

# Problem info

Problem type: AC Conduction , frequency: 2000 Hz,

Geometry model class: Axisymmetric

Problem database file names:

- Problem: *capacitor\_6kv.pbm*
- Geometry: *Capacitor\_6kv.mod*
- Material Data: *Capacitor\_6kv.dec*
- Material Data 2 (library): *none*
- Electric circuit: *none*

Results taken from other problems:

- *none*

# Geometry model

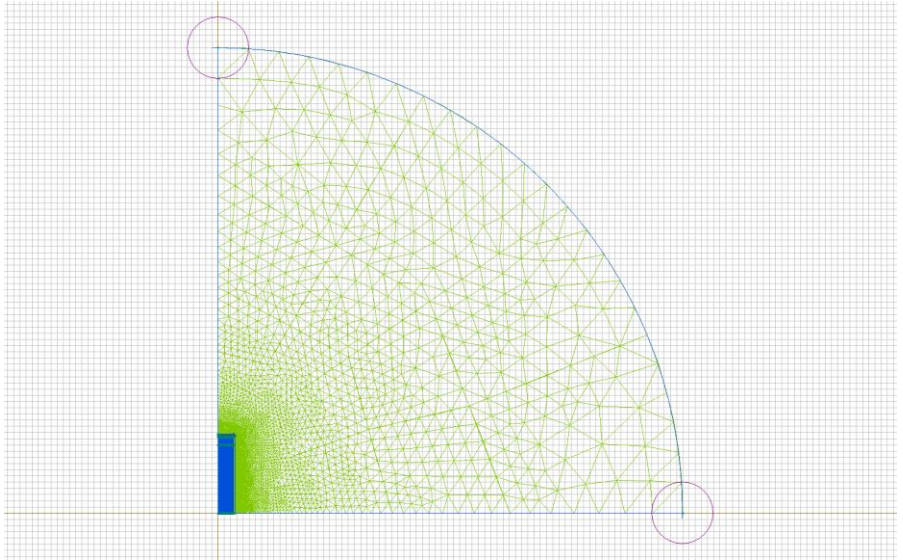


Table 1. Geometry model statistics

	With Label	Total
Blocks	3	128
Edges	4	313
Vertices	0	186

Number of nodes: 49401.

# 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:

- [ceramic](#)
- [air](#)
- [compound](#)
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Edges:

- [symmetry](#)
- [+U](#)
- [-U](#)
- [boundary](#)
- 

Vertices:

Detailed information about each label is listed below.

Labelled objects: block "ceramic"

There are (126) objects with this label

Relative electric permittivity  $\epsilon_{x=2}$ ,  $\epsilon_{y=2}$

Electrical conductivity  $\sigma_x=0.000000001$  [S/m],

$\sigma_y=0.000000001$  [S/m]

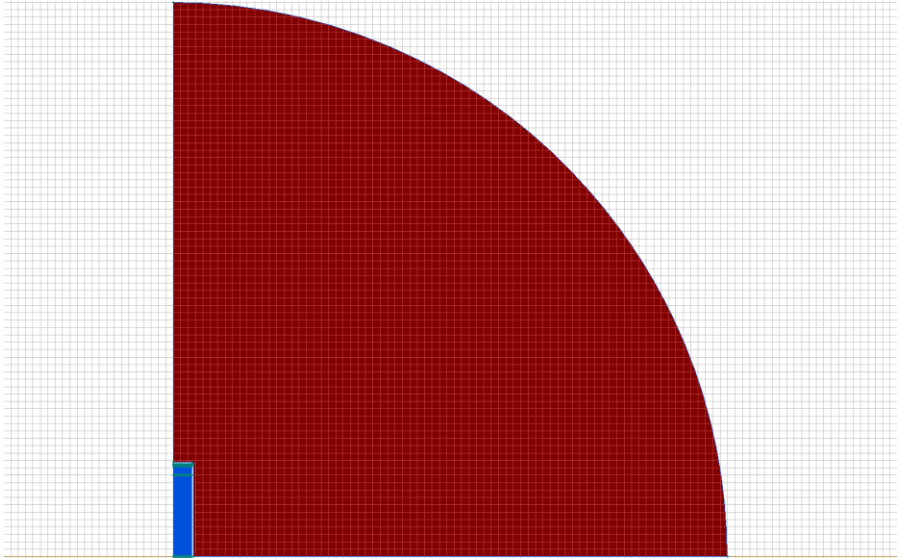


Labelled objects: block "air"

There are (1) objects with this label

Relative electric permittivity  $\epsilon_{s_x}=1$ ,  $\epsilon_{s_y}=1$

Electrical conductivity  $\sigma_{s_x}=0$  [S/m],  $\sigma_{s_y}=0$  [S/m]

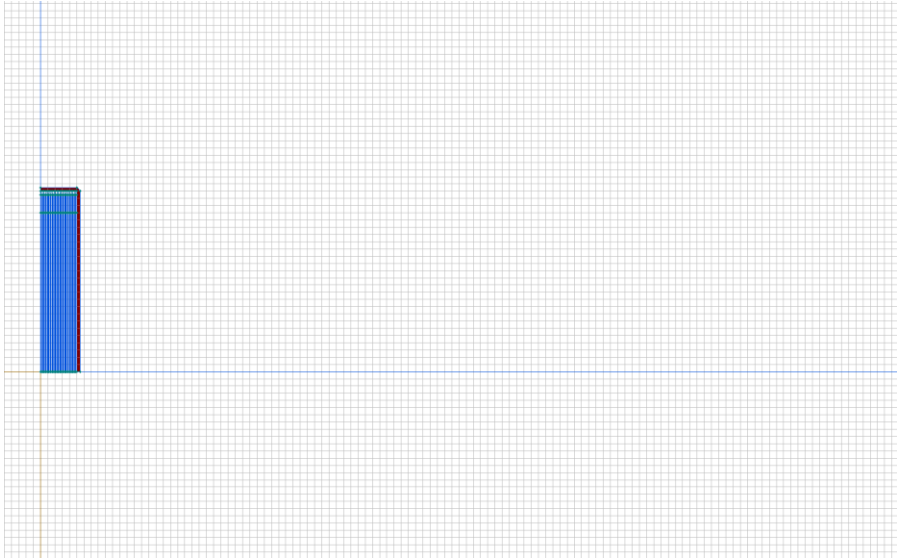


Labelled objects: block "compound"

There are (1) objects with this label

Relative electric permittivity  $\epsilon_{s_x}=2$ ,  $\epsilon_{s_y}=2$

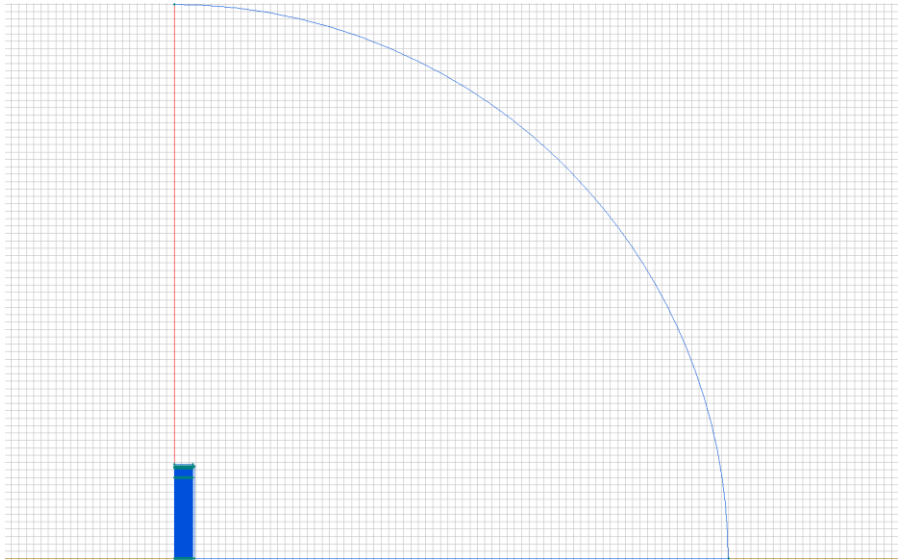
Electrical conductivity  $\sigma_{s_x}=0$  [S/m],  $\sigma_{s_y}=0$  [S/m]



## Labelled objects: edge "symmetry"

There are (1) objects with this label

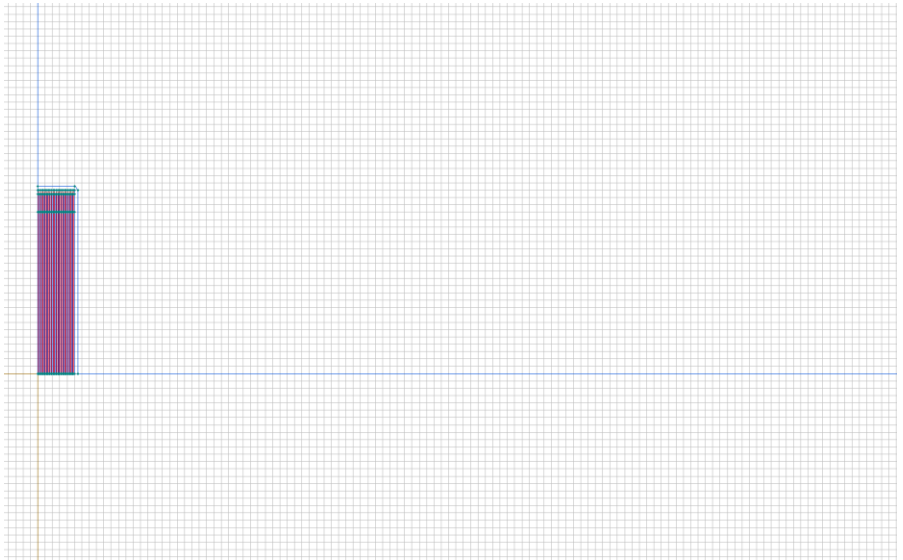
No material data (boundary conditions) are specified



Labelled objects: edge "+U"

There are (100) objects with this label

Voltage:  $U=3000$  [V], phase  $0$  [deg]

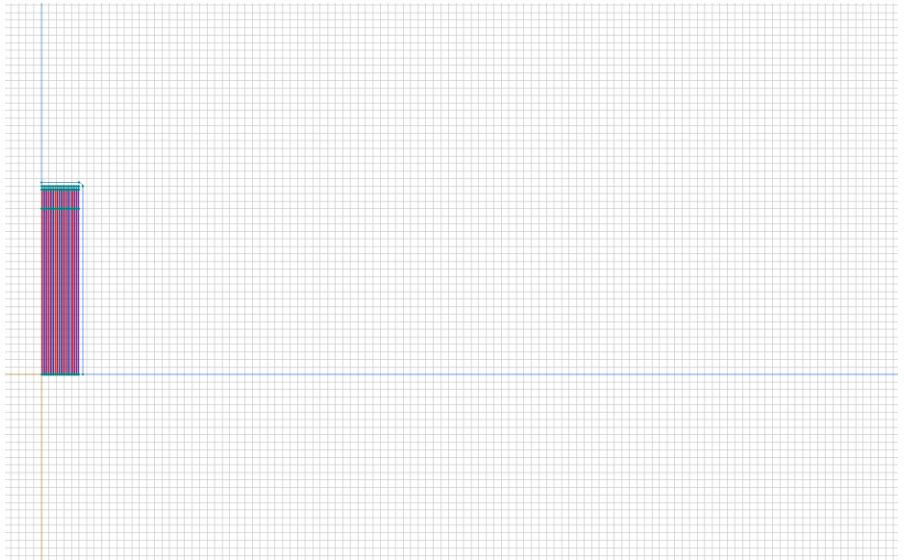




Labelled objects: edge "-U"

There are (102) objects with this label

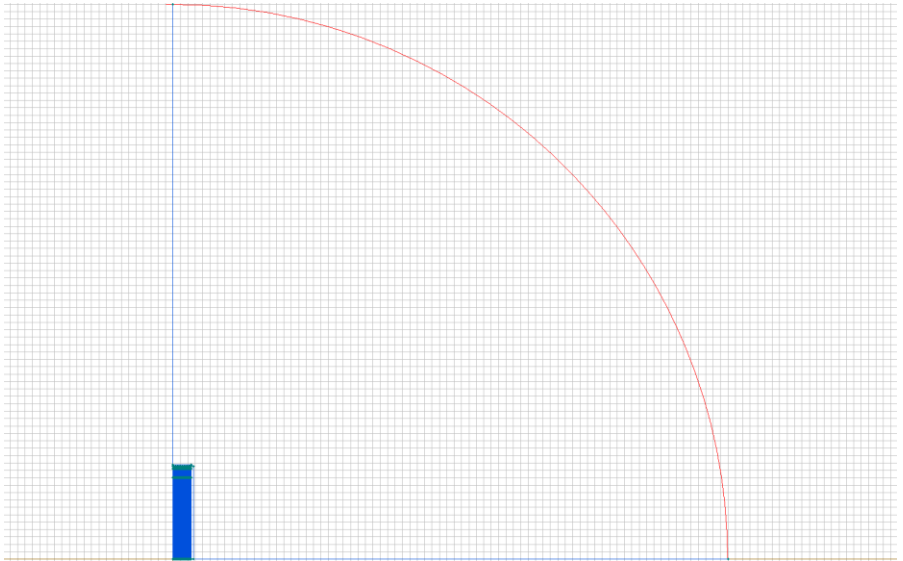
Voltage:  $U = -3000$  [V], phase 0 [deg]



## Labelled objects: edge "boundary"

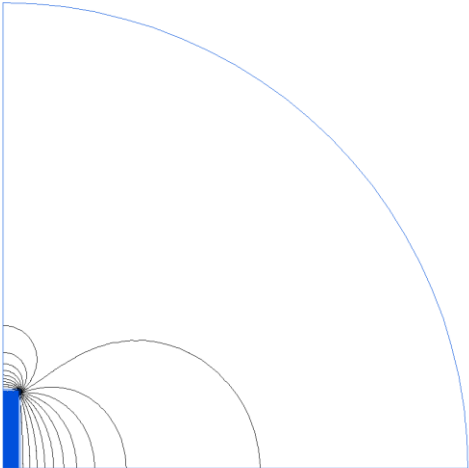
There are (1) objects with this label

No material data (boundary conditions) are specified



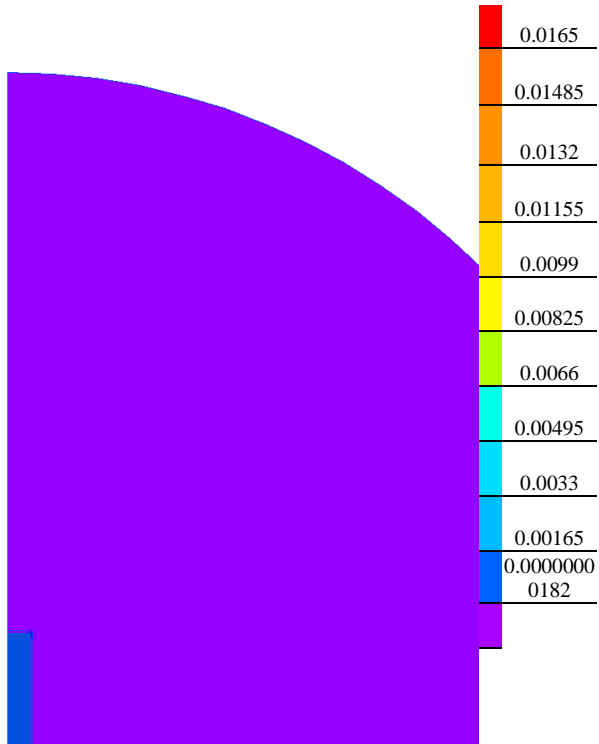
# Results

Field lines



# Results

Color map of Electric induction  $|D|$  [C/m<sup>2</sup>]



# Nonlinear dependencies

No non-linear dependencies are used in this problem data