
Liquids and Gases
MEMS
Nonlinear Magnetic
Optical
Piezoelectric
RF
Semiconductors
Thermoelectric
User-Defined Library
Messages
Progress
Log
Table


Model Builder
Type filter text
Current Working model 180225 2.mph (root)
Global Definitions
Parameters 1
Default Model Inputs
Materials
Component 1 (comp1)
Study 1
Step 1: Time Dependent
Solver Configurations
Solution 1 (sol1)
Compile Equations: Time Depende
Dependent Variables 1
Time-Dependent Solver 1
Direct
Advanced
Fully Coupled 1
Direct (Merged)
AMG, fluid flow variables (spf)
Warnings 1
Error 1
Results
Datasets
Derived Values
Tables
Electric Potential (ec)
Electric Field Norm (ec)
Velocity (spf)
Pressure (spf)
Temperature (ht)
Isothermal Contours (ht)
Electrolyte Potential (cp)
Settings
Warnings
Compute to Selected
Compute
Warnings
Inverted mesh element near material frame coordinates (9.28509e-07, 9.88823e-05).
Inverted mesh element near material frame coordinates (9.28509e-07, 9.88822e-05).
Error
The following feature has encountered a problem:
- Feature: Time-Dependent Solver 1 (sol1/t1)
Repeated error test failures. May have reached a singularity.
Time: 0.0071691243693300091 s.
Last time step is not converged.
OK
Graphics
Convergence Plot 1
Time=0 s
Surface: Electric potential (V)
μm
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
0
50
100
μm
▲ 9
9
8
7
6
5
4
3
2
1
0
▼ 0
Messages
Progress
Log
Table
[Mar 8, 2025, 2:43 PM] Opened file: C:\Users\prashant pc\Desktop\M.tech thesis paper 3rd sem\4th semes
[Mar 8, 2025, 3:02 PM] Number of degrees of freedom solved for: 36680 (plus 3081 internal DOFs).


Model Builder
Type filter text
Current Working model 010325.mph (root)
Global Definitions
Parameters 1
Default Model Inputs
Materials
Component 1 (comp1)
Study 1
Step 1: Time Dependent
Solver Configurations
Solution 1 (sol1)
Compile Equations: Time Depende
Dependent Variables 1
Time-Dependent Solver 1
Direct
Advanced
Fully Coupled 1
Direct (Merged)
AMG, fluid flow variables (spf)
Warnings 1
Error 1
Results
Datasets
Derived Values
Tables
Electric Potential (ec)
Electric Field Norm (ec)
Velocity (spf)
Pressure (spf)
Temperature (ht)
Isothermal Contours (ht)
Electrolyte Potential (ep)
Settings
Warnings
Compute to Selected = Compute
Warnings
Inverted mesh element near material frame coordinates (4.57868e-07, 9.94335e-05).
Error
The following feature has encountered a problem:
- Feature: Time-Dependent Solver 1 (sol1/t1)
Repeated error test failures. May have reached a singularity.
Time: 0.003596662818377274 s.
Last time step is not converged.
OK
Graphics
Convergence Plot 1
Time=0 s
Surface: Electric potential (V)
µm
150
140
130
50
40
30
20
10
0
0
50
100
µm
▲ 9
9
8
7
6
5
4
3
2
1
0
▼ 0
Messages
Progress
Log
Evaluation 2D
[Mar 8, 2025, 2:42 PM] Opened file: C:\Users\prashant pc\Desktop\M.tech thesis paper 3rd sem\4th sem
[Mar 8, 2025, 4:39 PM] Number of degrees of freedom solved for: 174955 (plus 12334 internal DOFs).