Problem info

Problem type: Electrostatics
Geometry model class: Axisymmetric
Problem database file names:

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

Results taken from other problems:

- *none*

Geometry model

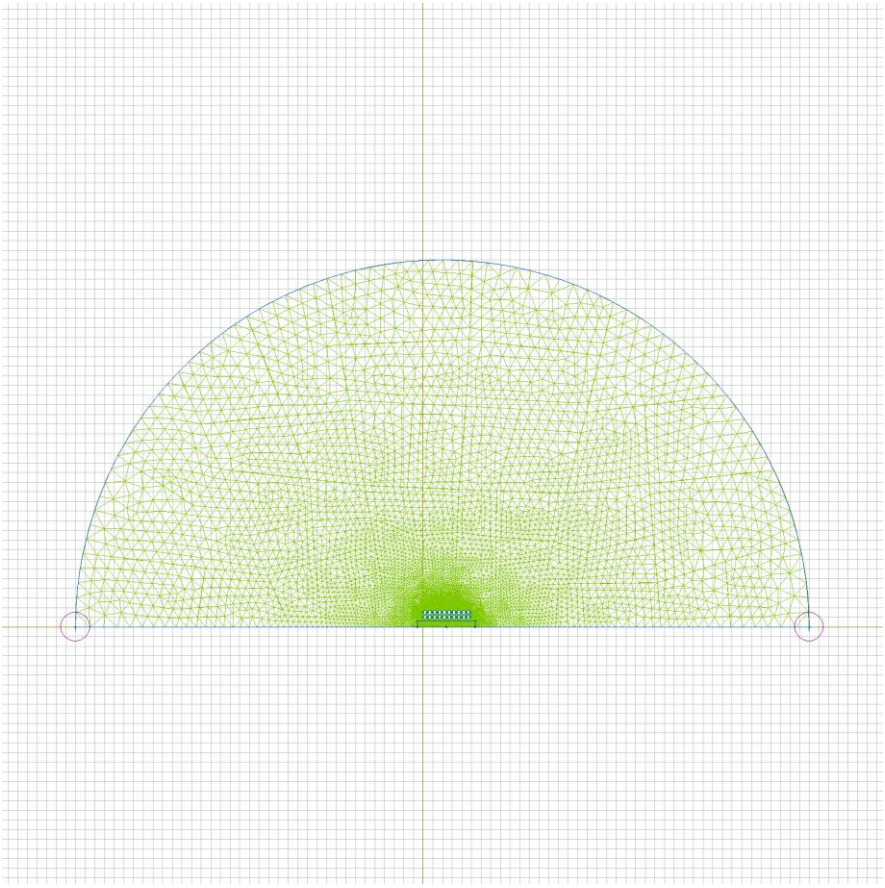


Table 1. Geometry model statistics

	With Label	Total
Blocks	1	22
Edges	2	67
Vertices	0	47

Number of nodes: 15747.

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)

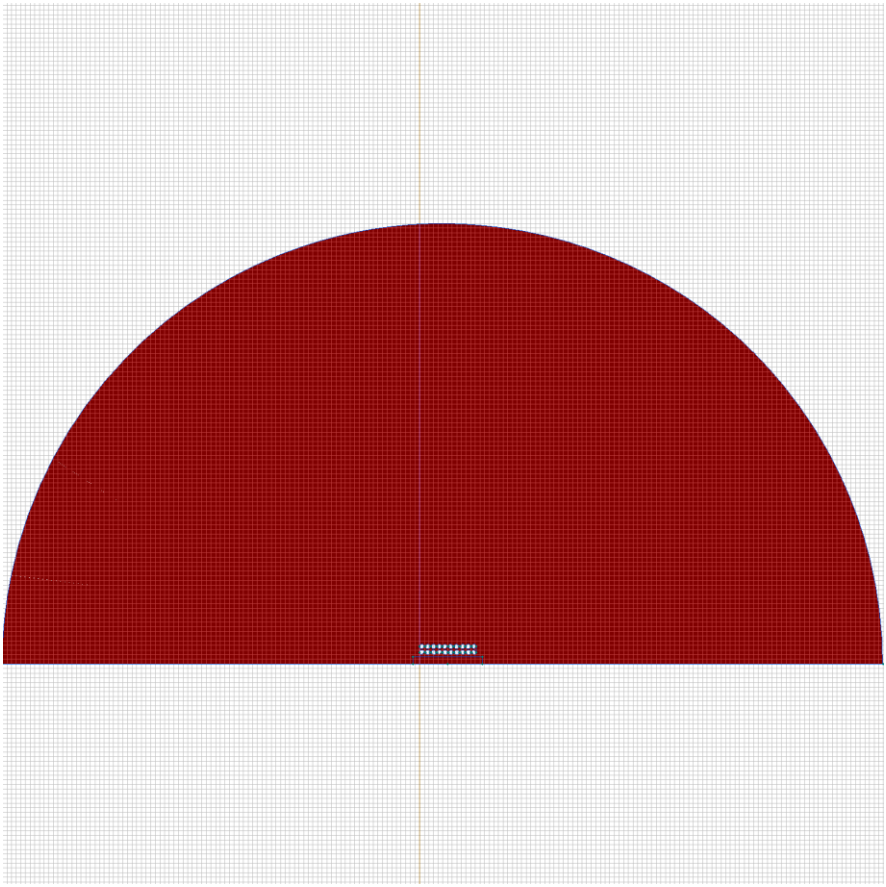
Blocks:	Edges:	Vertices:
• air •	• 1st layer coil • 2nd layer coil •	

Detailed information about each label is listed below.

Labelled objects: block "air"

There are (2) objects with this label

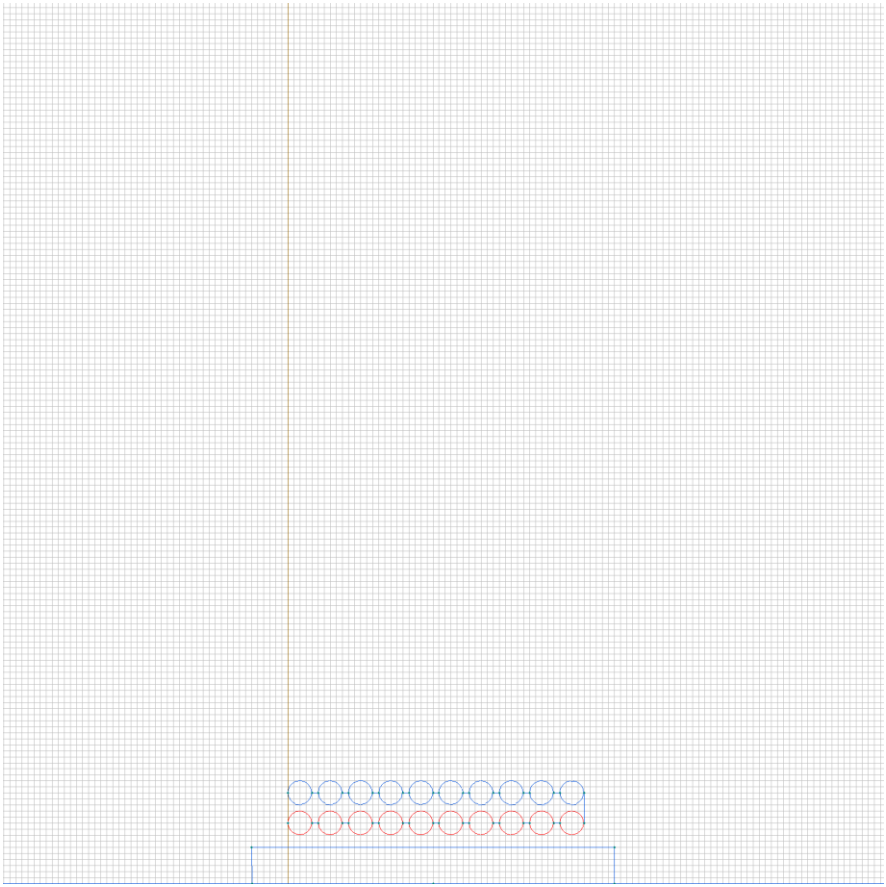
Relative electric permittivity eps_x=1, eps_y=1



Labelled objects: edge "1st layer coil"

There are (20) objects with this label

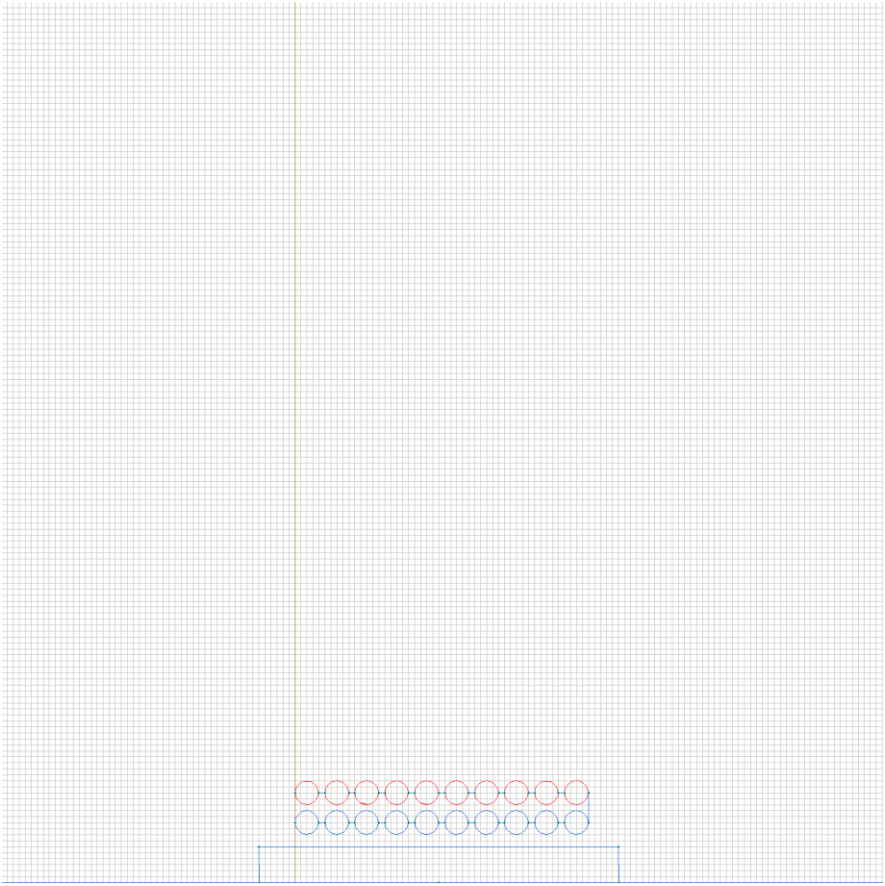
Voltage U=0.5*(step(x-2.4e-3)+step(x-4.9e-3)+step(x-7.4e-3)+step(x-9.9e-3)+step(x-12.4e-3)+step(x-14.9e-3)+step(x-17.4e-3)+step(x-19.9e-3)+step(x-22.4e-3)) [V]



Labelled objects: edge "2nd layer coil"

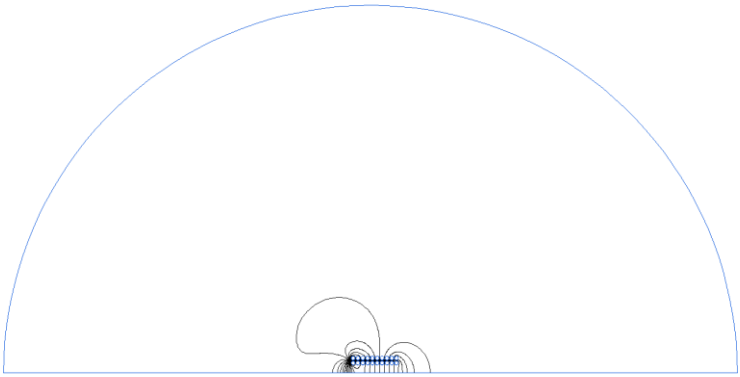
There are (20) objects with this label

Voltage U=10-0.5*(step(x-2.4e-3)+step(x-4.9e-3)+step(x-7.4e-3)+step(x-9.9e-3)+step(x-12.4e-3)+step(x-14.9e-3)+step(x-17.4e-3)+step(x-19.9e-3)+step(x-22.4e-3)) [V]



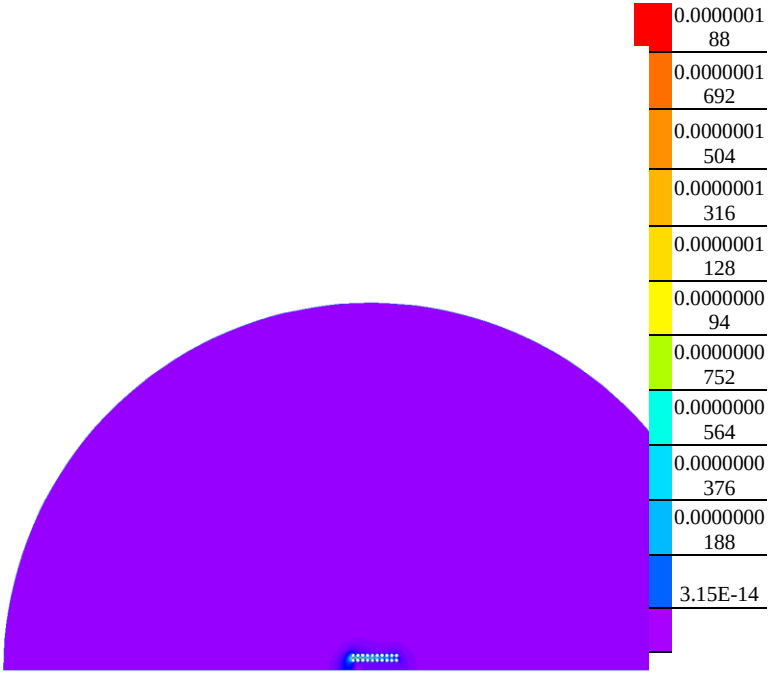
Results

Field lines



Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data