

Problem info

Problem type: Magnetostatics

Geometry model class: Axisymmetric

Problem database file names:

- Problem: *supercon_mu_bowl_rz.pbm*
- Geometry: *Supercon_mu_bowl_rz.mod*
- Material Data: *Supercon_mu_bowl_rz.dms*
- Material Data 2 (library): *none*
- Electric circuit: *none*

Results taken from other problems:

- *none*

Geometry model

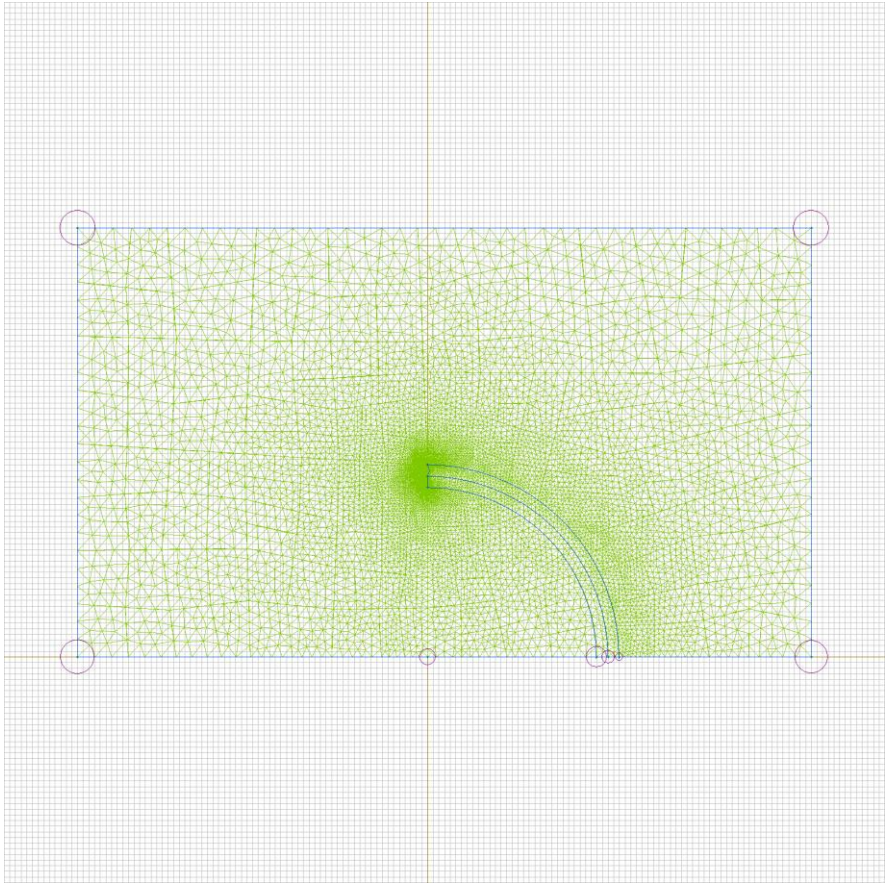


Table 1. Geometry model statistics

	With Label	Total
Blocks	3	3
Edges	3	13
Vertices	0	11

Number of nodes: 9392.

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](#)
- [helmet](#)
- [mu_metal](#)
-

Edges:

- [side](#)
- [bottom](#)
- [top](#)
-

Vertices:

Detailed information about each label is listed below.

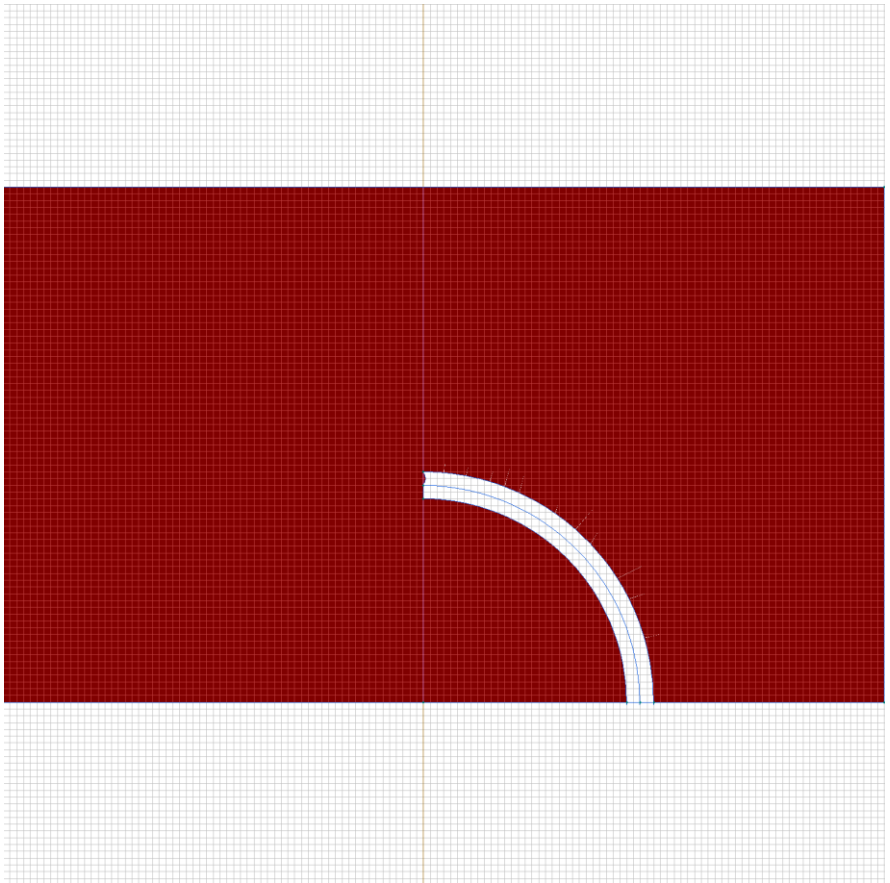
Labelled objects: block "air"

There are (1) objects with this label

Relative magnetic permeability: $\mu_x=1$, $\mu_y=1$

Current density: $j=0$ [A/m²]

Conductor's connection: in parallel



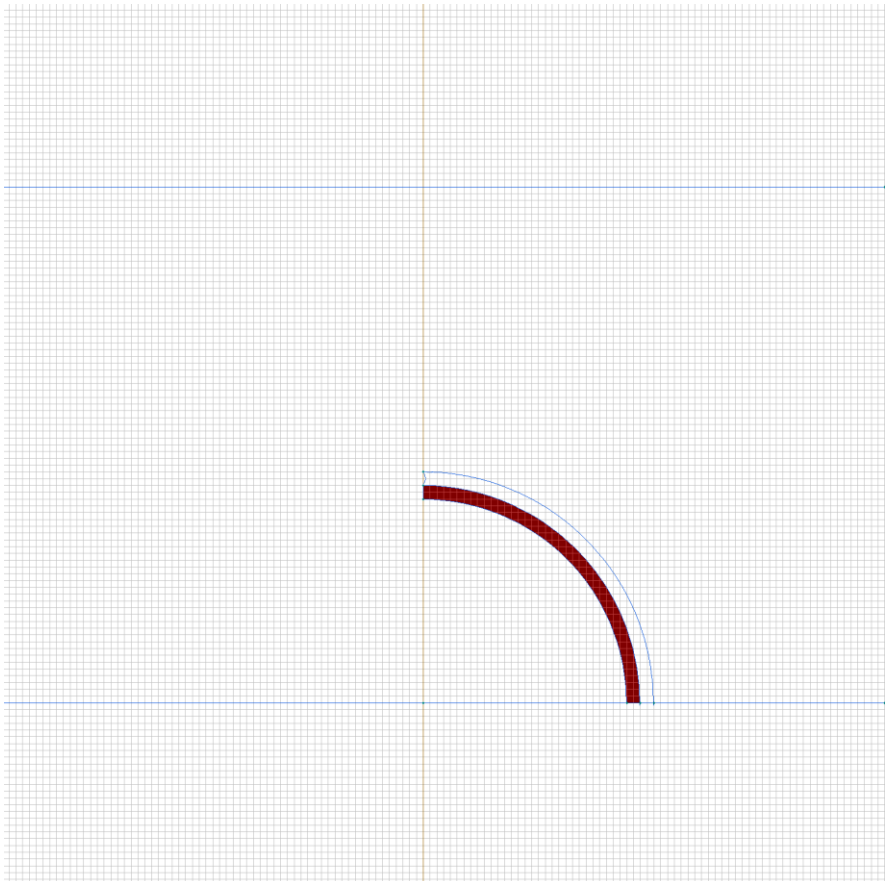
Labelled objects: block "helmet"

There are (1) objects with this label

Relative magnetic permeability: $\mu_x=0.000001$,
 $\mu_y=0.000001$

Current density: $j=0$ [A/m²]

Conductor's connection: in parallel



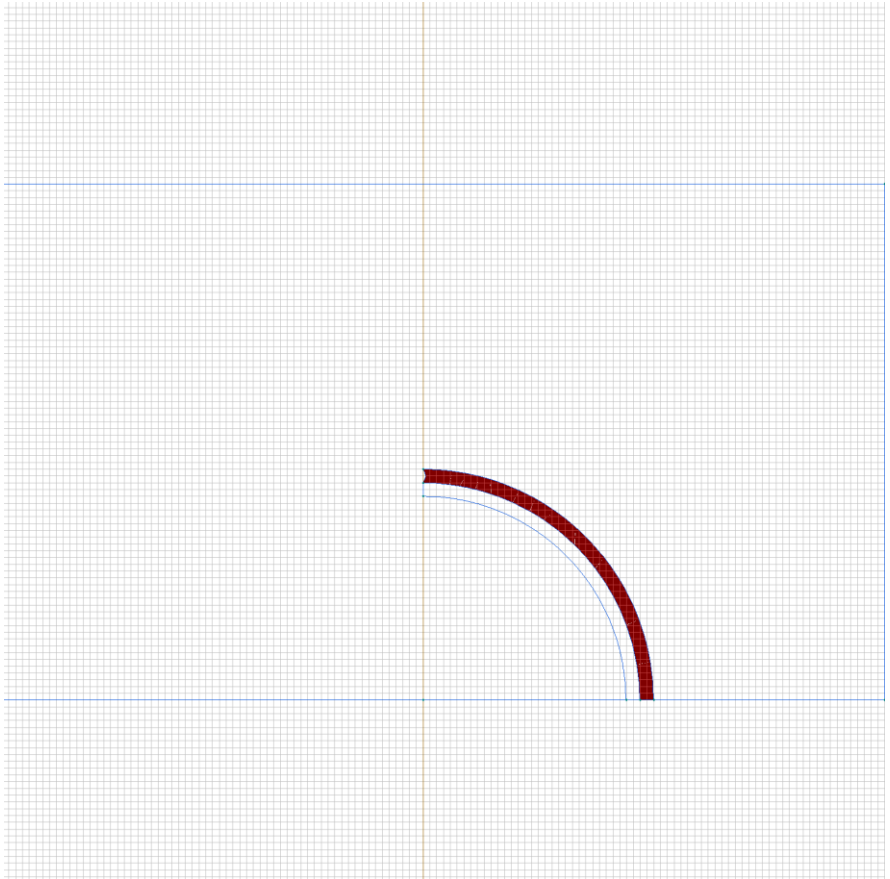
Labelled objects: block "mu_metal"

There are (1) objects with this label

Relative magnetic permeability: $\mu_x=10000$,
 $\mu_y=10000$

Current density: $j=0$ [A/m²]

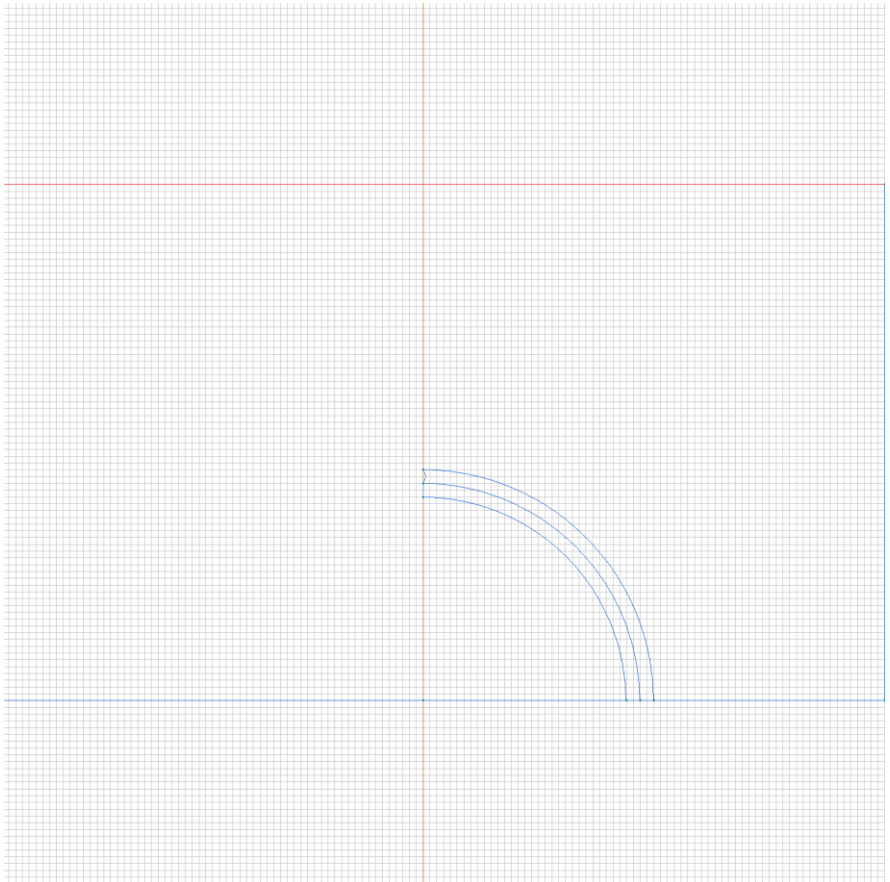
Conductor's connection: in parallel



Labelled objects: edge "side"

There are (1) objects with this label

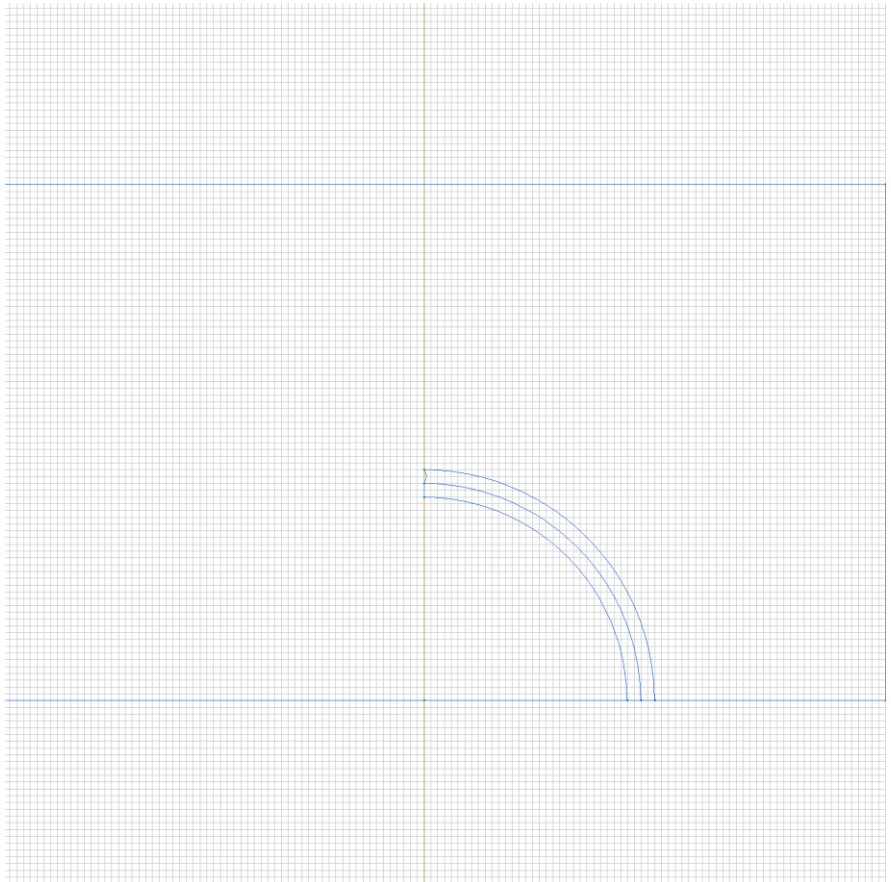
Magnetic potential: $A=0.02$ [Wb/m]



Labelled objects: edge "bottom"

There are (1) objects with this label

Tangential field: $H_{t=0}$ [A/m]



Labelled objects: edge "top"

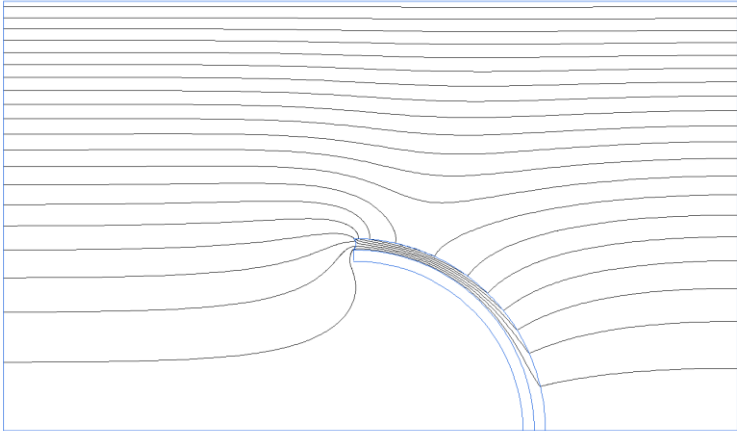
There are (1) objects with this label

Tangential field: $H_{t=0}$ [A/m]



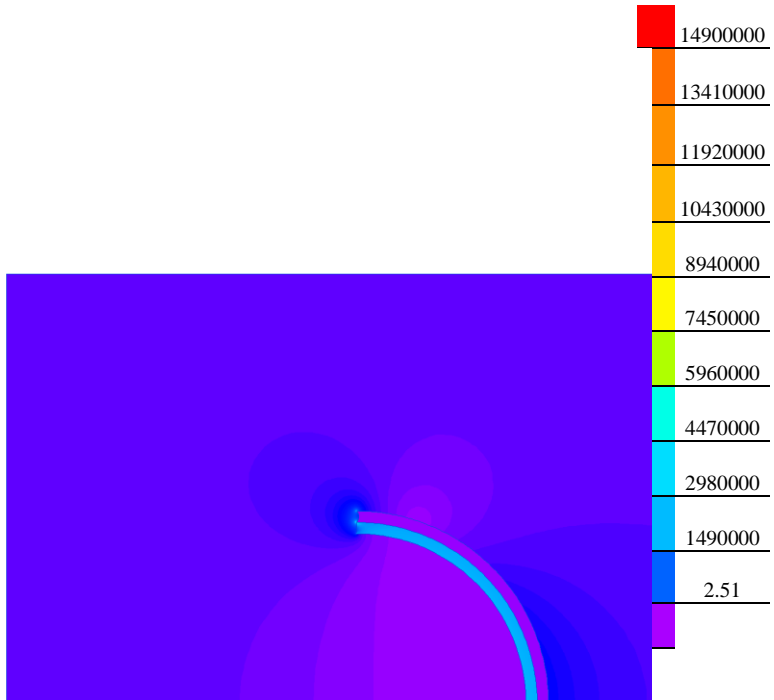
Results

Field lines



Results

Color map of Strength $|H|$ [A/m]



Nonlinear dependencies

No non-linear dependencies are used in this problem data