

# Electric Conduction Analysis of Study 1

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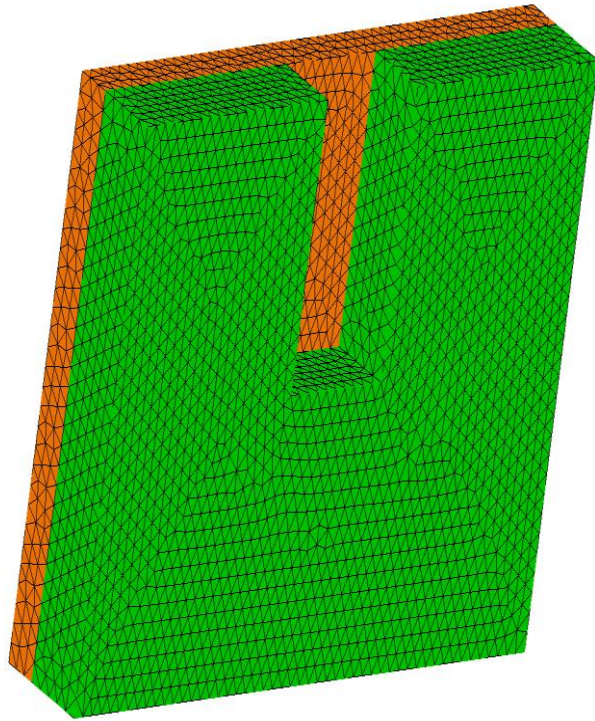
## 1. Introduction

In this example we calculate the distribution of the electric field, current density, the potential distribution, and the resistance for a trimmed resistor. The trimmed resistor is made of Copper.

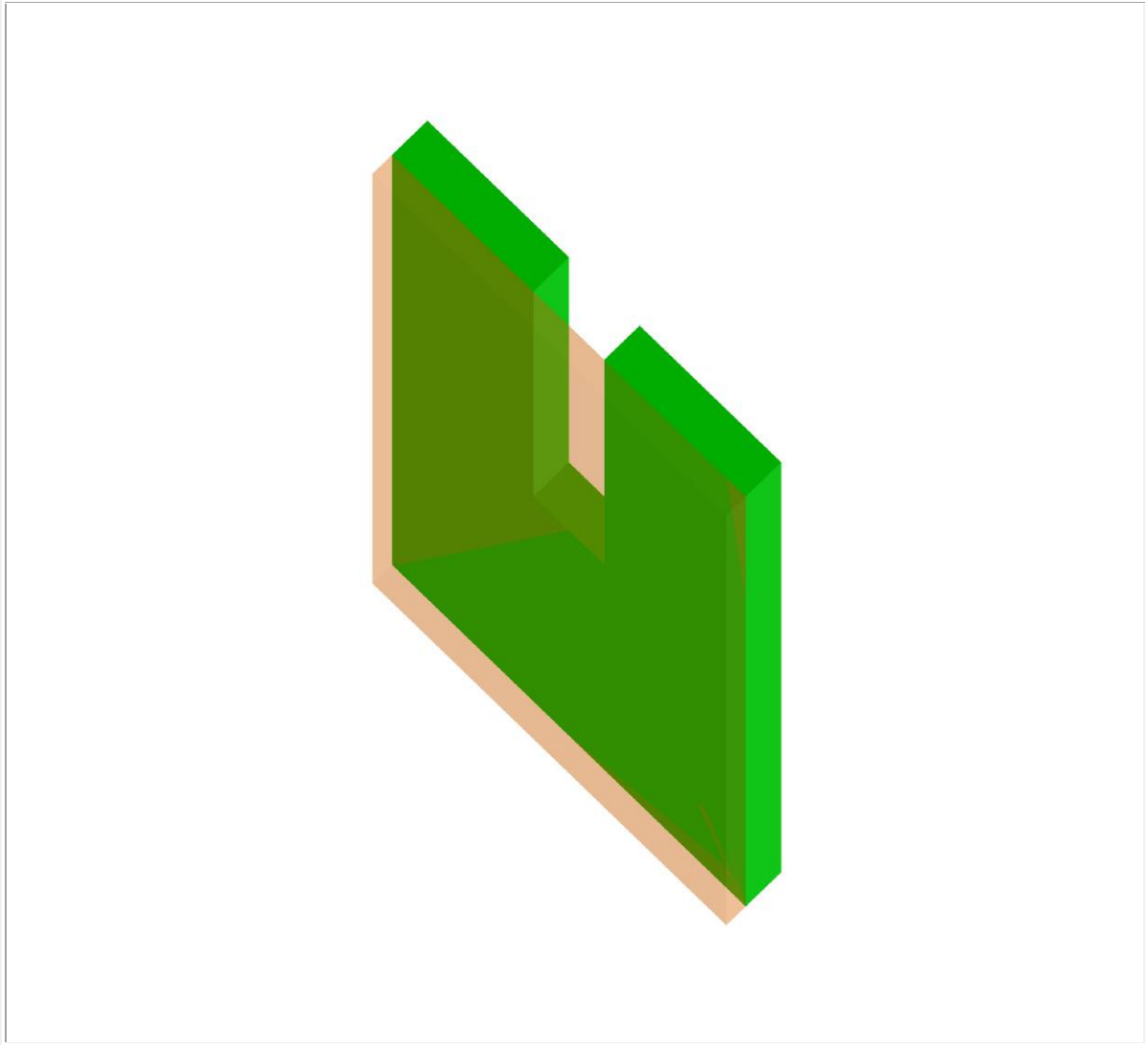
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## 2. Model View

**TrimmedResistor\_Current View (Mesh)**



**TrimmedResistor\_Isometric View**



### 3. Materials

**Note:** R.P. stands for Relative Permittivity

<b>Nbr.</b>	<b>Part Name</b>	<b>Material Name</b>	<b>Permittivity Type</b>
1	Part2-1-Body 1 (Extrude1)	<a href="#">Gold</a>	Isotropic
2	Trimmed-1-Body 1 (Imported1)	<a href="#">Aluminium</a>	Isotropic

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## 4. Load & Restraint Information

<b>Nbr.</b>	<b>Name</b>	<b>Voltage(V)</b>	<b>Selected Faces</b>	<b>Selected Components</b>
1	Fixed Voltage - 1	0.000e+000	2	None
2	Fixed Voltage - 2	1.000e+001	2	None

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## 5. Resistance Sets Information

### resistance Set

<b>Nbr.</b>	<b>Name</b>	<b>Entry Port Faces</b>	<b>Exit Port Faces</b>
1	Resistor - 1	1 Face Selected	1 Face Selected

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## 6. Study Properties

### Mesh Information

<b>Nbr.Of Nodes</b>	<b>Nbr.Of Elements</b>	<b>Element Size (m)</b>	<b>Tolerance (m)</b>
16488	84220	0.200000	0.010000

### Solver information

<b>Solver Type</b>	<b>Nbr. Current Increments</b>	<b>Compute Circuit Parameters</b>
Direct Solver	---	---

## 7. Results Table

### Resistance Set Results

	Resistance(Ohms)
Resistor - 1	5.026921e-008

### Dissipated power Results

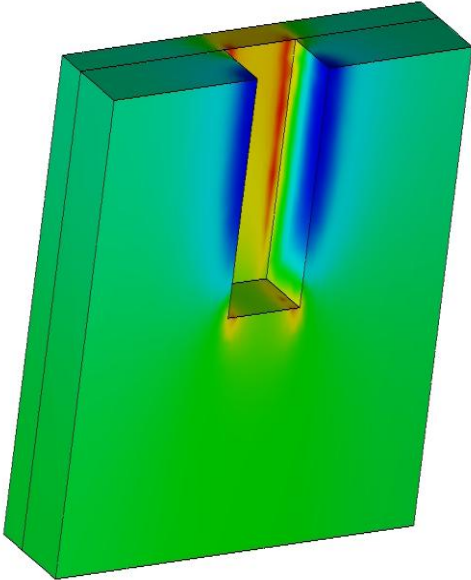
Dissipated Power (W)
0.000000e+000

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# 8. Electric Field Results

Electric Field - 1

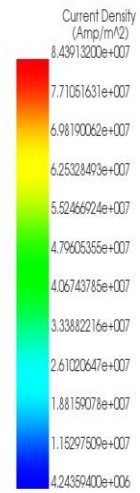
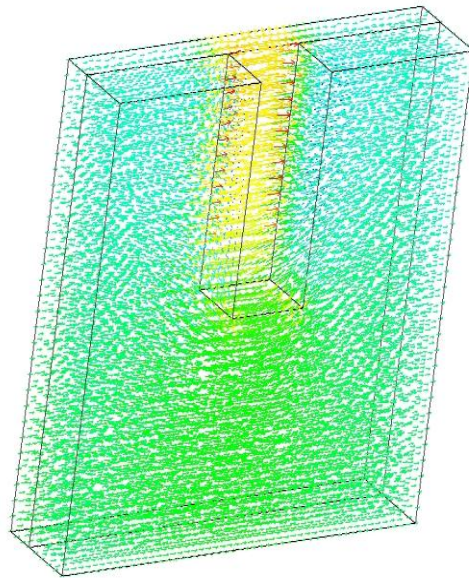
Model Name: TrimmedResistor  
Study Name: Study 1  
Plot Name: Electric Field - 1 ( Resultant )



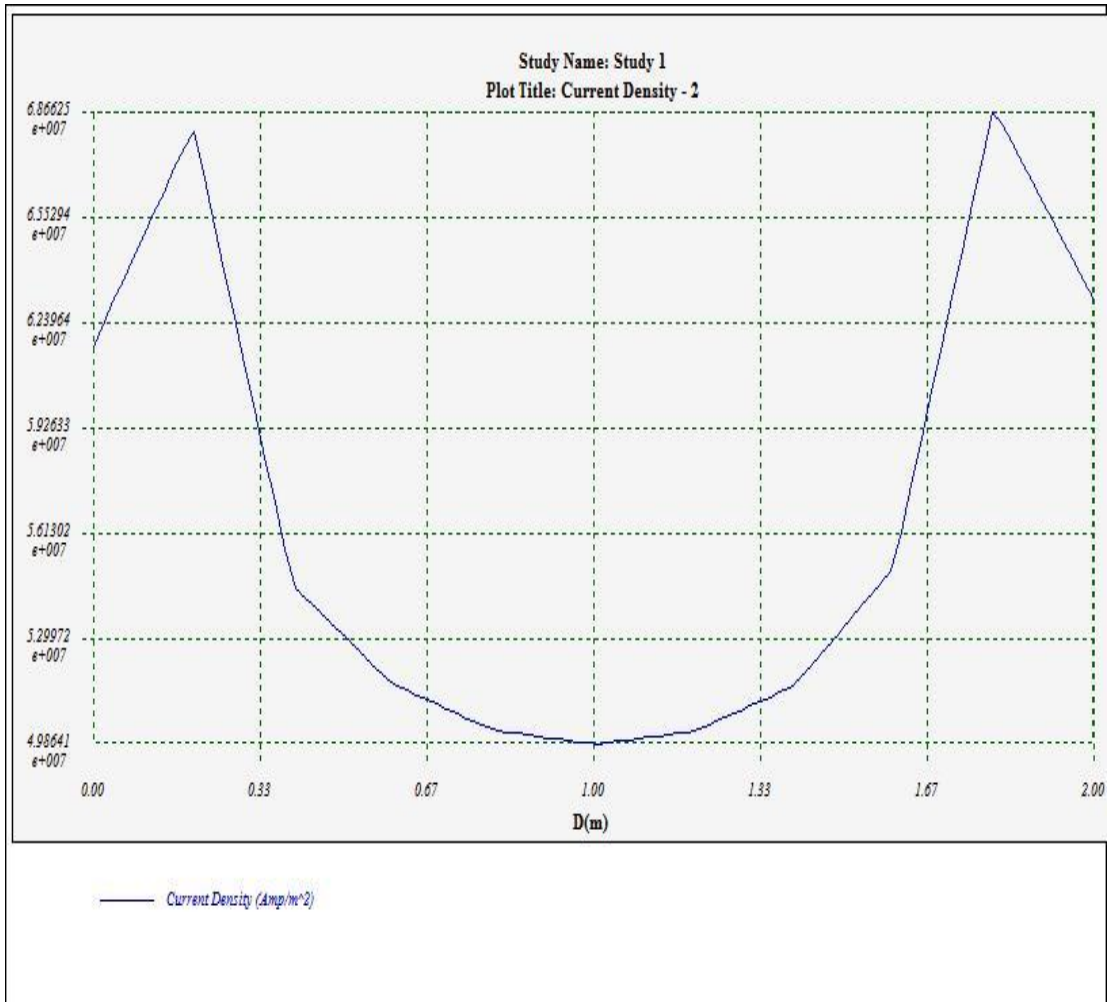
## 9. Current Density Results

### Current Density - 1

Model Name: TrimmedResistor  
Study Name: Study 1  
Plot Name: Current Density - 1 (Resultant)



## Current Density - 2





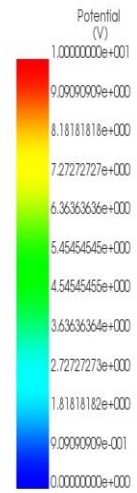
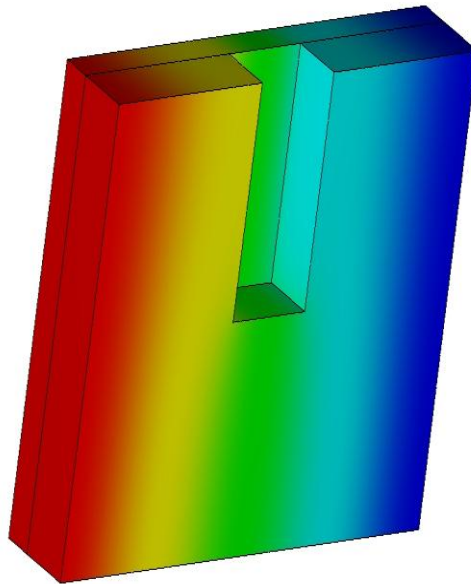
## 10. Potential Results

### Potential - 1

Model Name: TrimmedResistor

Study Name: Study 1

Plot Name: Potential - 1



## 11. Appendix

**Material Name:** Gold

**Permittivity Type:** Isotropic

**Note:** R.P. stands for Relative Permittivity

<b>R.P.</b>	<b>Conductivity(Mho/m )</b>	<b>Polarization</b>	<b>Thermal Conductivity (W/m.K)</b>
0.000e+00 0	4.100e+007	No	3.100e+002

**Material Name:** Aluminium

**Permittivity Type:** Isotropic

**Note:** R.P. stands for Relative Permittivity

<b>R.P.</b>	<b>Conductivity(Mho/m )</b>	<b>Polarization</b>	<b>Thermal Conductivity (W/m.K)</b>
0.000e+00 0	3.820e+007	No	2.500e+002