

Problem info

Problem type: Electrostatics

Geometry model class: Plane-Parallel

Problem database file names:

- Problem: *comb_drive_2d.pbm*
- Geometry: *Comb_drive_2d.mod*
- Material Data: *Comb_drive_2d.des*
- Material Data 2 (library): *none*
- Electric circuit: *none*

Results taken from other problems:

- *none*

Geometry model

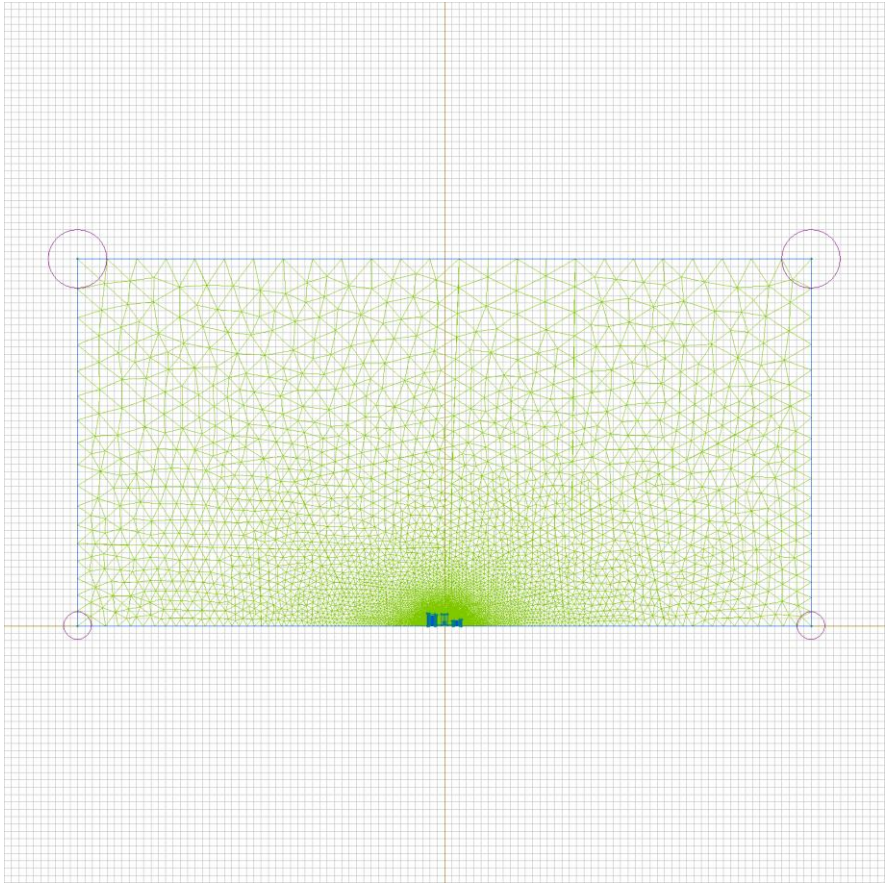


Table 1. Geometry model statistics

	With Label	Total
Blocks	3	9
Edges	5	185
Vertices	0	180

Number of nodes: 133744.

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:

- [air](#)
- [contact plate](#)
- [semiconductor](#)
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Edges:

- [GND](#)
- [symmetry](#)
- [boundary](#)
- [V+](#)
- [sensor](#)
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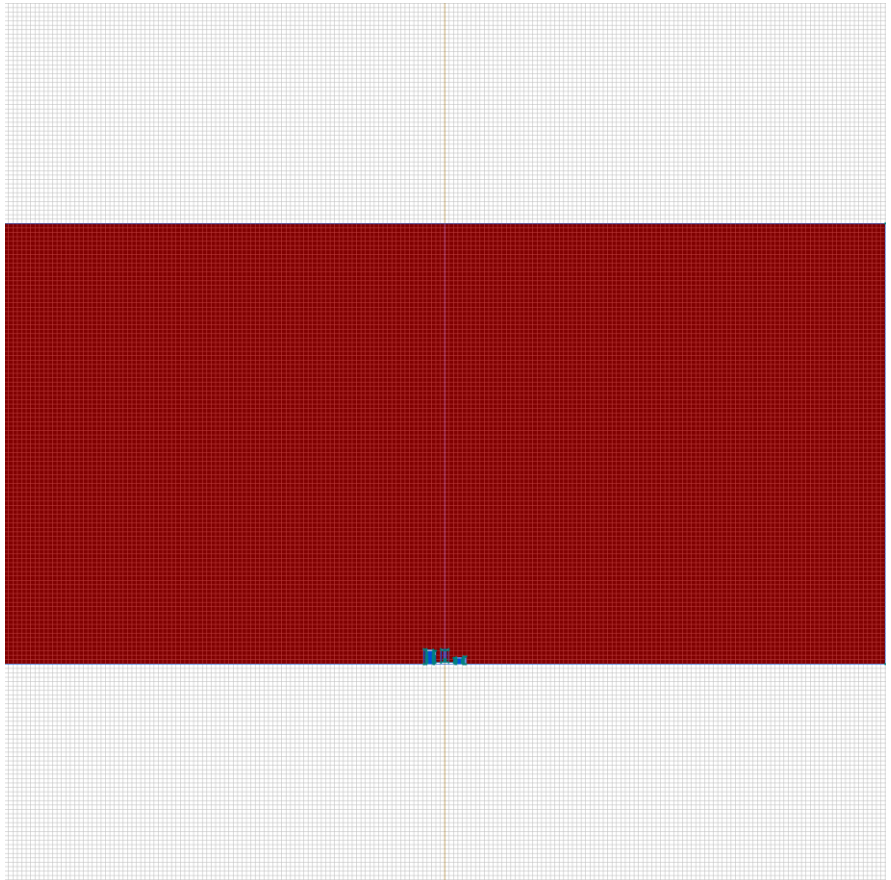
Vertices:

Detailed information about each label is listed below.

Labelled objects: block "air"

There are (4) objects with this label

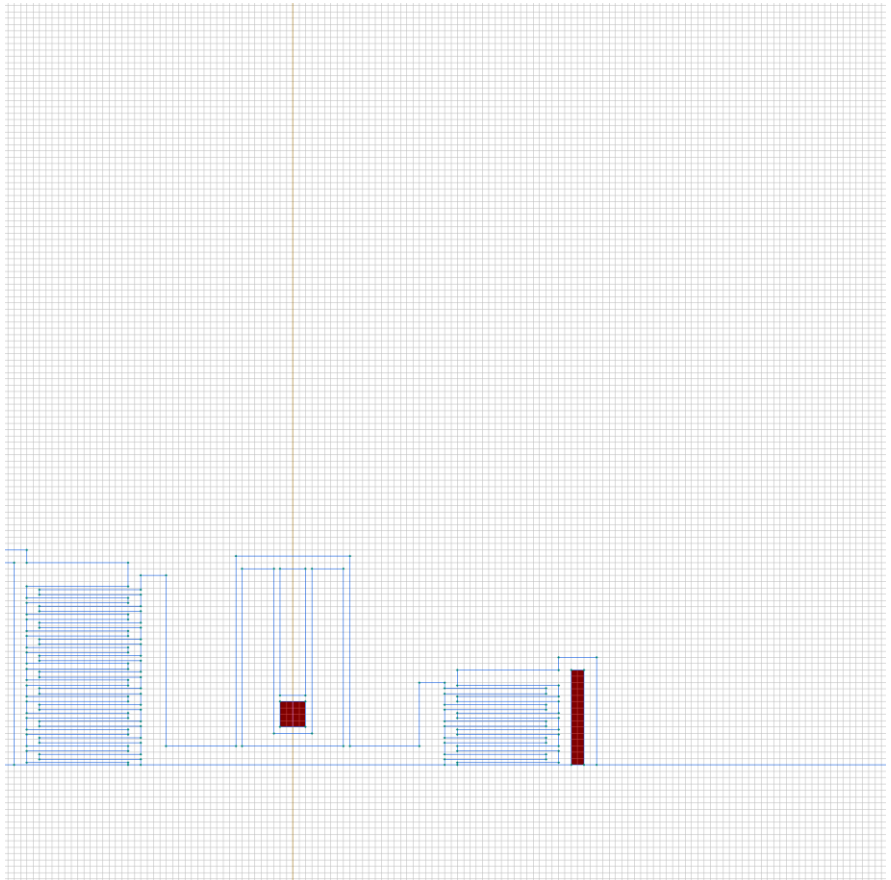
Relative electric permittivity $\epsilon_{x=1}$, $\epsilon_{y=1}$



Labelled objects: block "contact plate"

There are (2) objects with this label

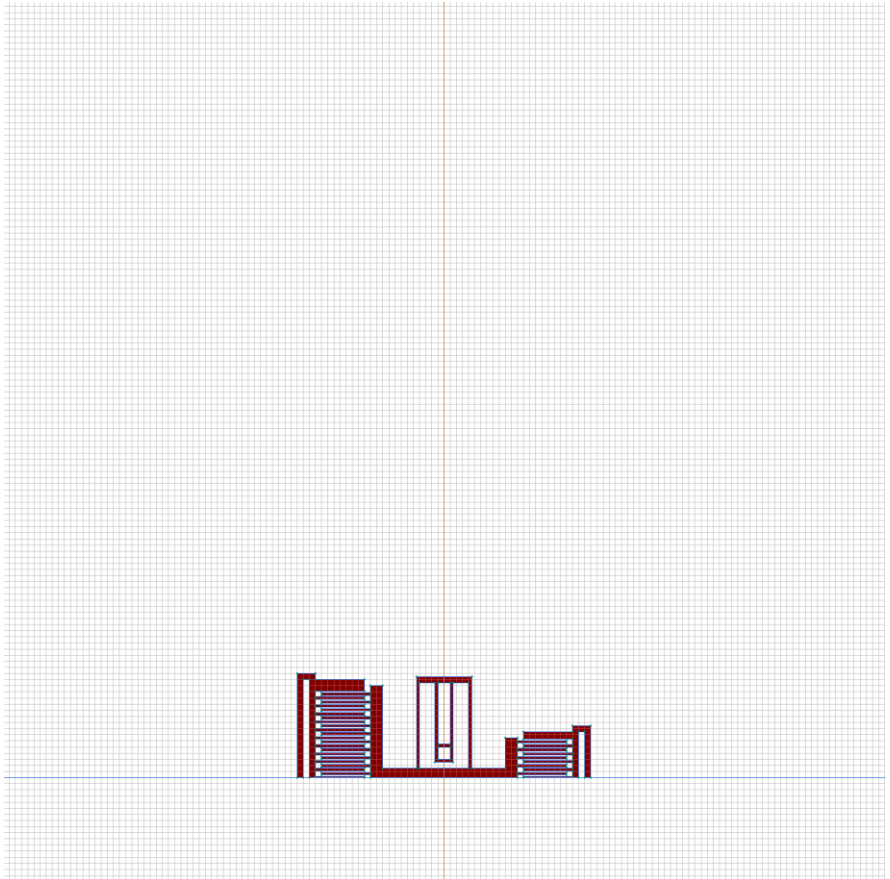
Relative electric permittivity $\epsilon_{s_x}=10000$, $\epsilon_{s_y}=10000$



Labelled objects: block "semiconductor"

There are (3) objects with this label

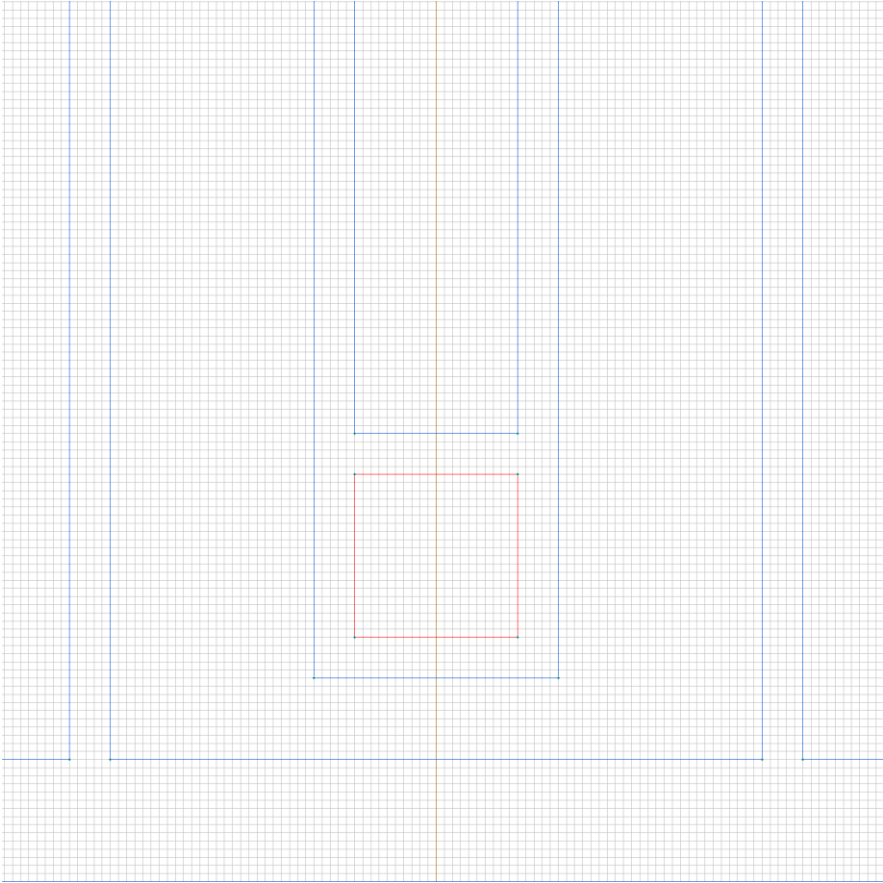
Relative electric permittivity $\epsilon_{x}=1000000$,
 $\epsilon_{y}=1000000$



Labelled objects: edge "GND"

There are (4) objects with this label

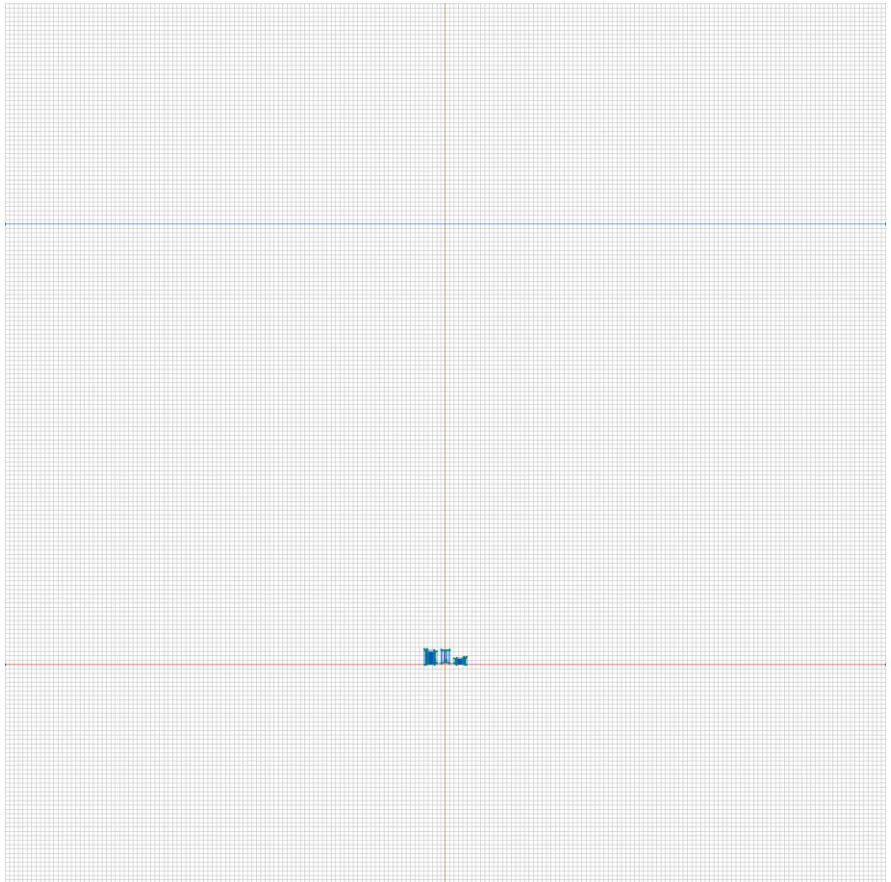
Voltage $U=0$ [V]



Labelled objects: edge "symmetry"

There are (11) objects with this label

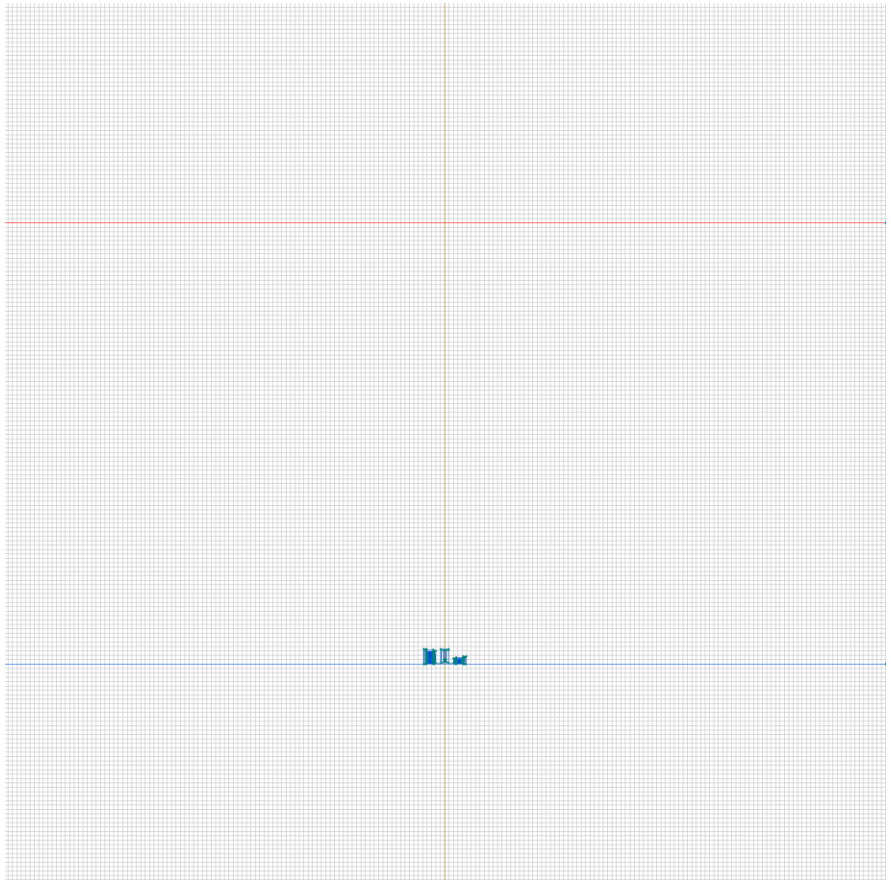
No material data (boundary conditions) are specified



Labelled objects: edge "boundary"

There are (3) objects with this label

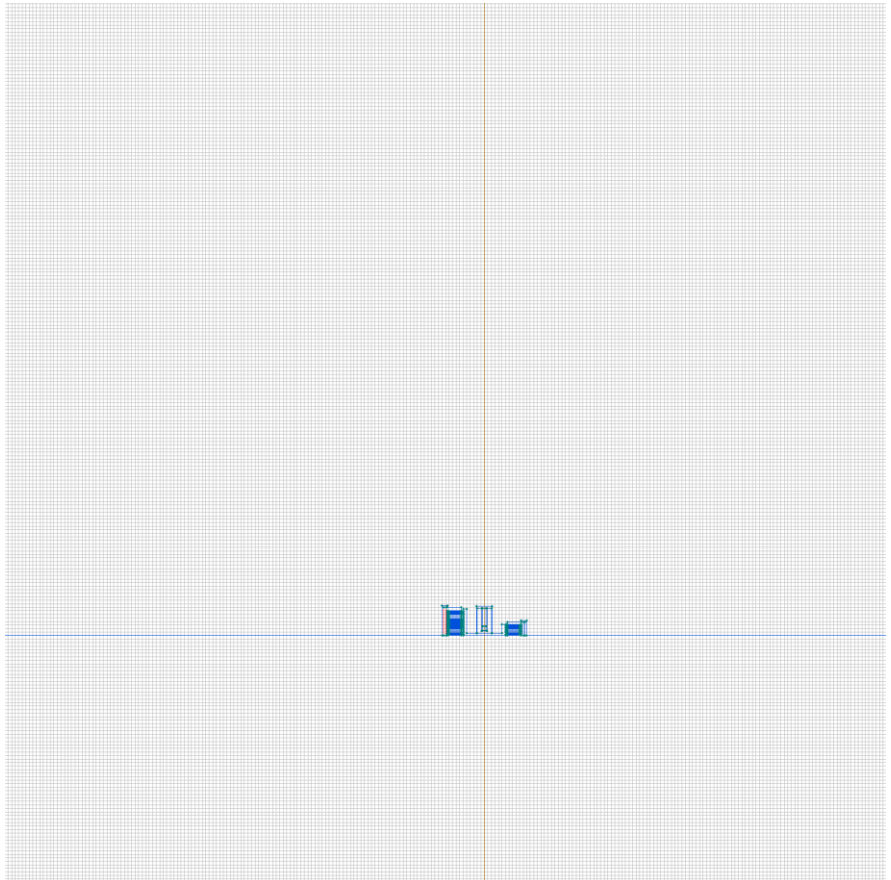
No material data (boundary conditions) are specified



Labelled objects: edge "V+"

There are (3) objects with this label

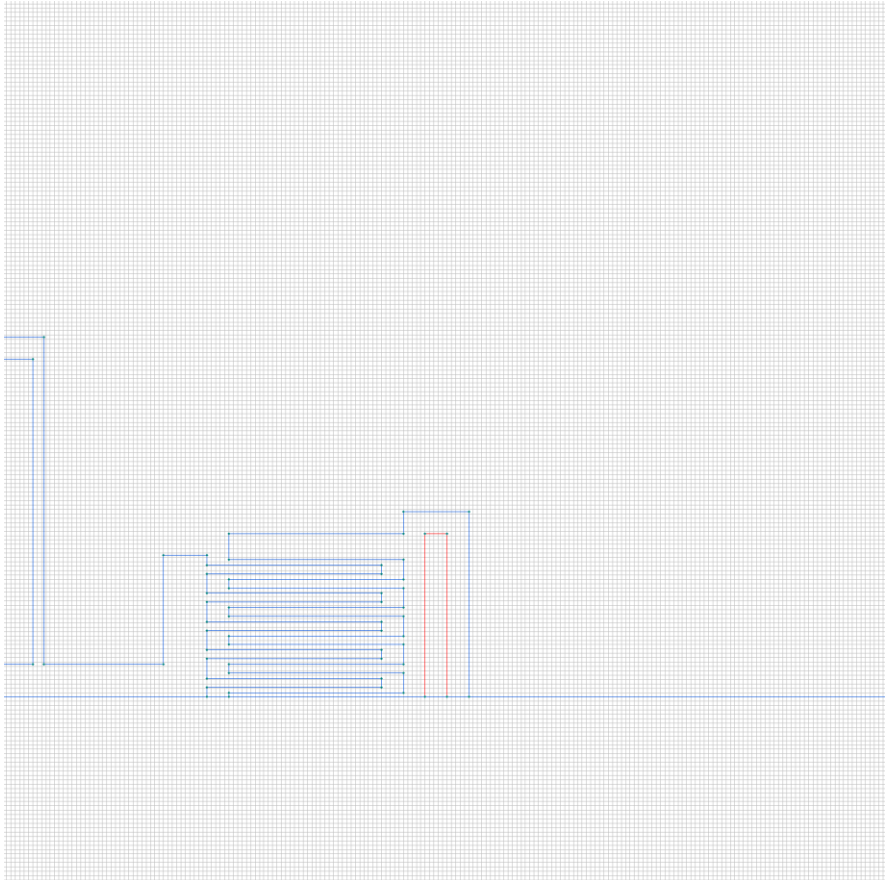
Voltage $U=50$ [V]



Labelled objects: edge "sensor"

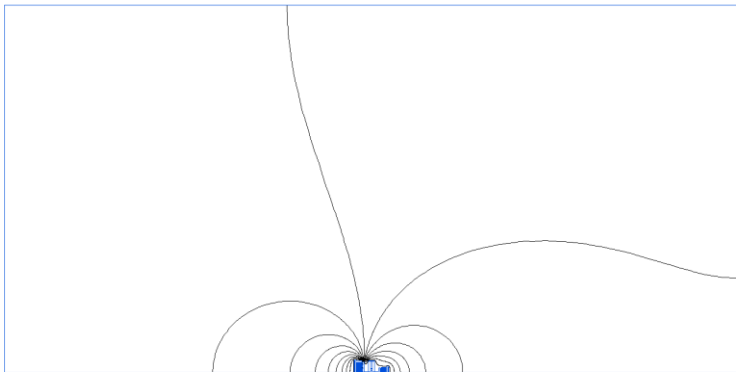
There are (3) objects with this label

No material data (boundary conditions) are specified



Results

Field lines



Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data