

Problem info

Problem type: Transient Electric (integration time: 0.100000001490116 s.)

Geometry model class: Plane-Parallel

Problem database file names:

- Problem: *resistive_limiter_nonlinear.pbm*
- Geometry: *Resistive_limiter_nonlinear.mod*
- Material Data: *Resistive_limiter_nonlinear.dtv*
- Material Data 2 (library): *none*
- Electric circuit: *none*

Results taken from other problems:

- *none*

Geometry model

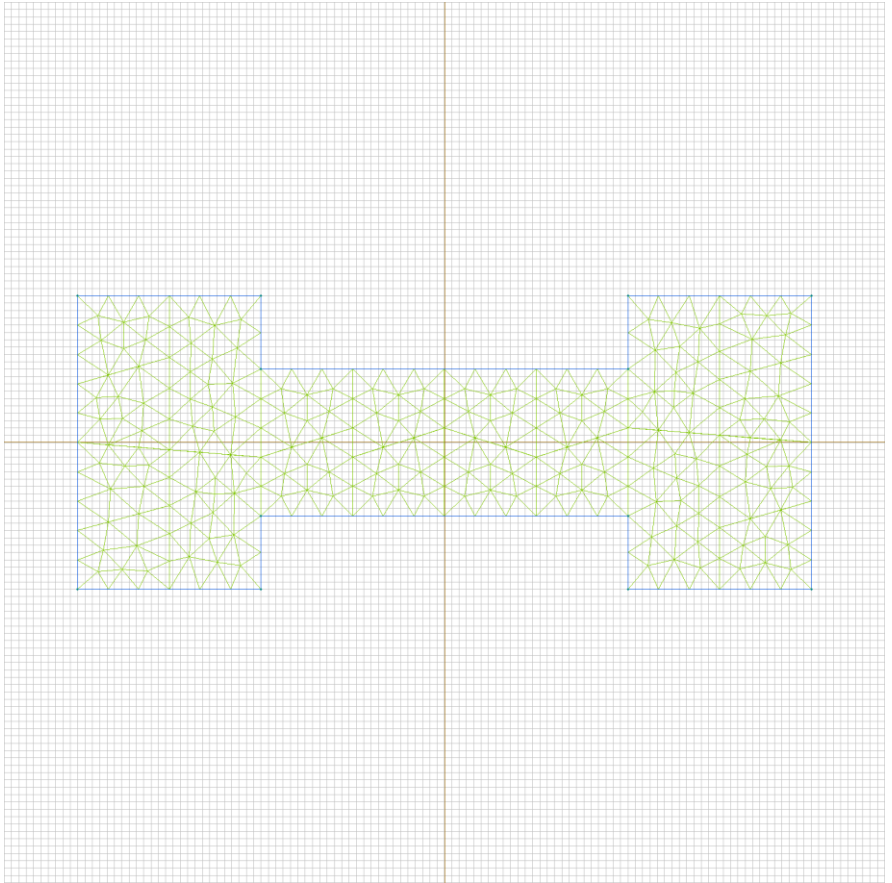


Table 1. Geometry model statistics

	With Label	Total
Blocks	1	1
Edges	3	12
Vertices	0	12

Number of nodes: 282.

Labelled objects

There are following labelled objects in the geometry model (Material Data file could contain more labels, but only those labels that assigned to geometric objects are listed)

Blocks:

- [bscco](#)
-

Edges:

- [zero_Jn](#)
- [v_minus](#)
- [v_plus](#)
-

Vertices:

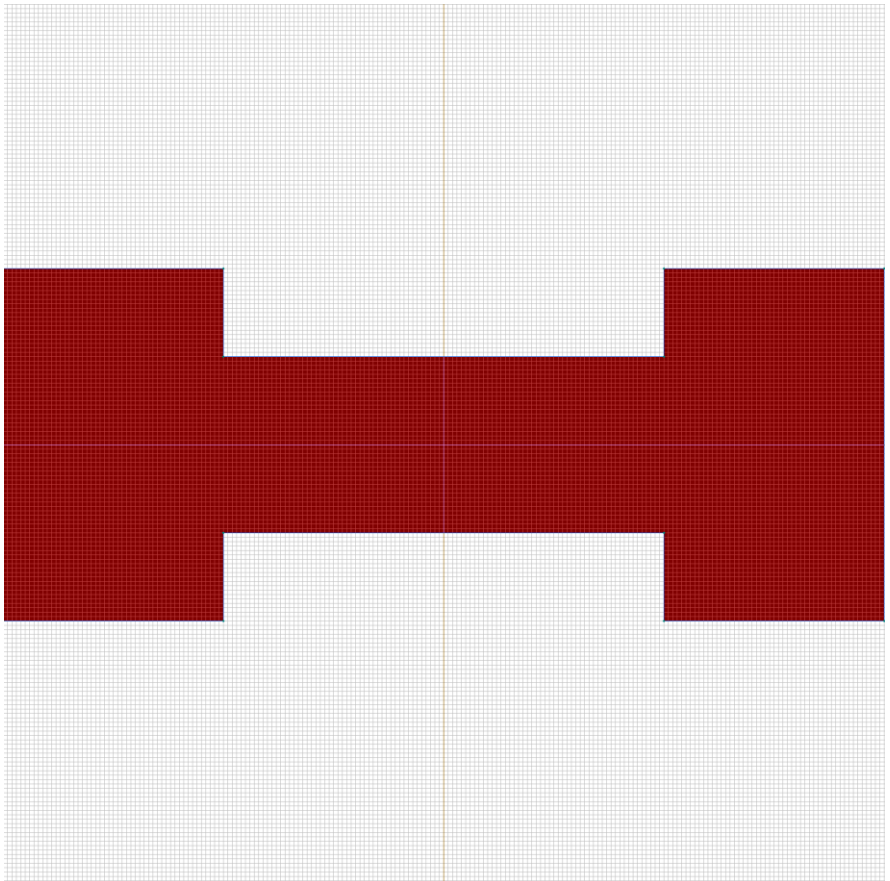
Detailed information about each label is listed below.

Labelled objects: block "bscco"

There are (1) objects with this label

Relative electric permittivity: $\epsilon_{x}=1$, $\epsilon_{y}=1$

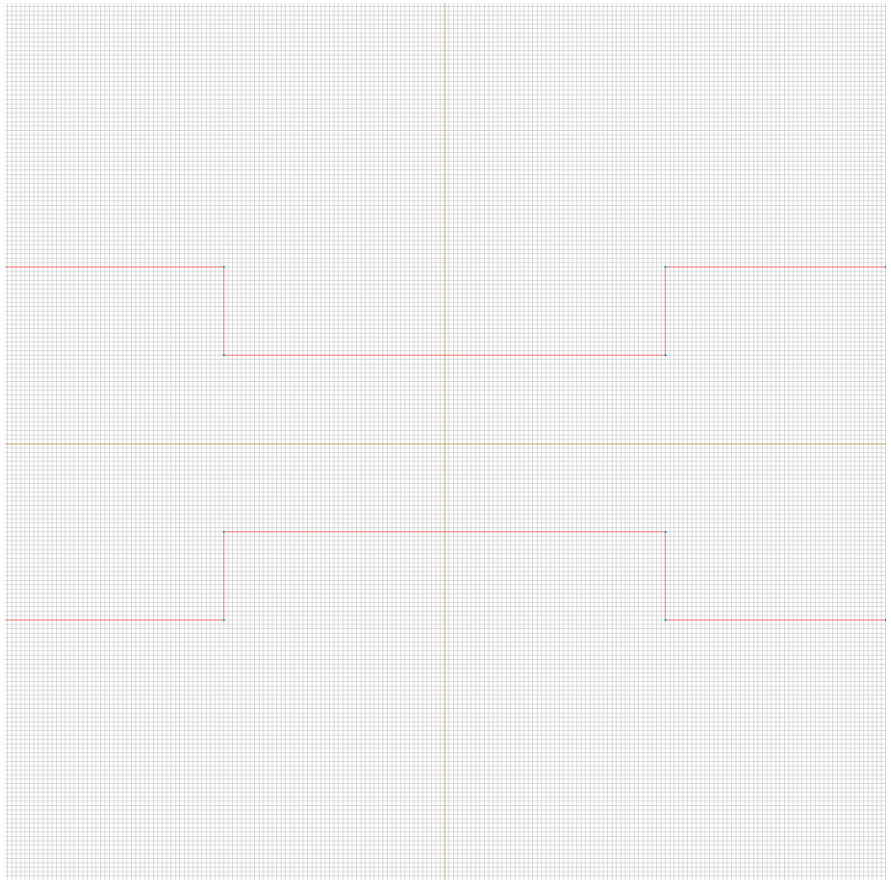
Electrical conductivity: $\sigma=\text{nonlinear}$ (see Table 2 in the "Nonlinear dependencies" section)



Labelled objects: edge "zero_Jn"

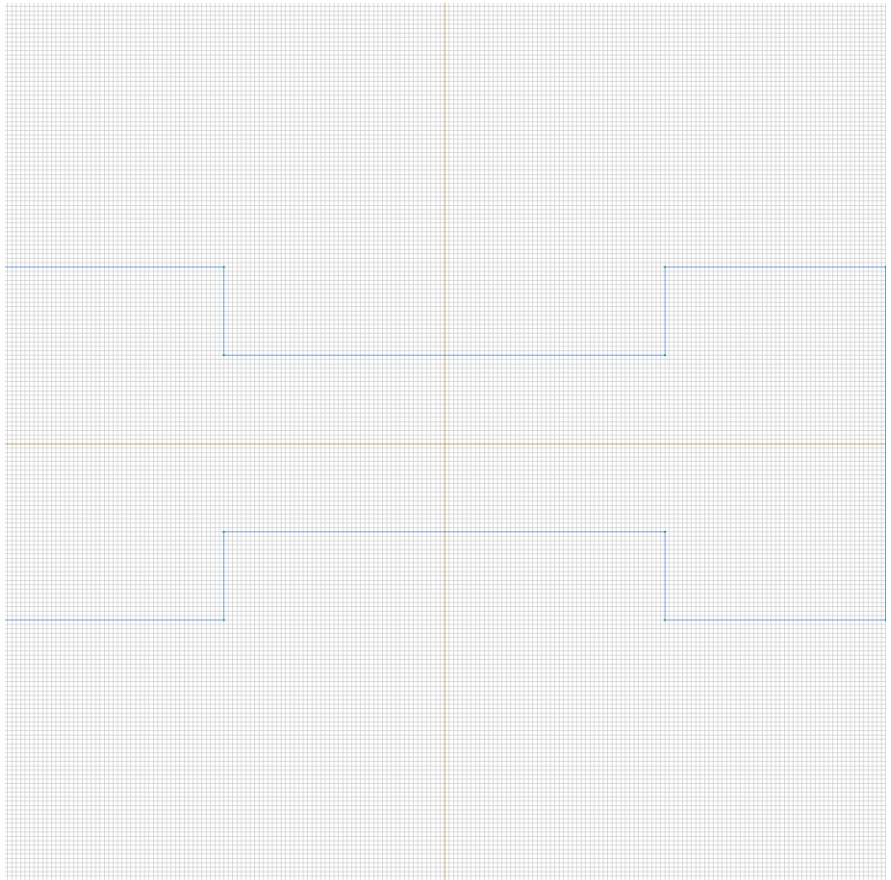
There are (10) objects with this label

Normal current density: $j_n=0$ [A/m²]



Labelled objects: edge "v_minus"
There are (1) objects with this label

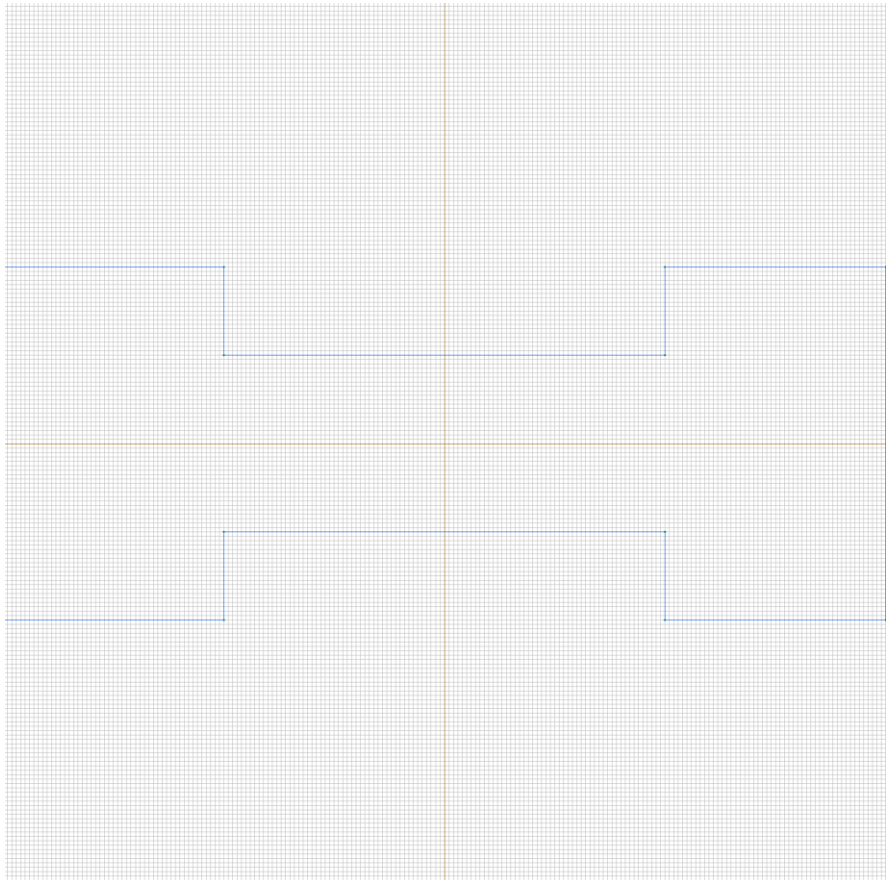
Voltage: $U=0$ [V]



Labelled objects: edge "v_plus"

There are (1) objects with this label

Voltage: $U=1$ [V]



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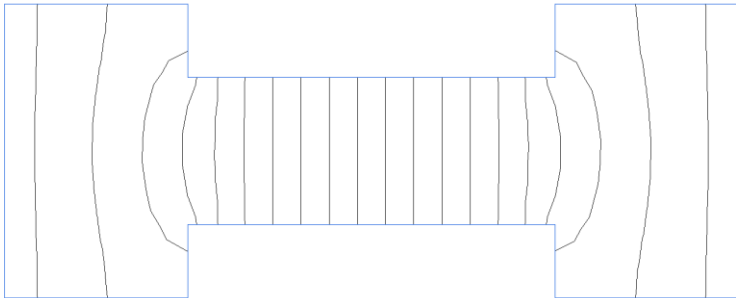
[Labelled Objects](#)

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Results

Field lines



Nonlinear dependencies

Table 2. Electric conductivity

T [K]	sigma [S/m]
0	1000000
50	140000
100	82500
200	43500
400	23000
600	15830
1400	7143
2000	5250