Problem info

Problem type: Transient Electric (integration time: 1 s.)
Geometry model class: Axisymmetric
Problem database file names:

- Problem: *telec3.pbm*
- Geometry: *Telec3.mod*
- Material Data: *Telec3.dtv*
- Material Data 2 (library): *none*
- Electric circuit: *none*

Results taken from other problems:

- *none*

Geometry model

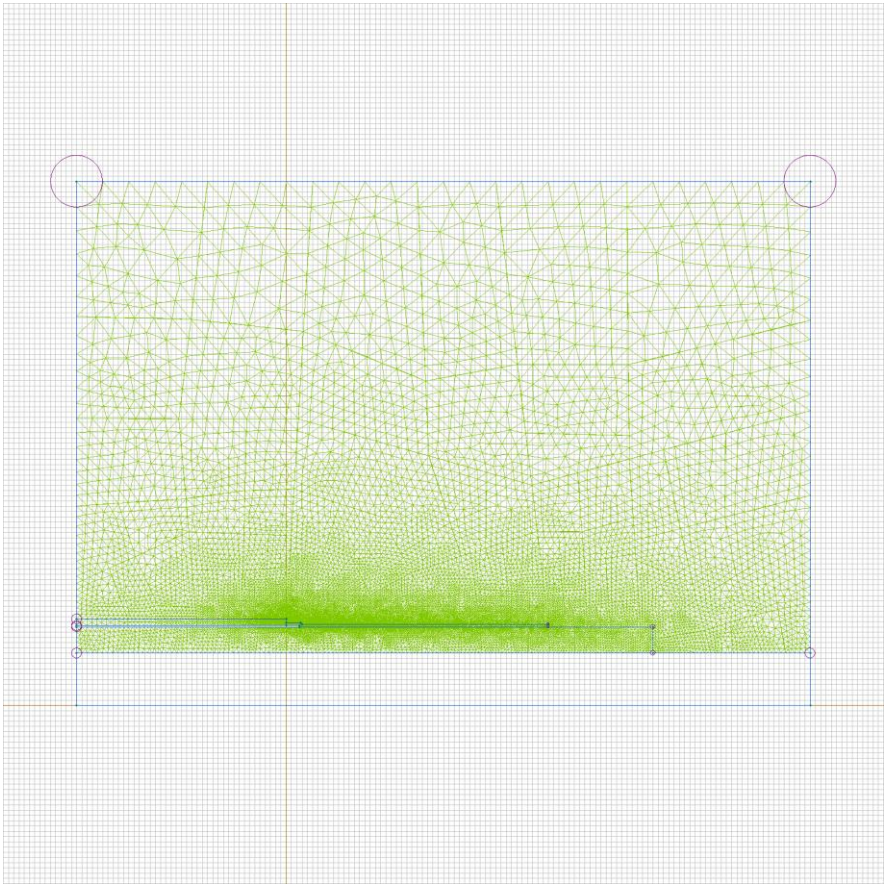


Table 1. Geometry model statistics

	With Label	Total
Blocks	4	5
Edges	2	24
Vertices	0	20

Number of nodes: 16134.

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)

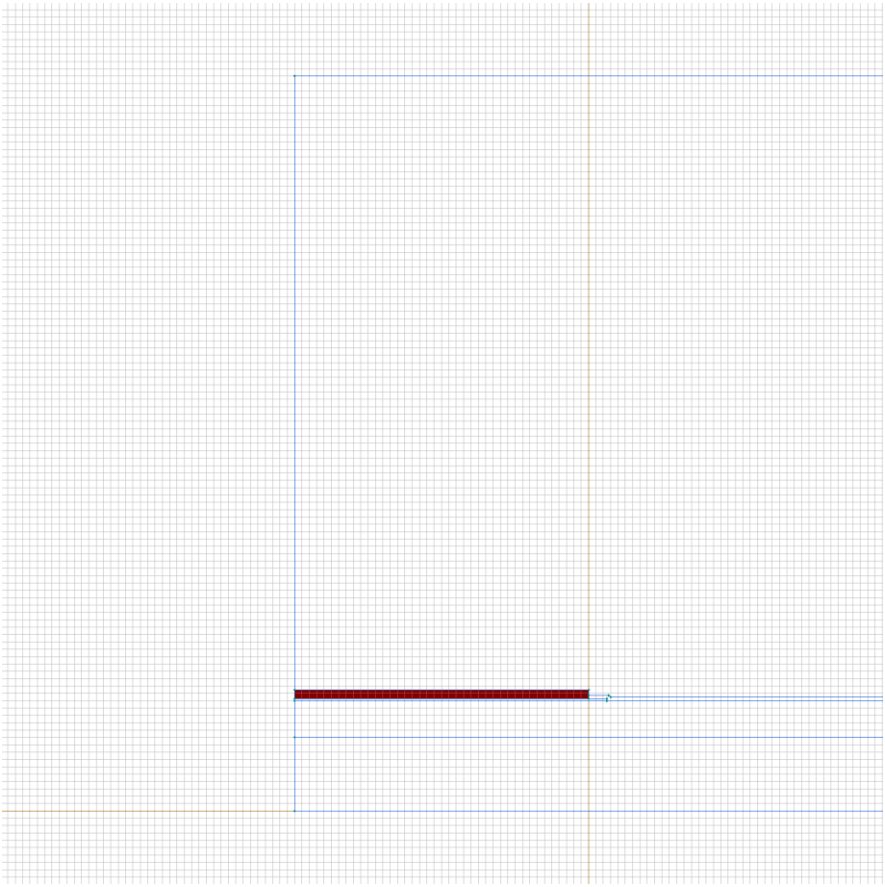
Blocks:	Edges:	Vertices:
• shield • tube • insulation • air •	• high voltage • ground •	

Detailed information about each label is listed below.

Labelled objects: block "shield"

There are (1) objects with this label

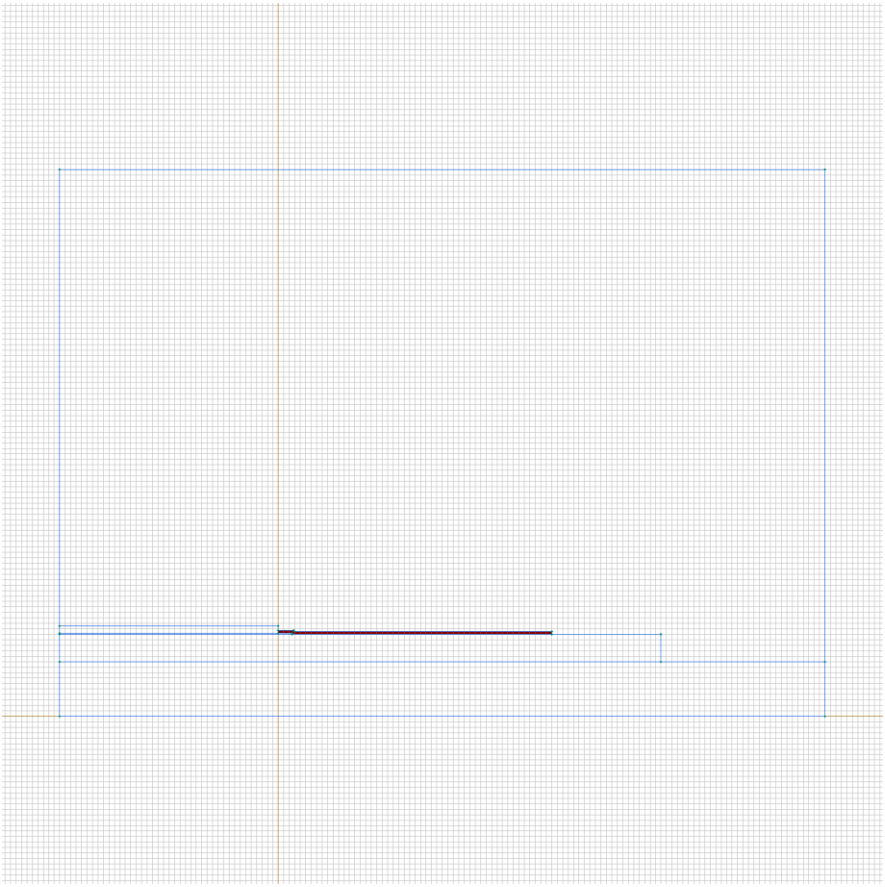
Relative electric permittivity: eps_x=1.2, eps_y=1.2
Electrical conductivity: sigma_x=0 S/m, sigma_y=0 [S/m]



Labelled objects: block "tube"

There are (1) objects with this label

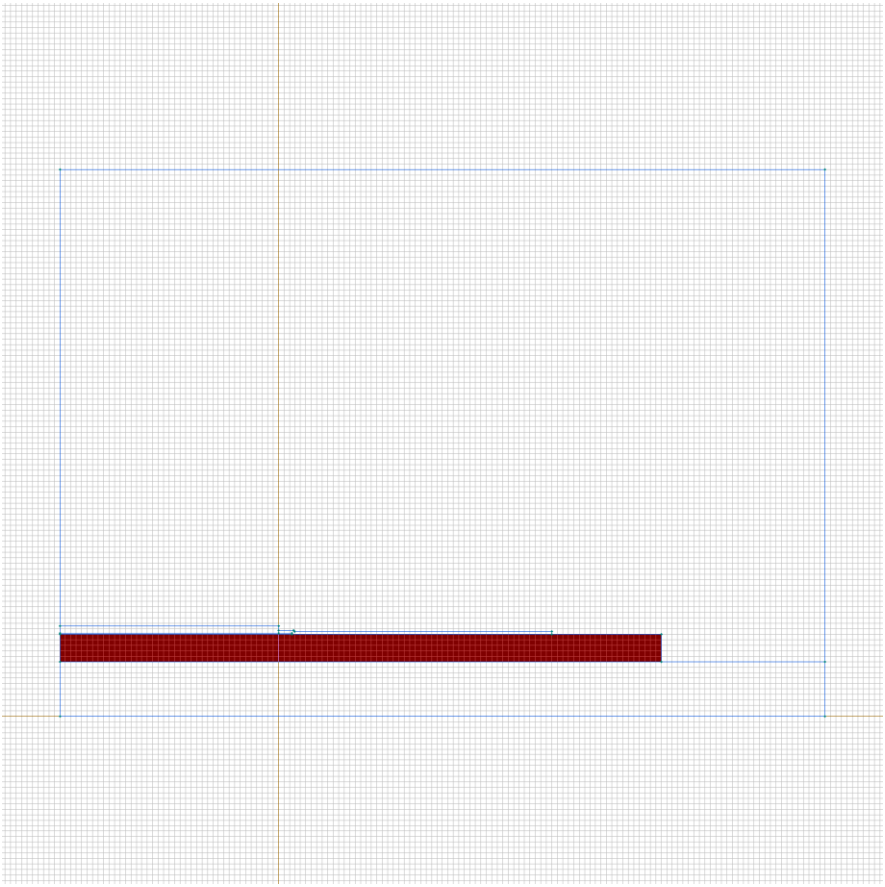
Relative electric permeability: eps=nonlinear (see Table 2 in the "Nonlinear dependencies" section)
Electrical conductivity: sigma_x=0 S/m, sigma_y=0 [S/m]



Labelled objects: block "insulation"

There are (1) objects with this label

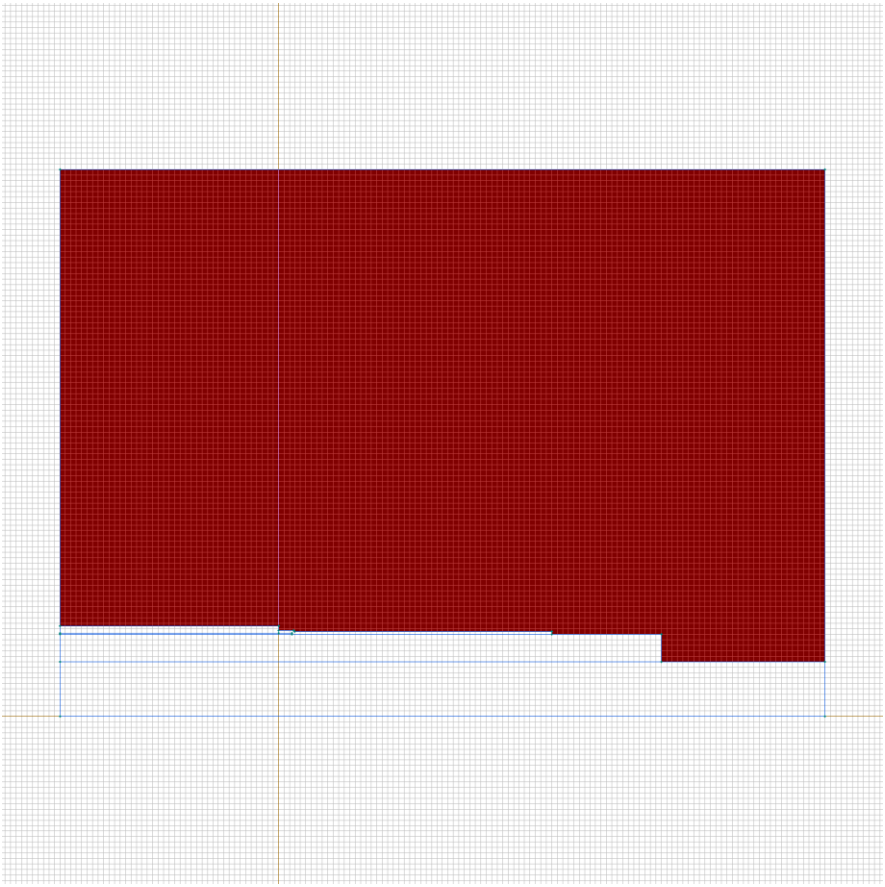
Relative electric permittivity: eps_x=2, eps_y=2
Electrical conductivity: sigma_x=0 S/m, sigma_y=0 [S/m]



Labelled objects: block "air"

There are (1) objects with this label

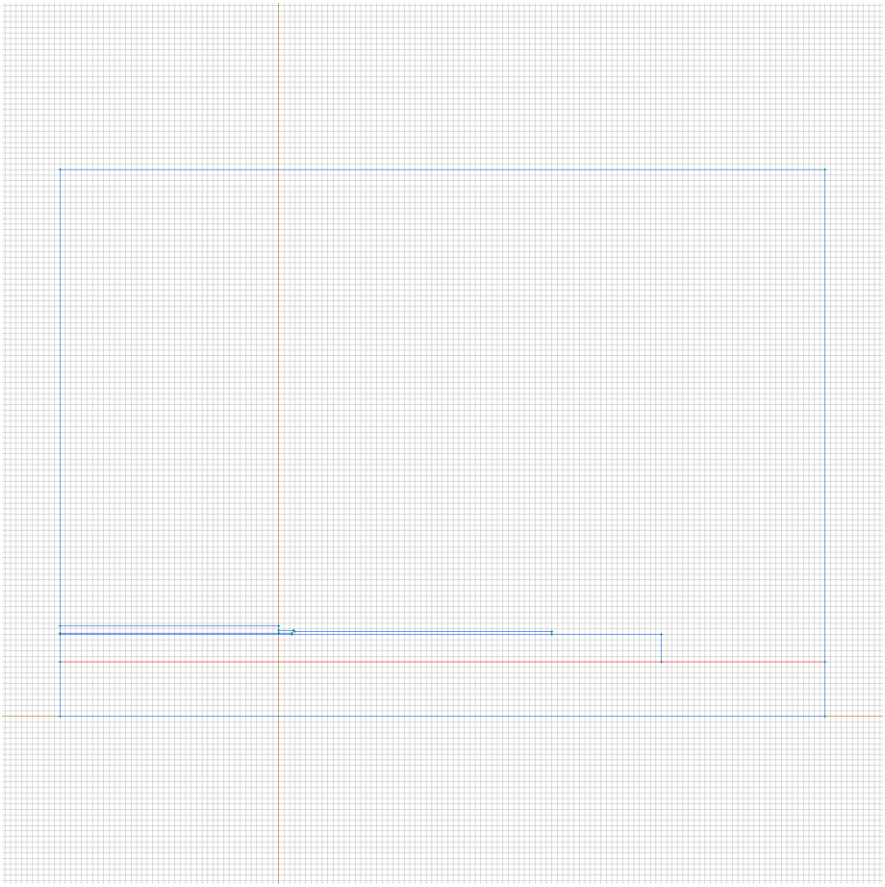
Relative electric permittivity: eps_x=1, eps_y=1
Electrical conductivity: sigma_x=0 S/m, sigma_y=0 [S/m]



Labelled objects: edge "high voltage"

There are (2) objects with this label

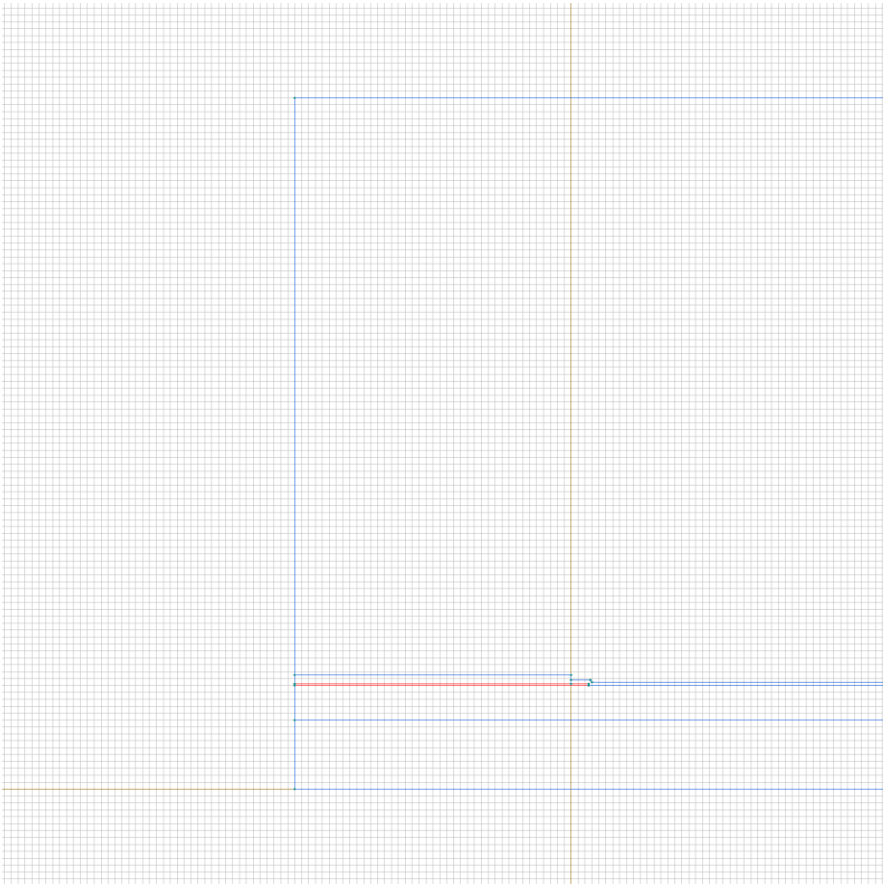
Voltage: U=4000 [V]



Labelled objects: edge "ground"

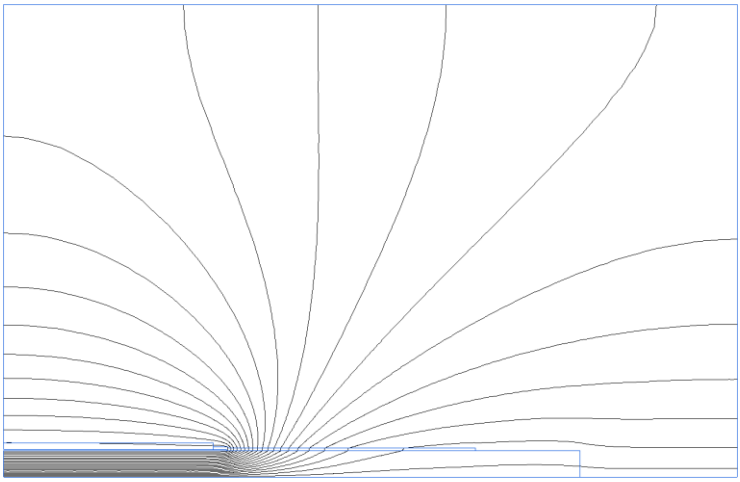
There are (4) objects with this label

Voltage: U=0 [V]



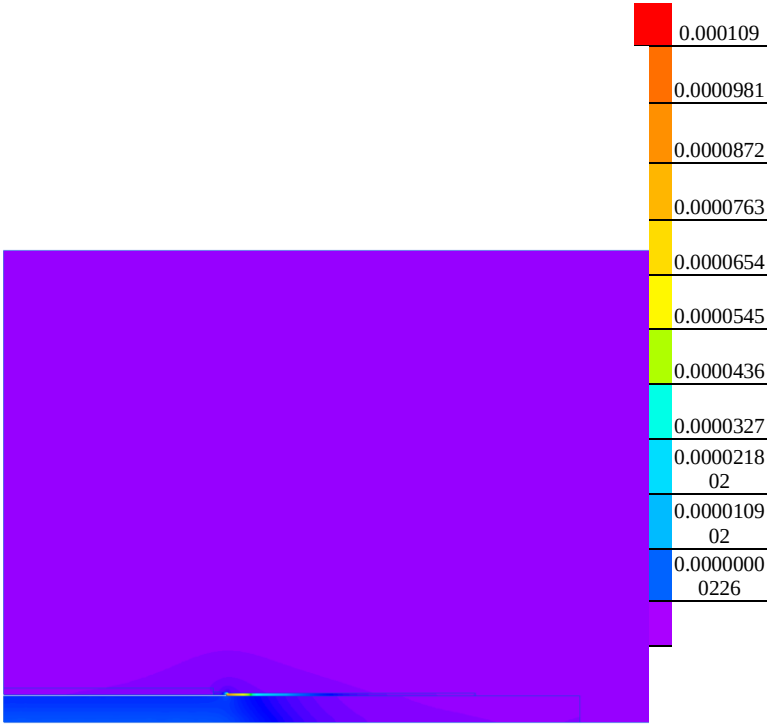
Results

Field lines



Results

Color map of Electric induction |D| [C/m2]



Nonlinear dependencies

Table 2. Electric permittivity

E [V/m]	eps []
0	10
600000	100
1000000	40
1500000	20
2000000	10
3000000	4
5000000	3