Problem info

Problem type: Electrostatics
Geometry model class: Plane-Parallel
Problem database file names:

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

Results taken from other problems:

- *none*

Geometry model

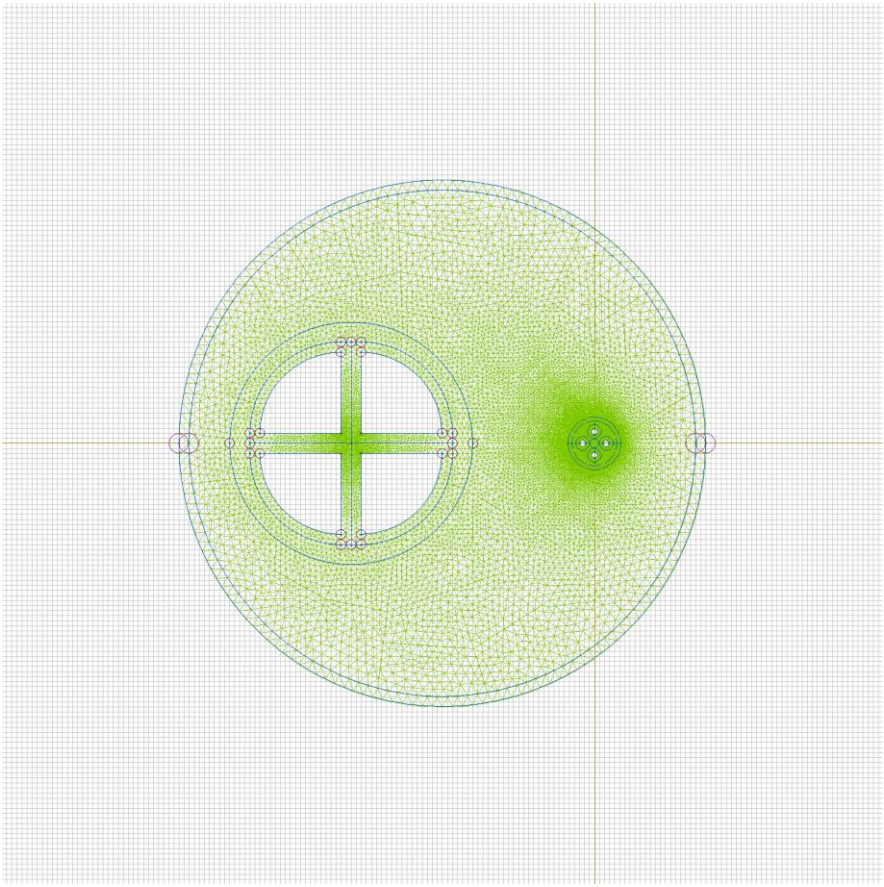


Table 1. Geometry model statistics

	With Label	Total
Blocks	7	22
Edges	9	58
Vertices	0	51

Number of nodes: 34022.

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)

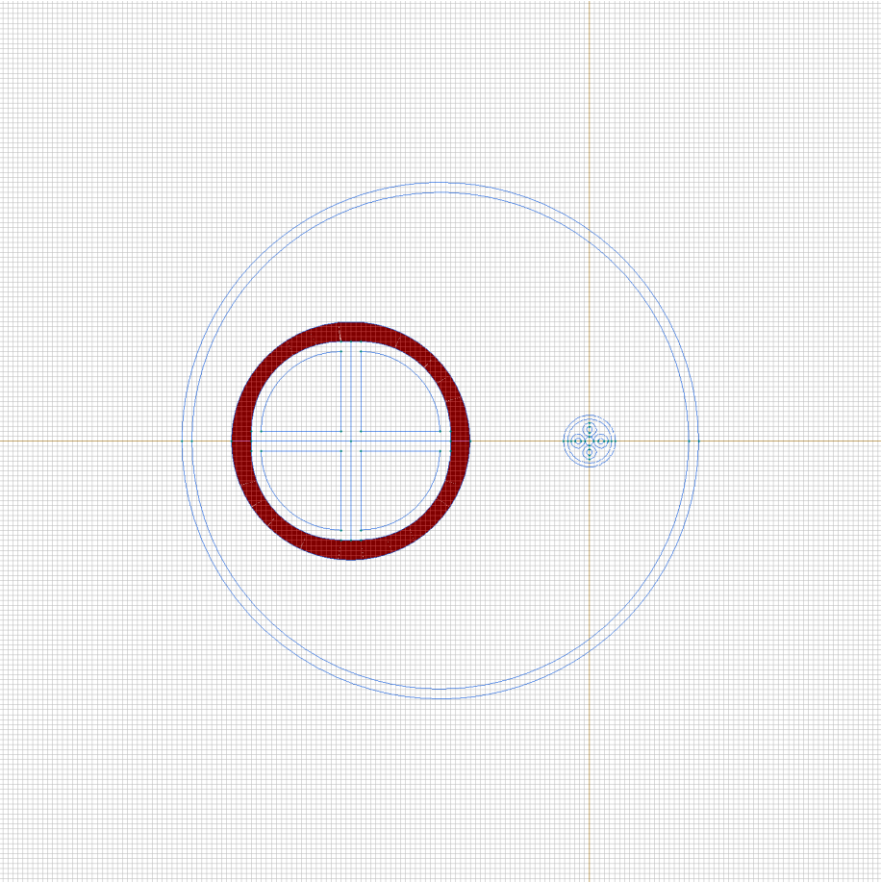
Blocks:	Edges:	Vertices:
• sheath • PVC • cover • insulation • duct • air • filler •	• a • 0 • c • b • s4 • s2 • u0 • s1 • s3 •	

Detailed information about each label is listed below.

Labelled objects: block "sheath"

There are (1) objects with this label

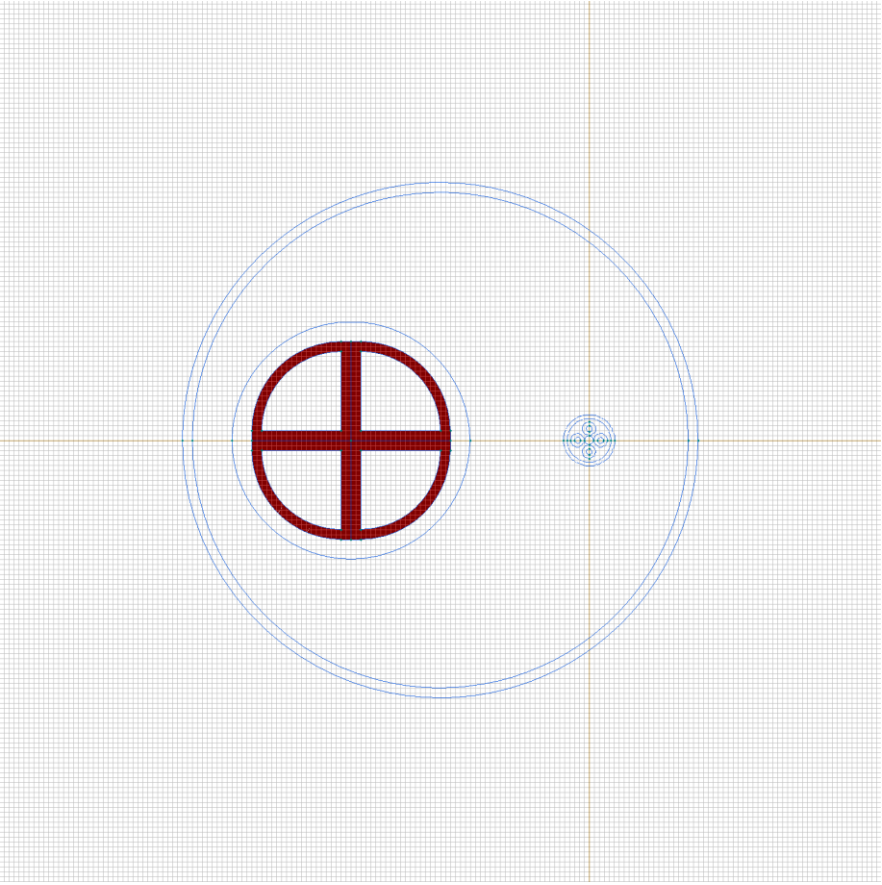
Relative electric permittivity eps_x=1.1, eps_y=1.1



Labelled objects: block "PVC"

There are (4) objects with this label

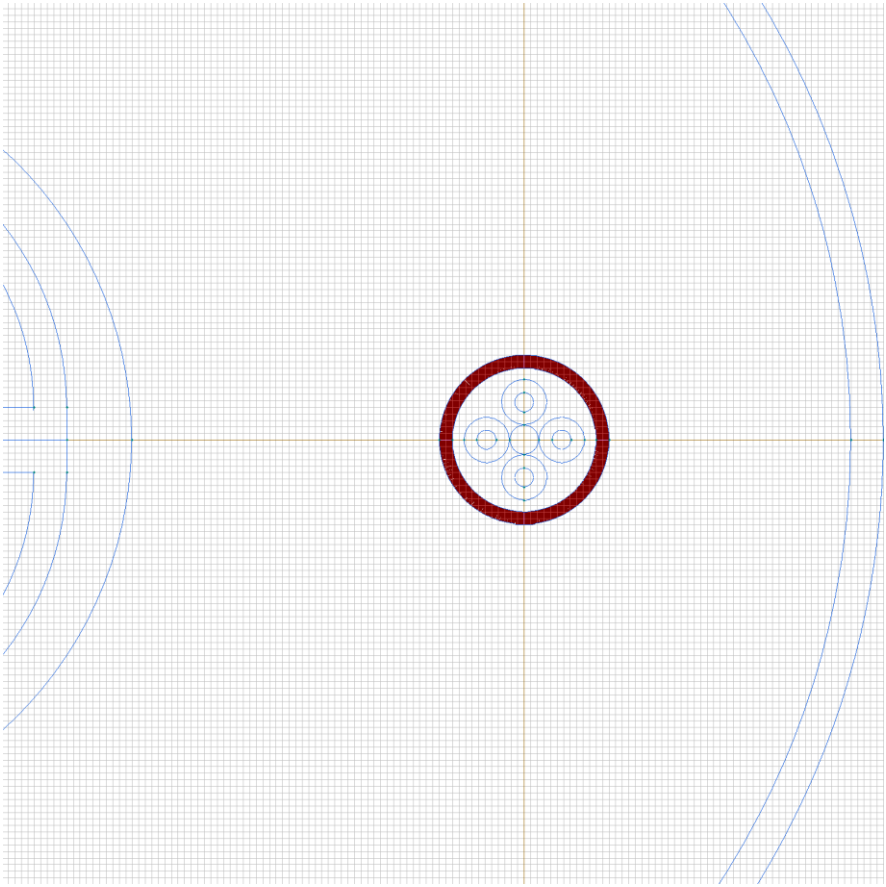
Relative electric permittivity eps_x=1.4, eps_y=1.4



Labelled objects: block "cover"

There are (1) objects with this label

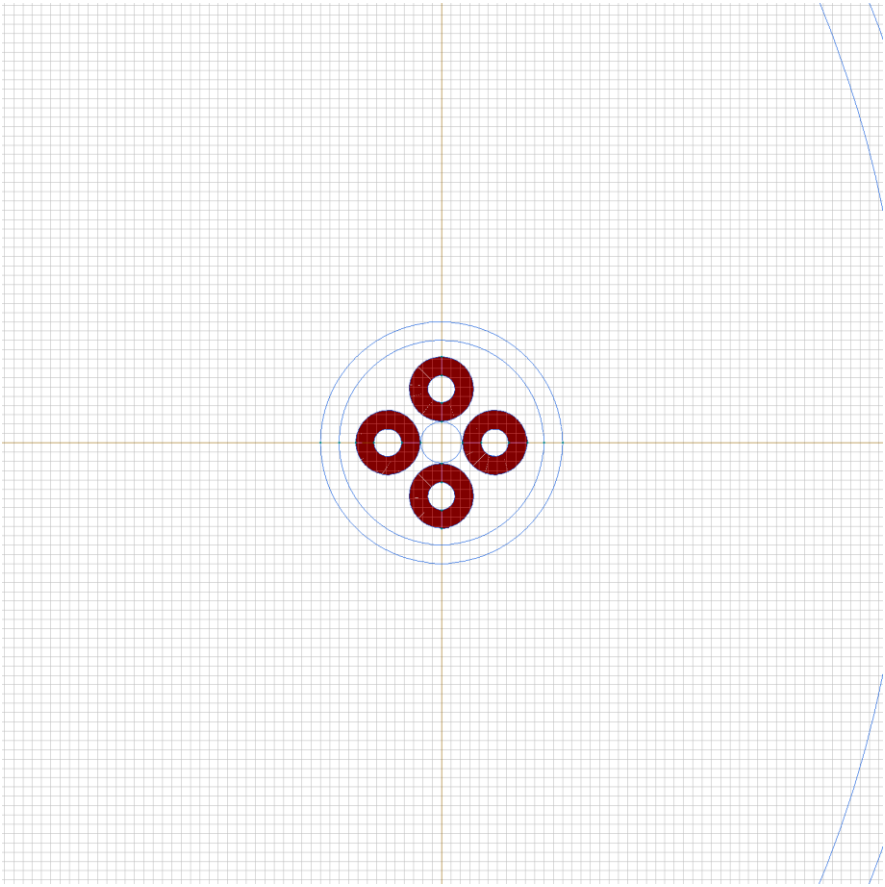
Relative electric permittivity eps_x=2, eps_y=2



Labelled objects: block "insulation"

There are (4) objects with this label

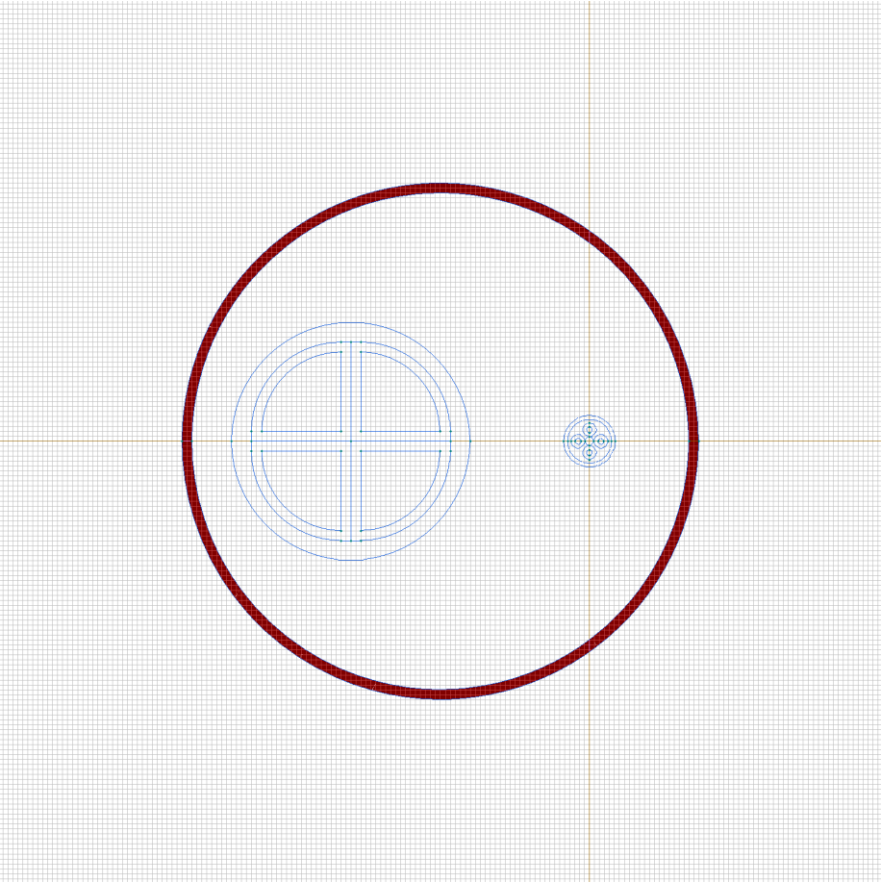
Relative electric permittivity eps_x=1.3, eps_y=1.3



Labelled objects: block "duct"

There are (1) objects with this label

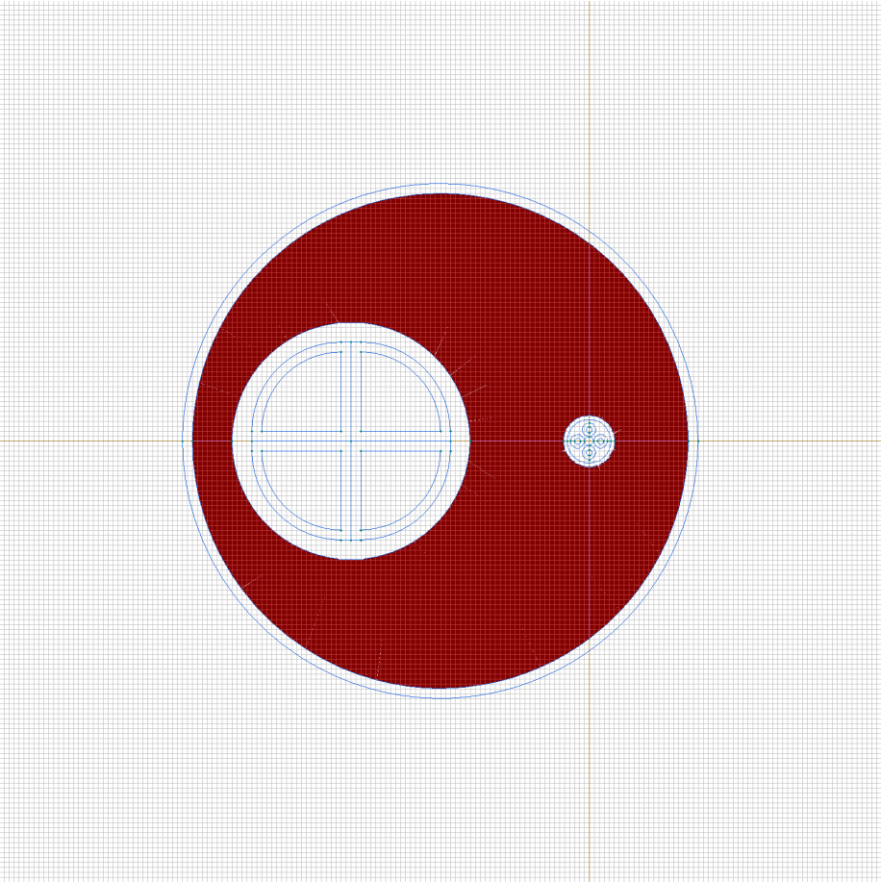
Relative electric permittivity eps_x=1.2, eps_y=1.2



Labelled objects: block "air"

There are (1) objects with this label

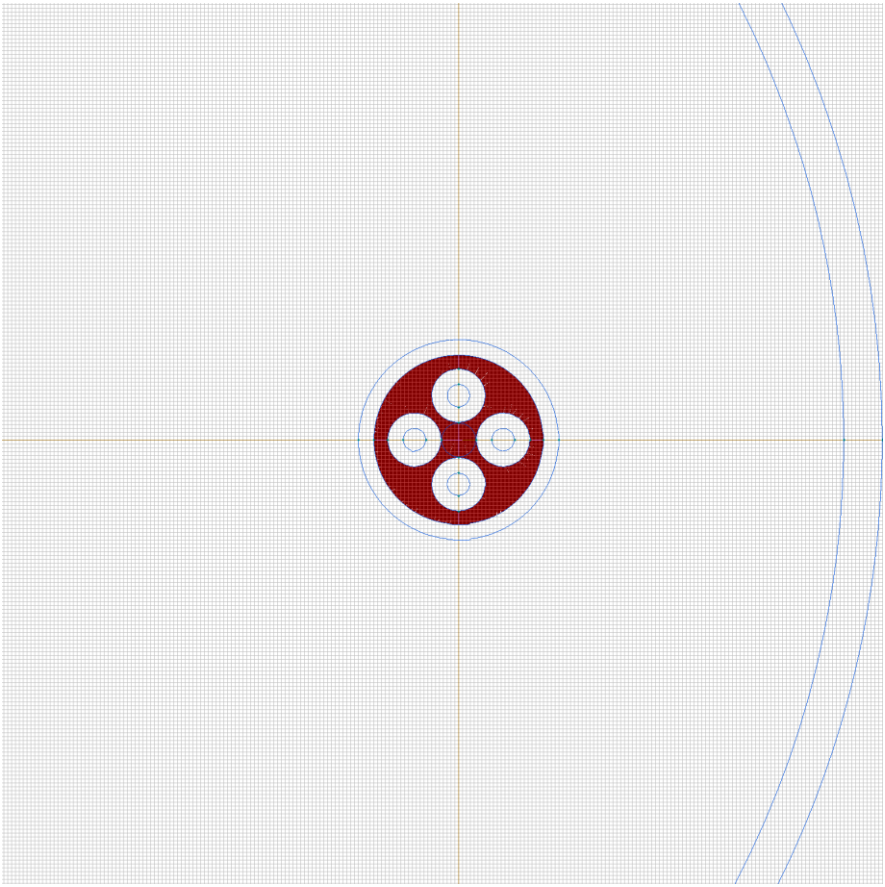
Relative electric permittivity eps_x=1, eps_y=1



Labelled objects: block "filler"

There are (2) objects with this label

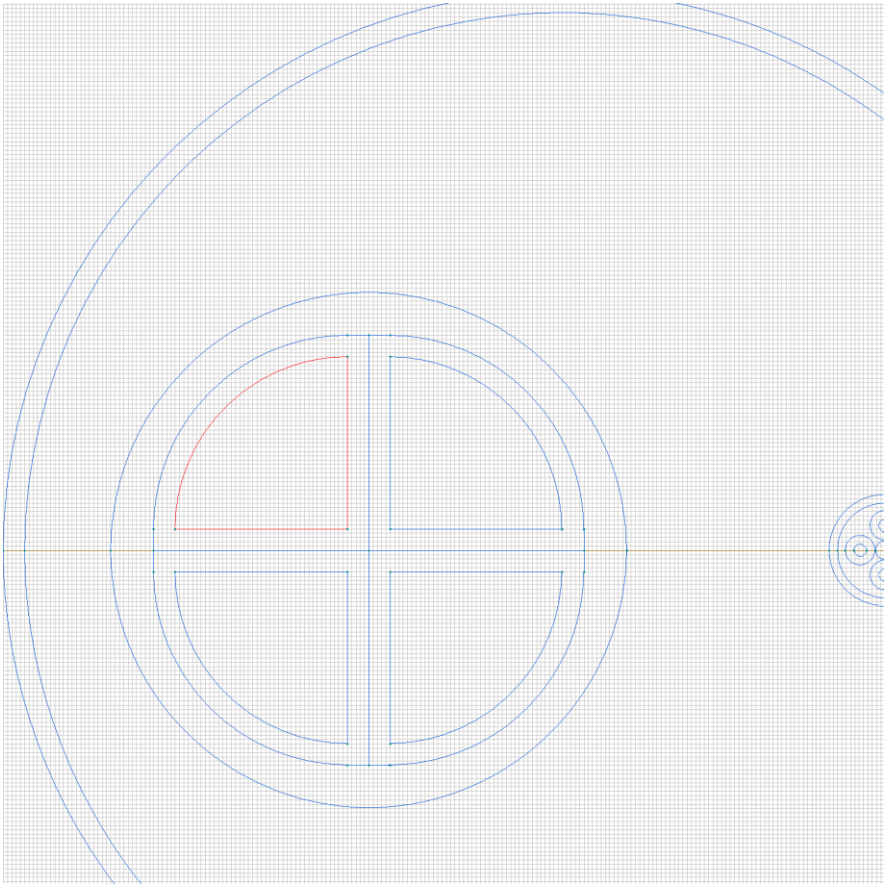
Relative electric permittivity eps_x=1, eps_y=1



Labelled objects: edge "a"

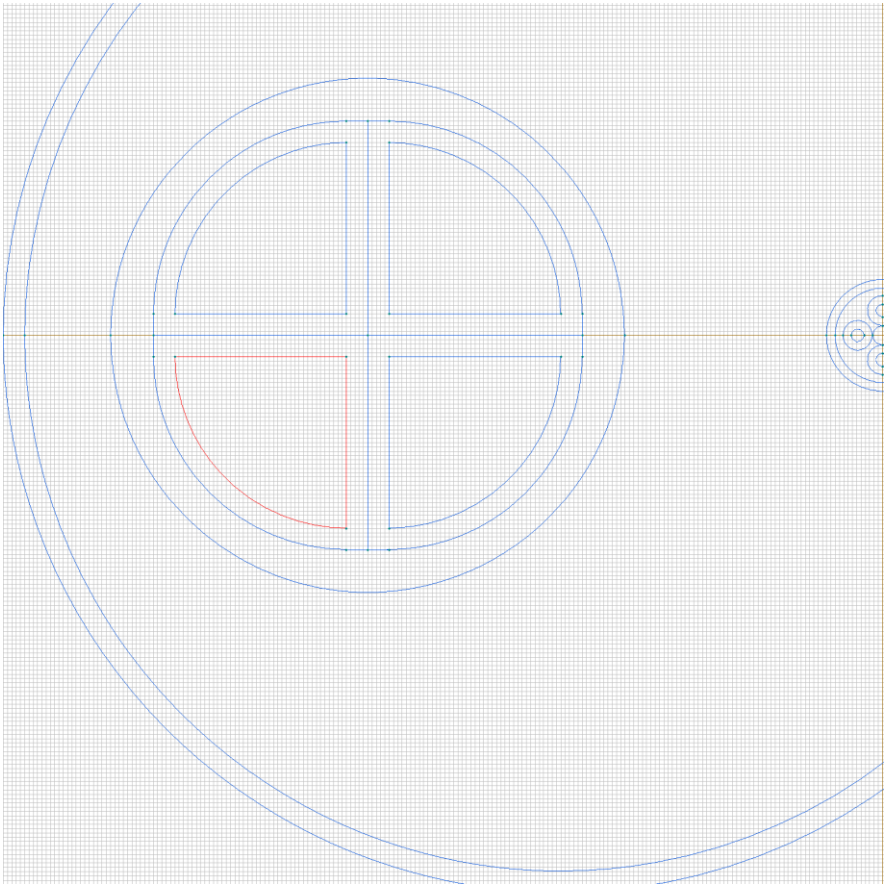
There are (3) objects with this label

Voltage U=660*sin(0+60) [V]



Labelled objects: edge "0"

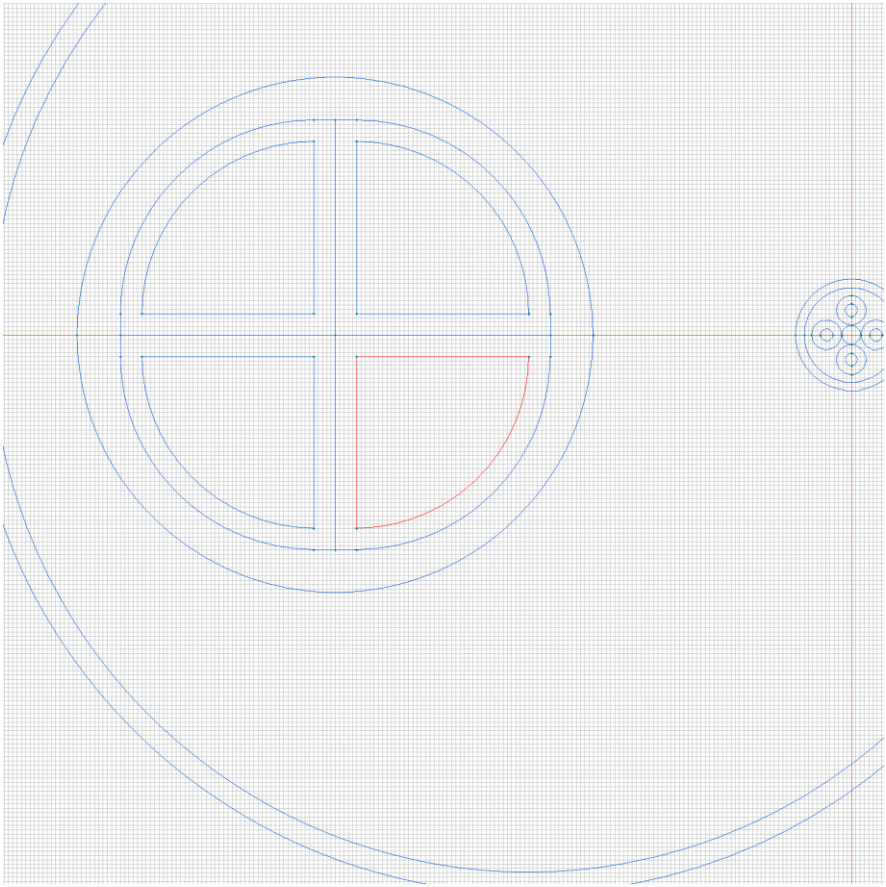
There are (3) objects with this label



Labelled objects: edge "c"

There are (3) objects with this label

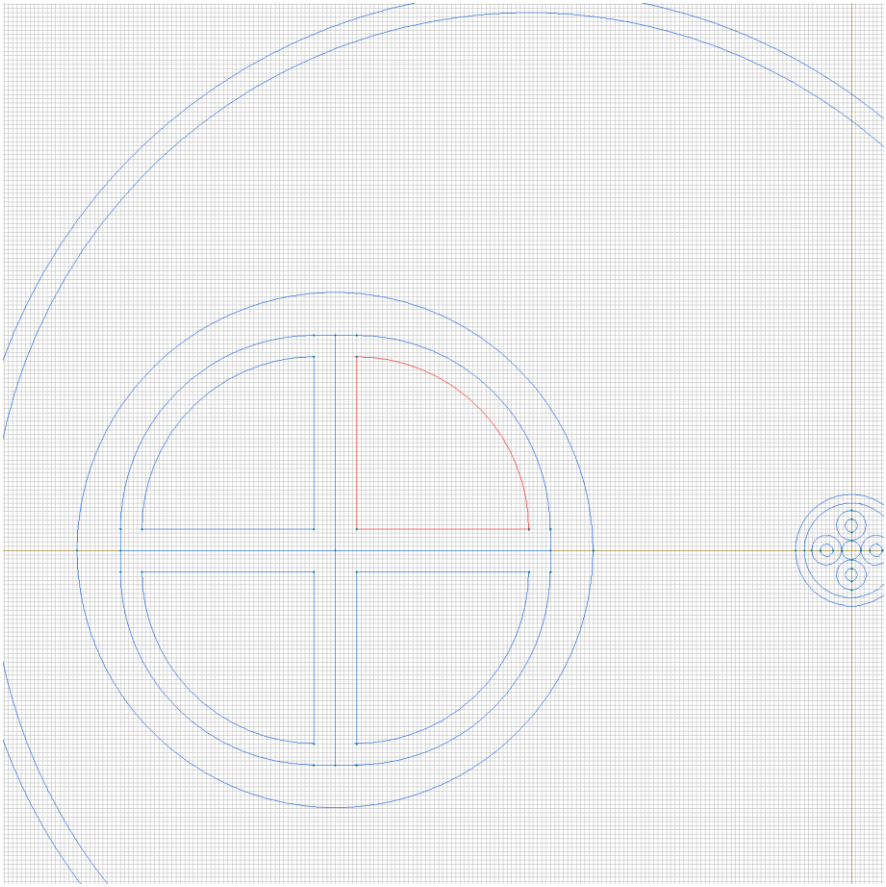
Voltage U=660*sin(240+60) [V]



Labelled objects: edge "b"

There are (3) objects with this label

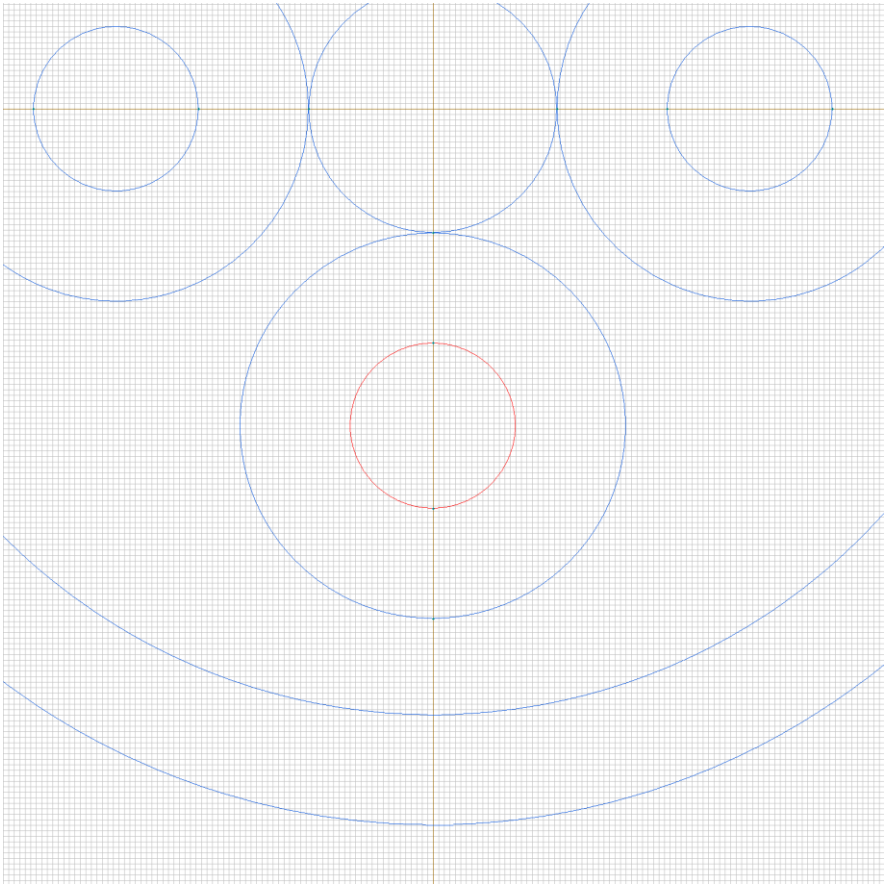
Voltage U=660*sin(120+60) [V]



Labelled objects: edge "s4"

There are (2) objects with this label

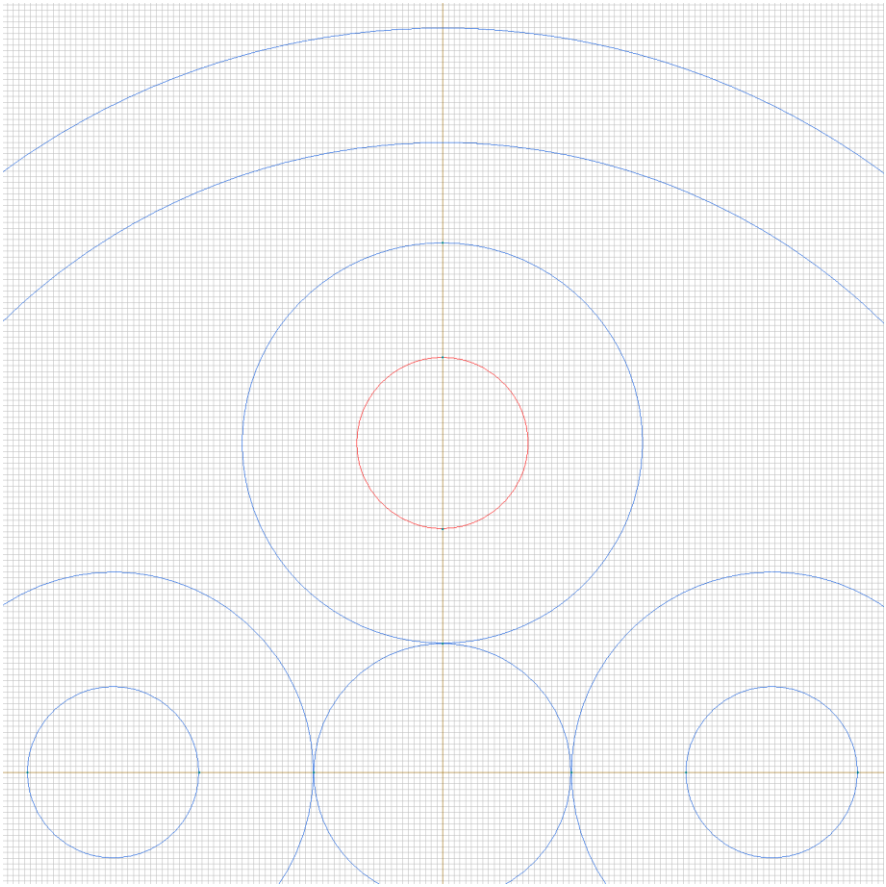
Floating conductor (equal voltage)



Labelled objects: edge "s2"

There are (2) objects with this label

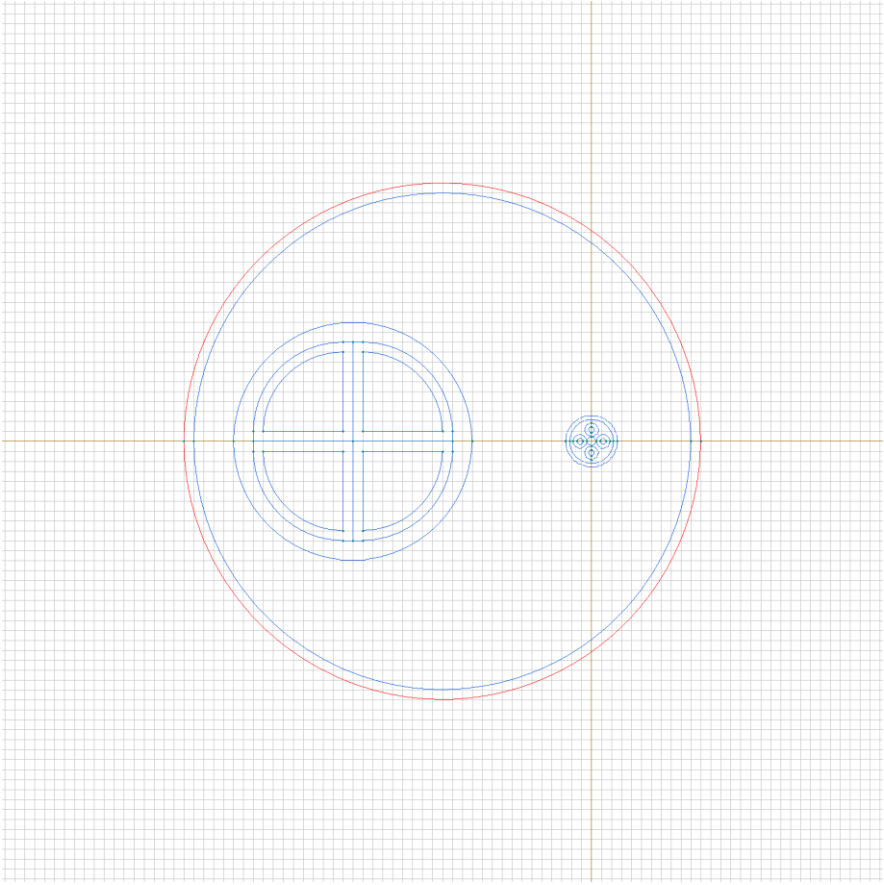
Floating conductor (equal voltage)



Labelled objects: edge "u0"

There are (2) objects with this label

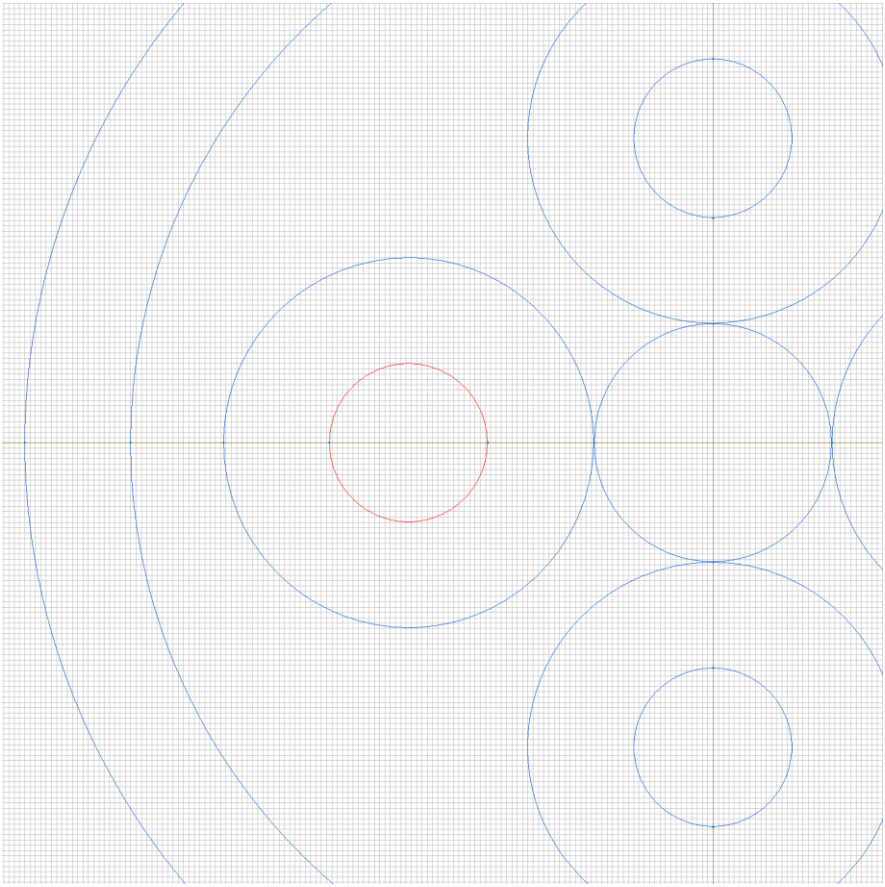
Voltage U=0 [V]



Labelled objects: edge "s1"

There are (2) objects with this label

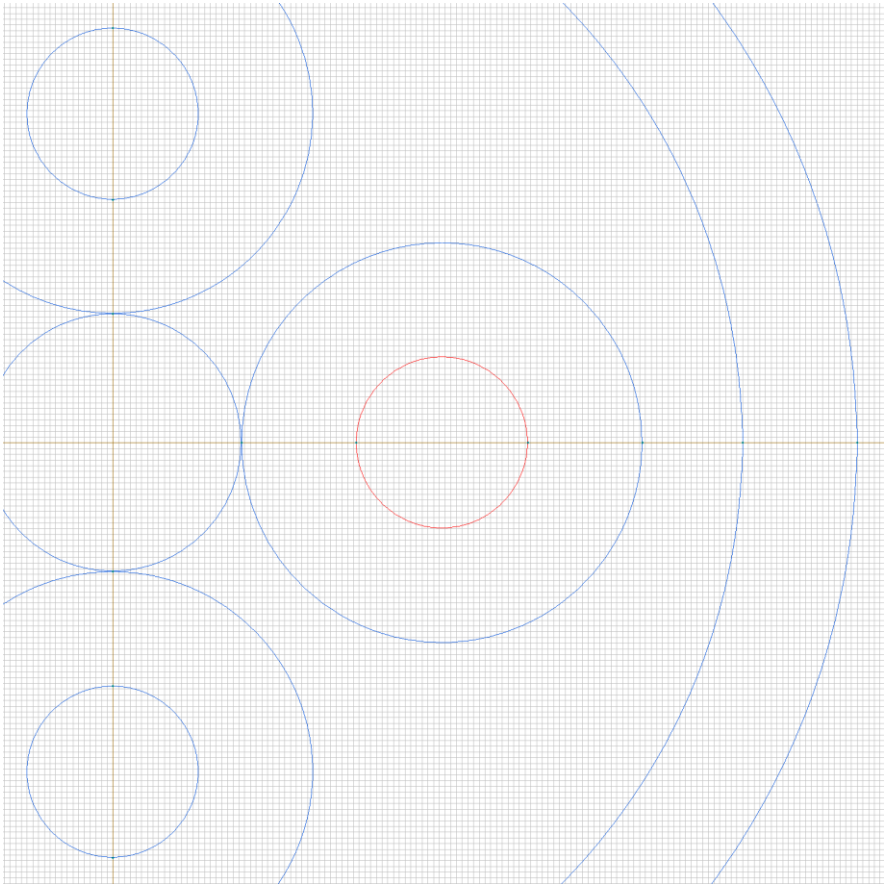
Floating conductor (equal voltage)



Labelled objects: edge "s3"

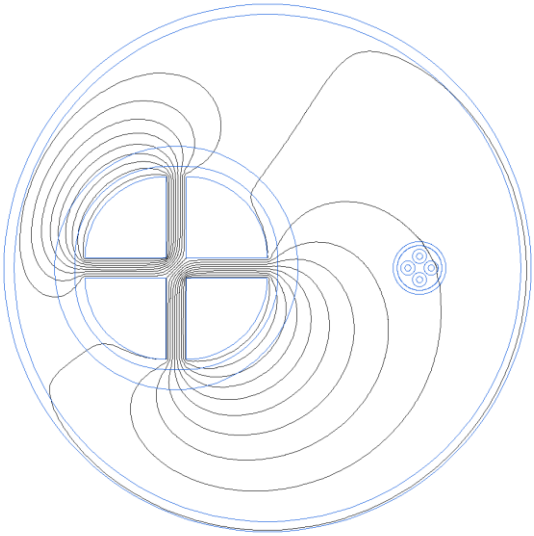
There are (2) objects with this label

Floating conductor (equal voltage)



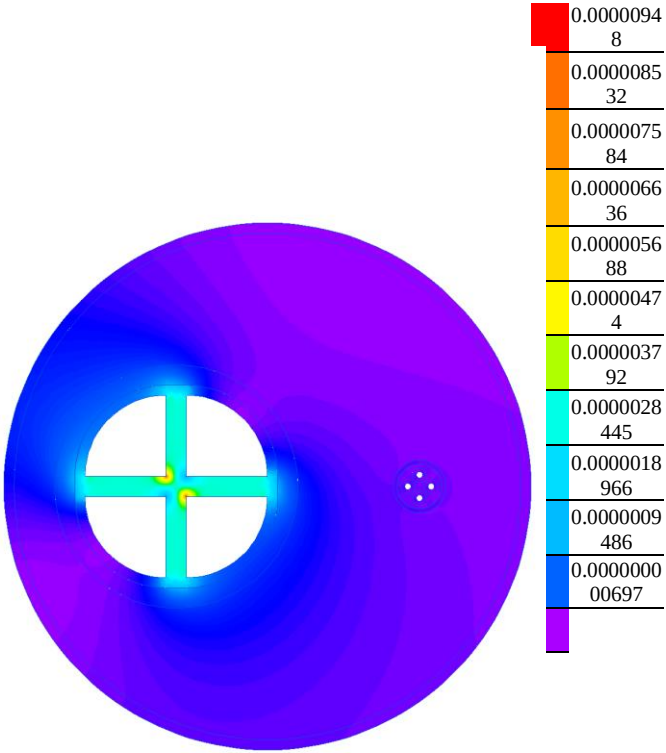
Results

Field lines



Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data