

Problem info

Problem type: Magnetostatics

Geometry model class: Axisymmetric

Problem database file names:

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

Results taken from other problems:

- *none*

Geometry model

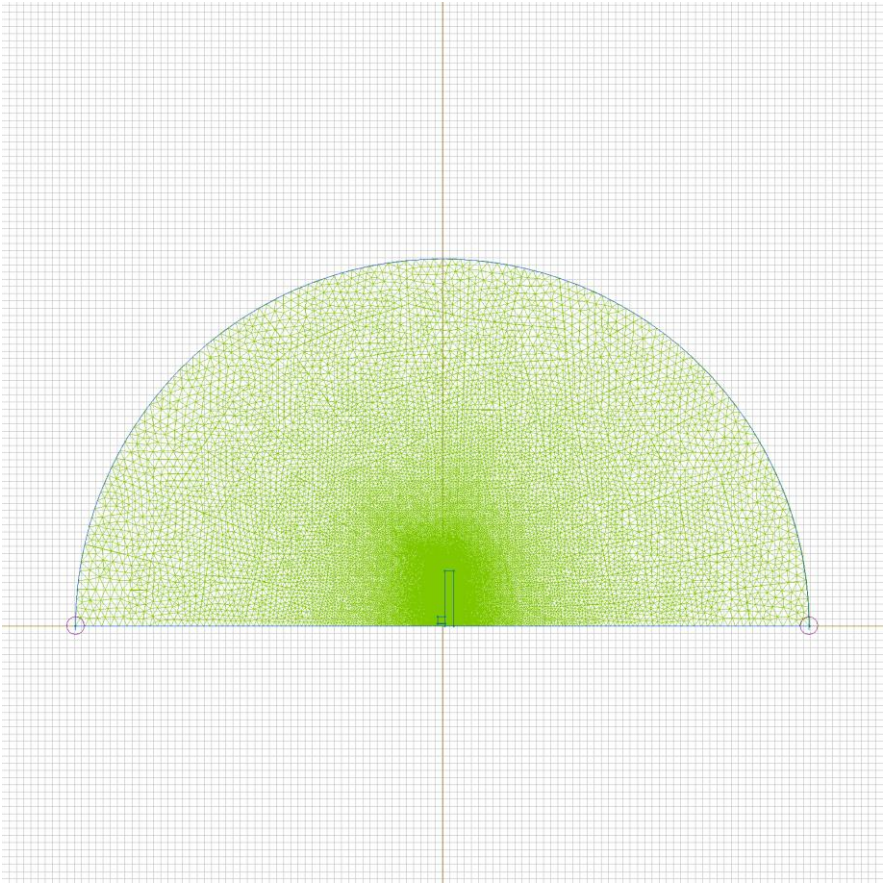


Table 1. Geometry model statistics

	With Label	Total
Blocks	3	4
Edges	1	18
Vertices	0	17

Number of nodes: 214198.

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:

- [steel](#)
- [air](#)
- [N35](#)
-

Edges:

- [A=0](#)
-

Vertices:

Detailed information about each label is listed below.

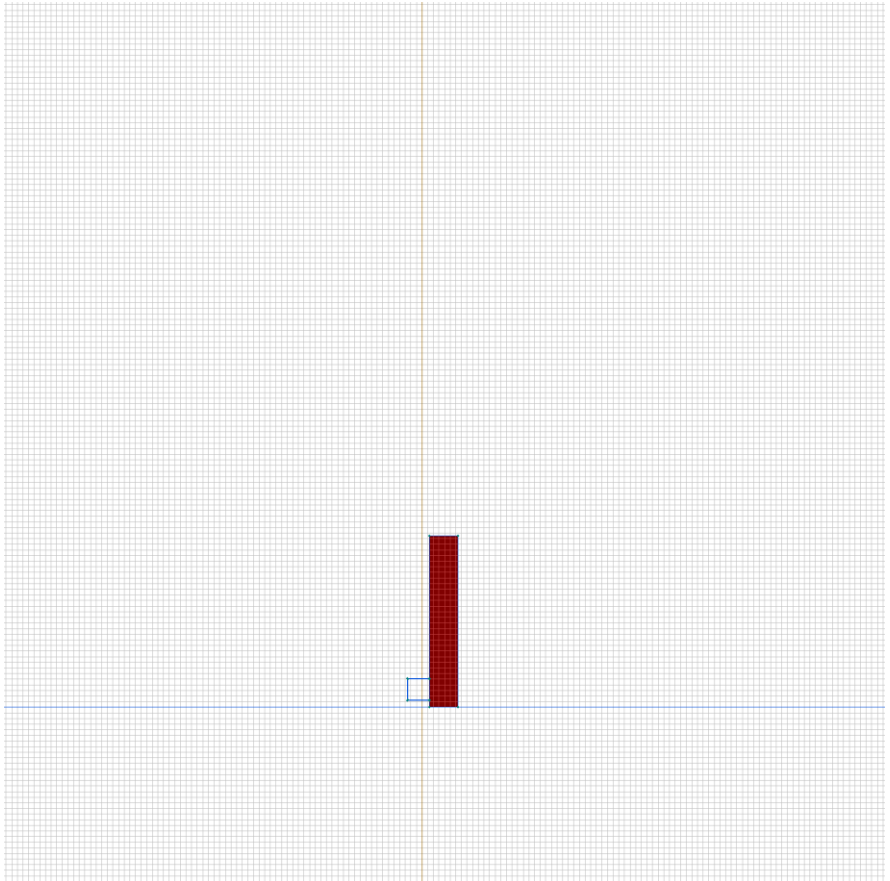
Labelled objects: block "steel"

There are (1) objects with this label

Relative magnetic permeability: $\mu_x=1000$, $\mu_y=1000$

Current density: $j=0$ [A/m²]

Conductor's connection: in parallel



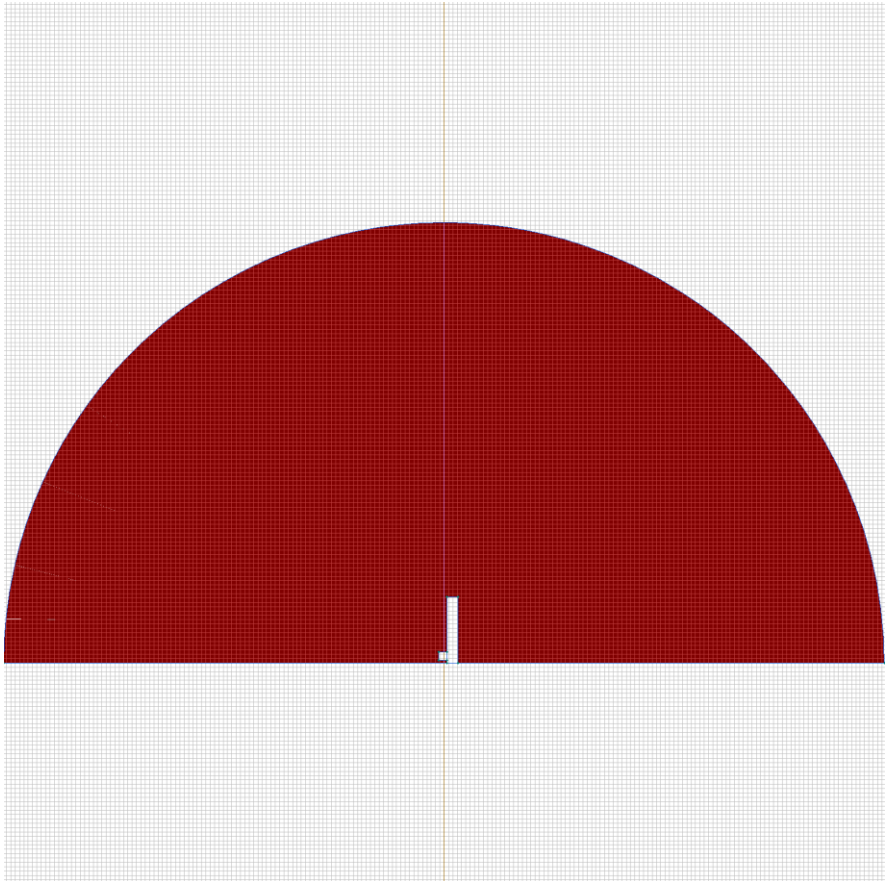
Labelled objects: block "air"

There are (2) 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 "N35"

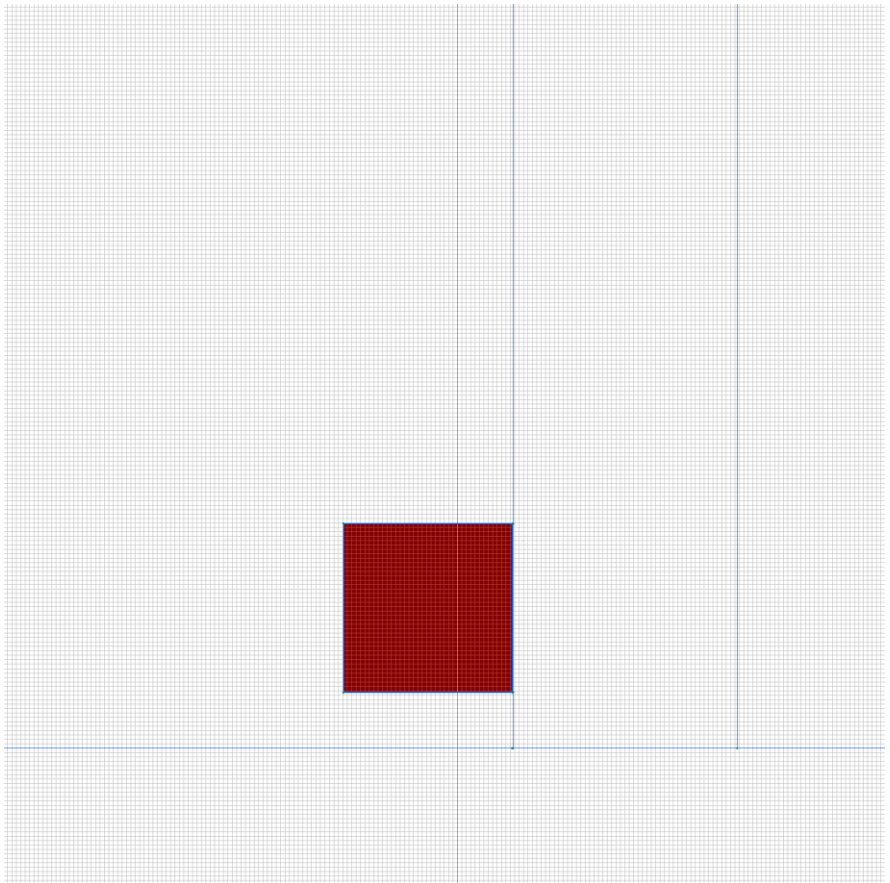
There are (1) objects with this label

Relative magnetic permeability: $\mu_x=1.05$, $\mu_y=1.05$

Coercive force: $H_c=954900$ [A], direction: 0 [deg]

Current density: $j=0$ [A/m²]

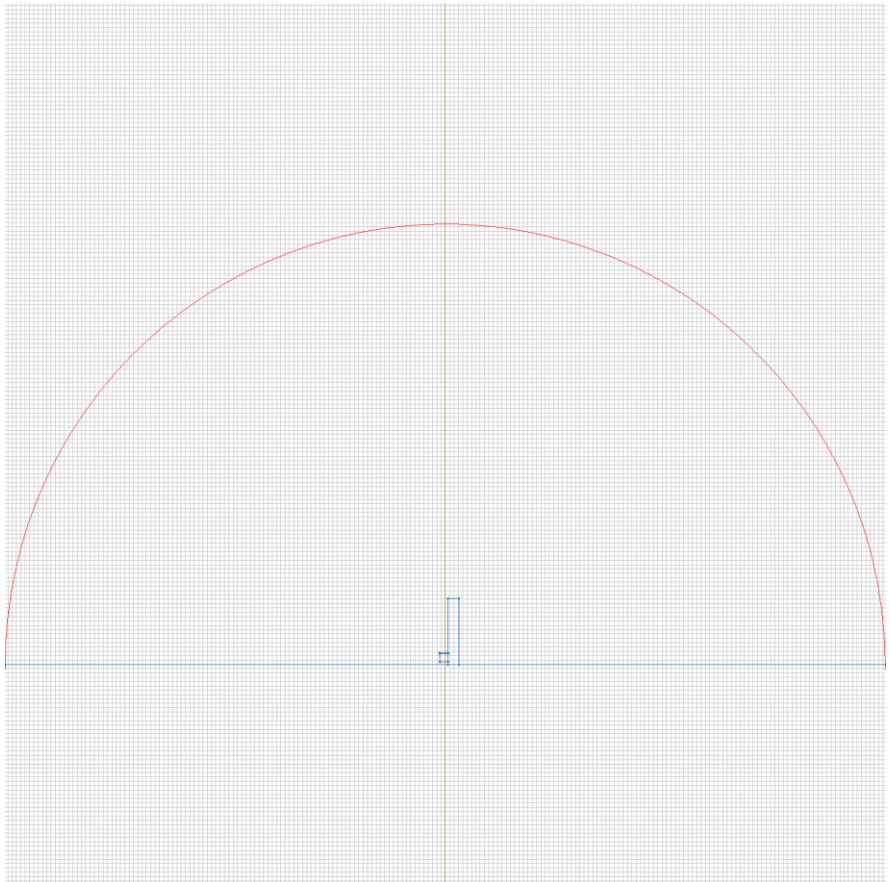
Conductor's connection: in parallel



Labelled objects: edge "A=0"

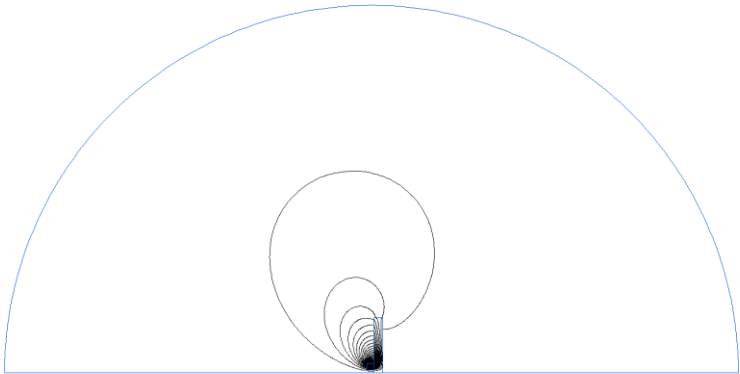
There are (1) objects with this label

Magnetic potential: $A=0$ [Wb/m]



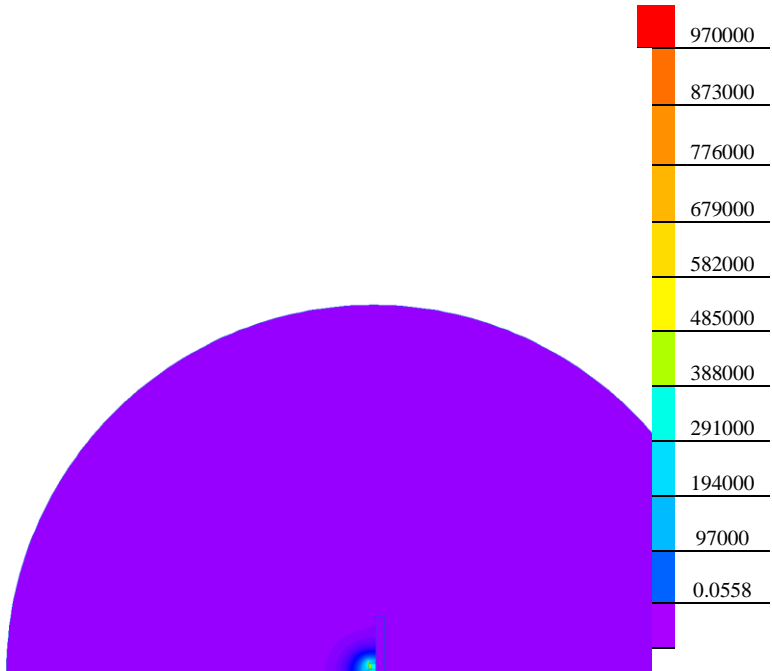
Results

Field lines



Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data