

Problem info

Problem type: Magnetostatics

Geometry model class: Axisymmetric

Problem database file names:

- Problem: *ironclad_dcmag_v2.pbm*
- Geometry: *Ironclad_dcmag_v2.mod*
- Material Data: *Ironclad_dcmag_v2.dms*
- Material Data 2 (library): *none*
- Electric circuit: *none*

Results taken from other problems:

- *none*

Geometry model

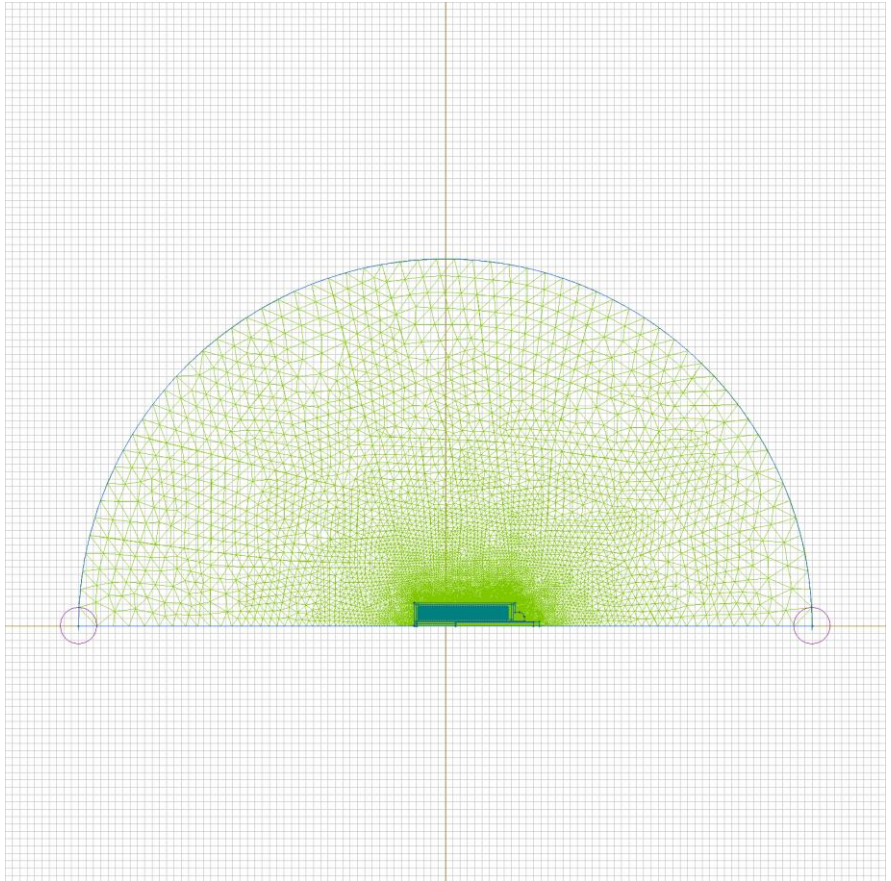


Table 1. Geometry model statistics

	With Label	Total
Blocks	7	747
Edges	4	2061
Vertices	0	1807

Number of nodes: 124965.

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](#)
- [resin](#)
- [body](#)
- [plunger](#)
- [support](#)
- [insulation](#)
- [bobbin+](#)
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Edges:

- [integration path](#)
- [leakage](#)
- [world](#)
- [stroke](#)
-

Vertices:

Detailed information about each label is listed below.

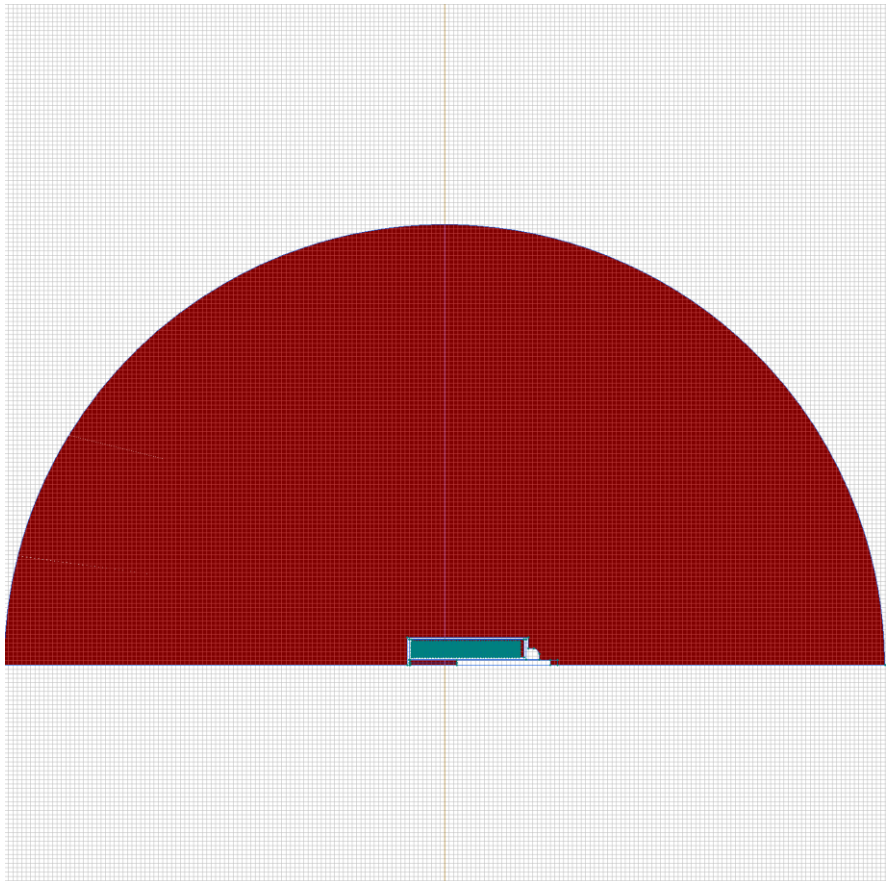
Labelled objects: block "air"

There are (251) objects with this label

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

Current density: $j=0$ [A/m²]

Conductor's connection: in parallel



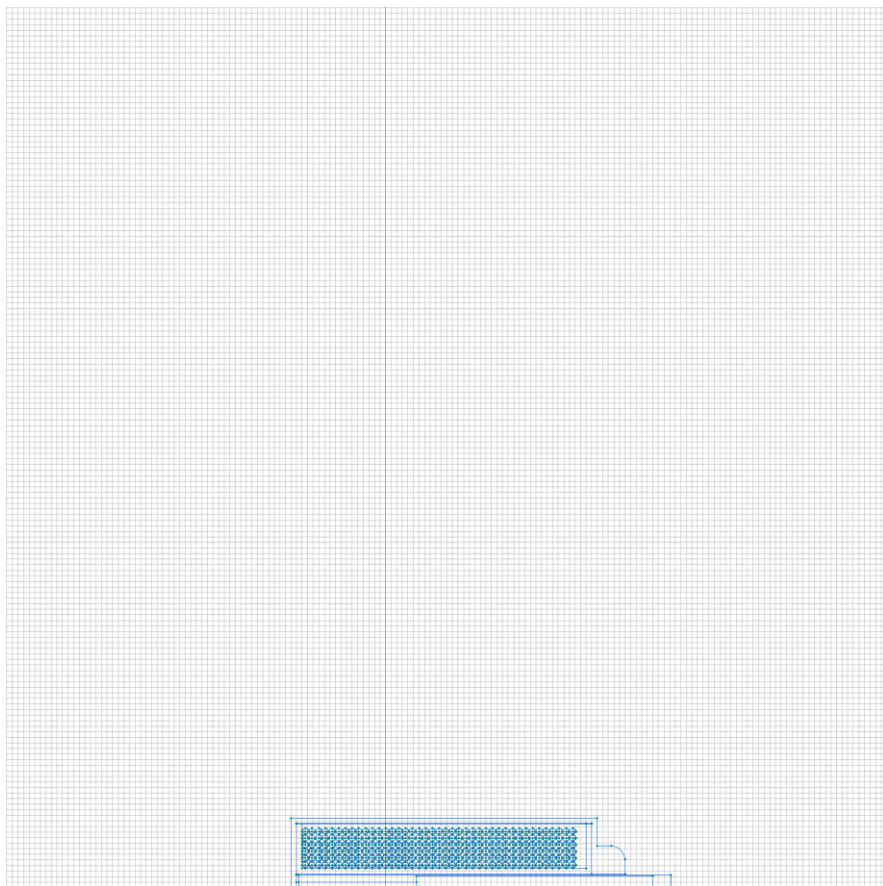
Labelled objects: block "resin"

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



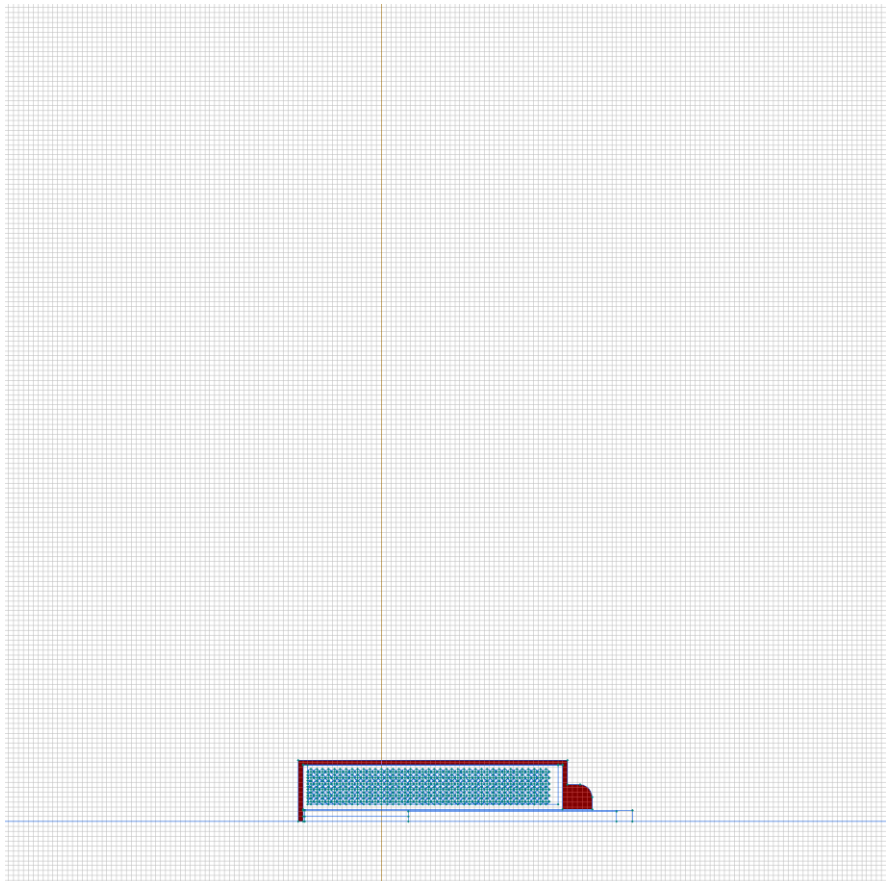
Labelled objects: block "body"

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



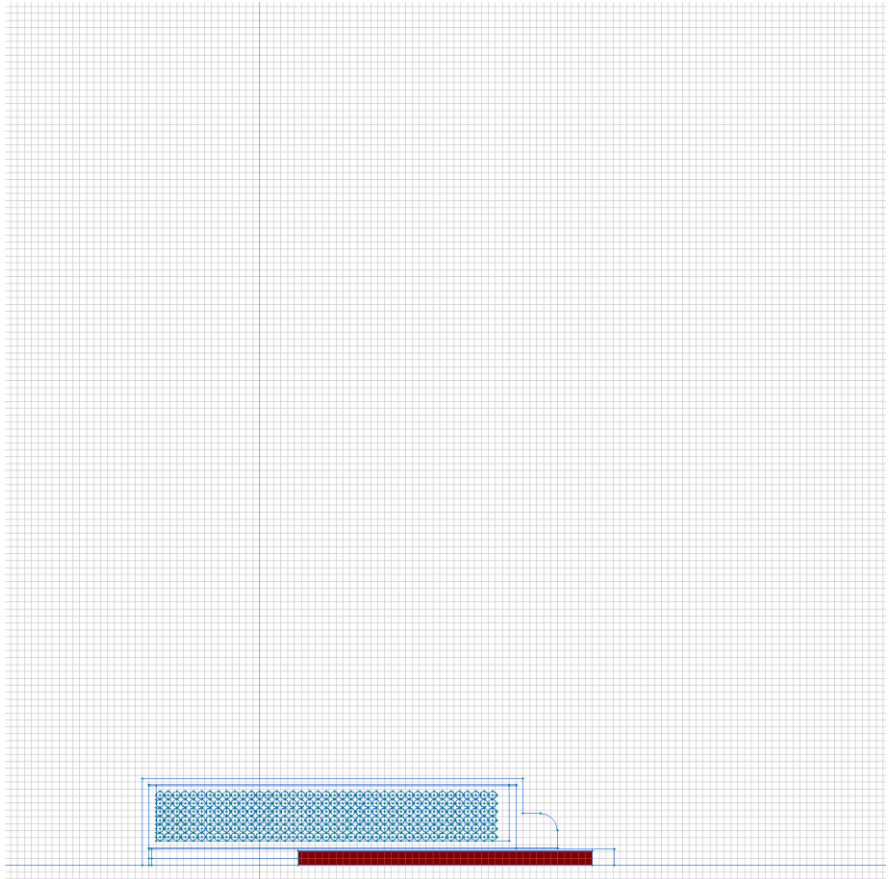
Labelled objects: block "plunger"

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



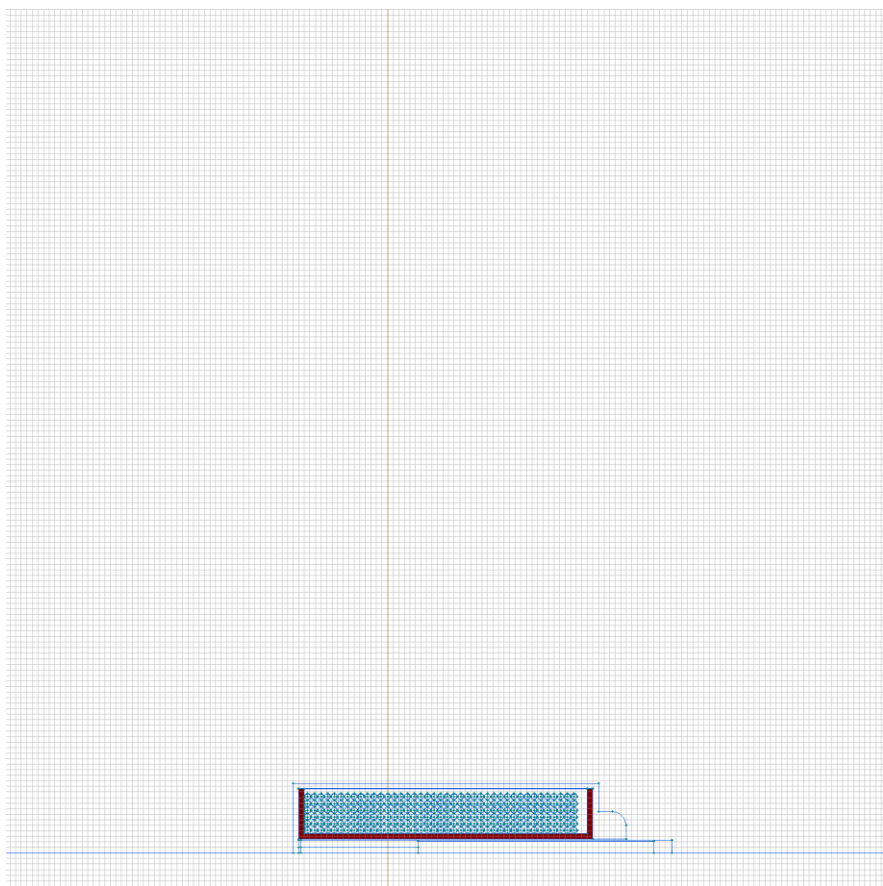
Labelled objects: block "support"

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



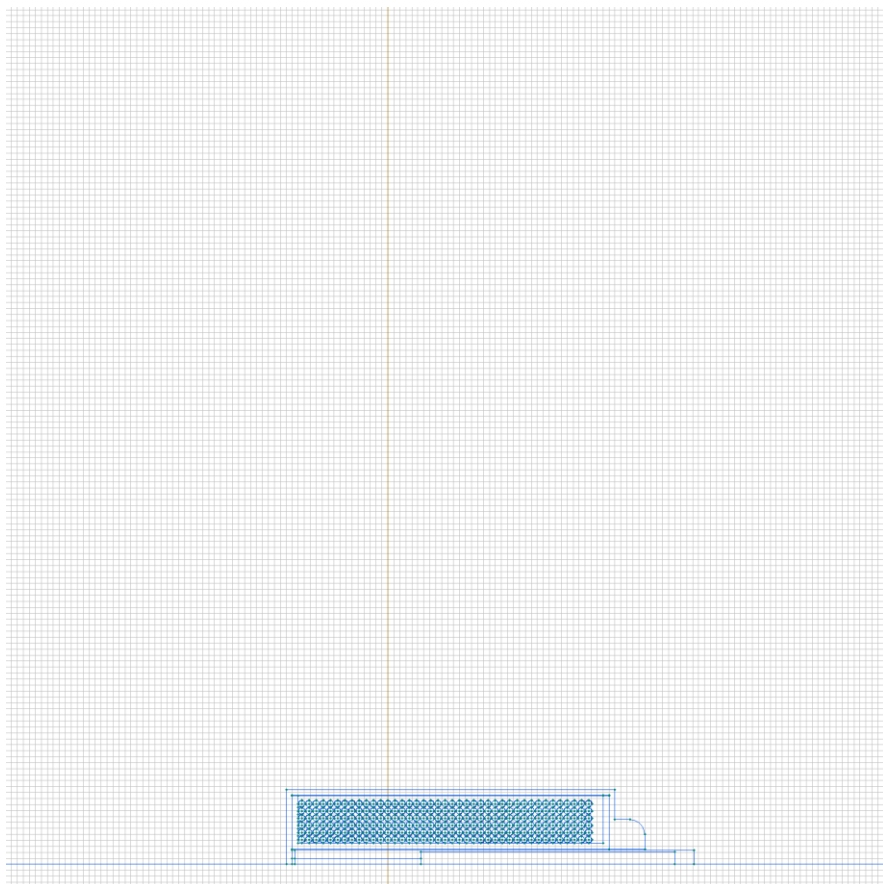
Labelled objects: block "insulation"

There are (246) objects with this label

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

Current density: $j=0$ [A/m²]

Conductor's connection: in parallel



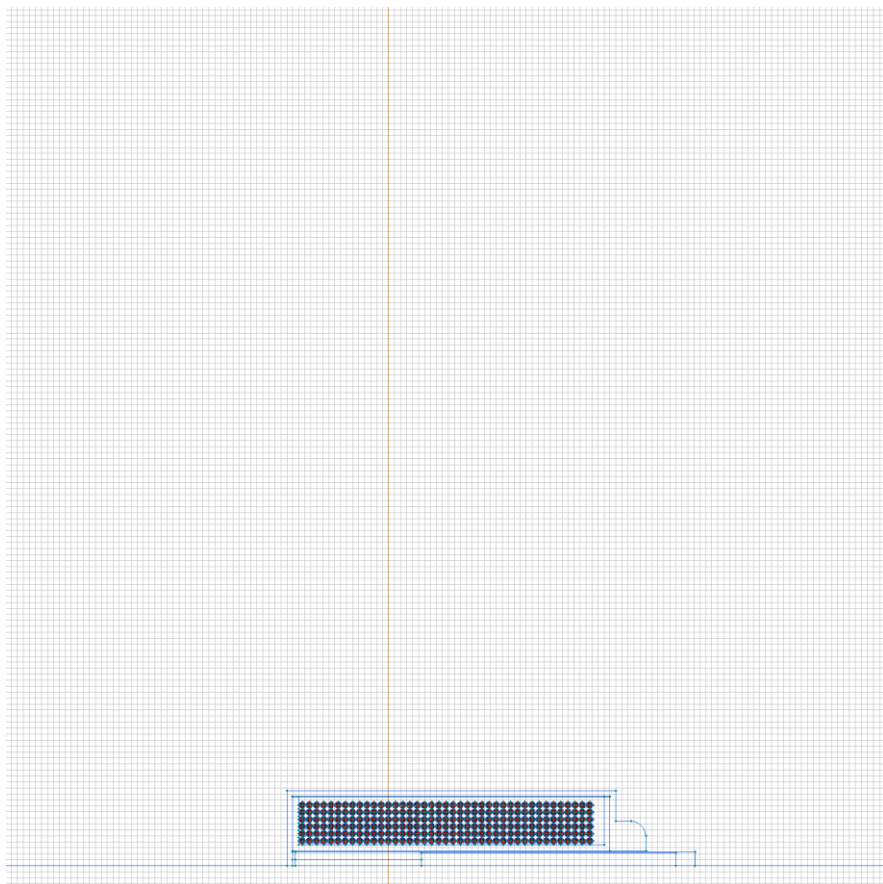
Labelled objects: block "bobbin+"

There are (246) objects with this label

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

Current density: $j=6000000$ [A/m²]

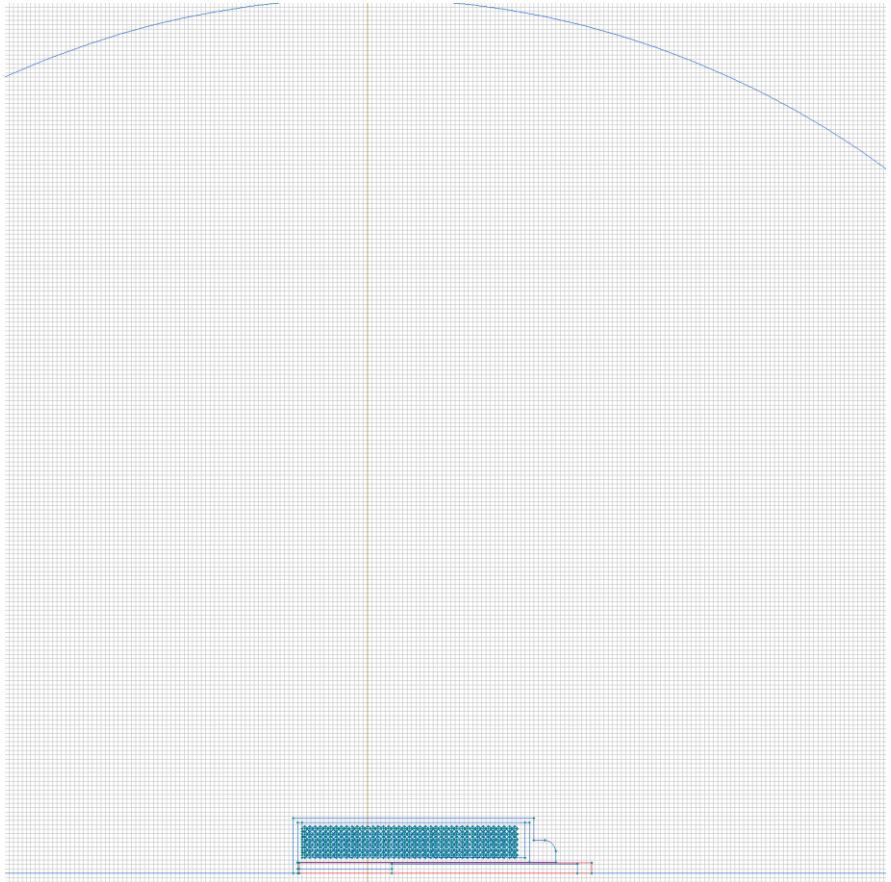
Conductor's connection: in parallel



Labelled objects: edge "integration path"

There are (8) objects with this label

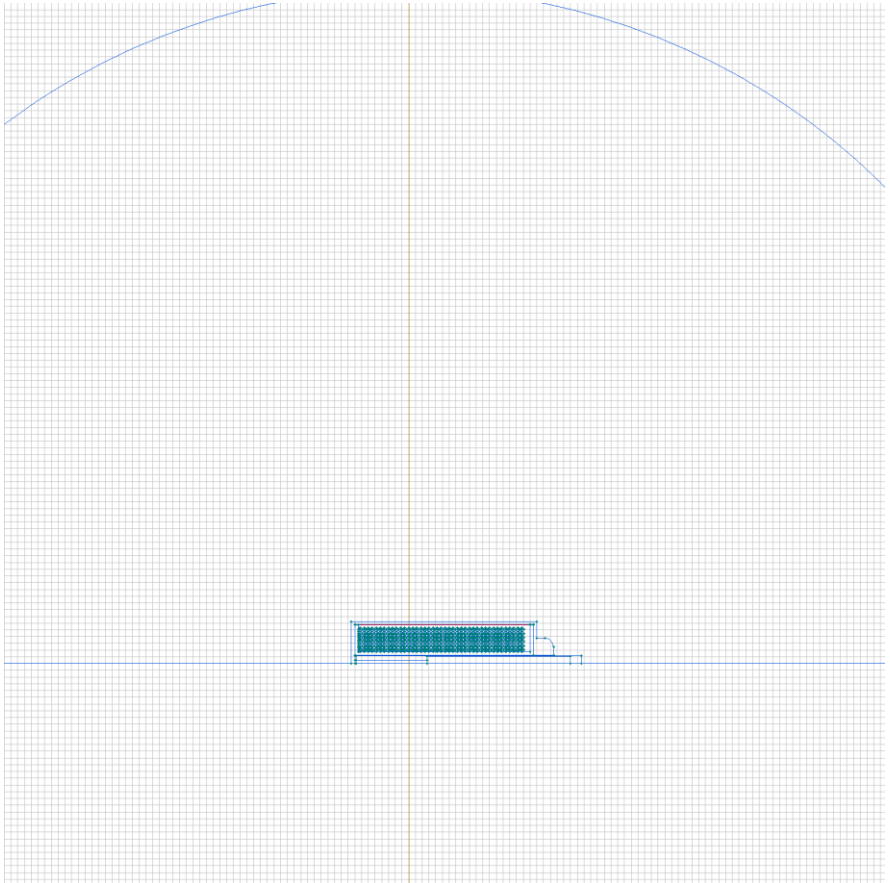
No material data (boundary conditions) are specified



Labelled objects: edge "leakage"

There are (1) objects with this label

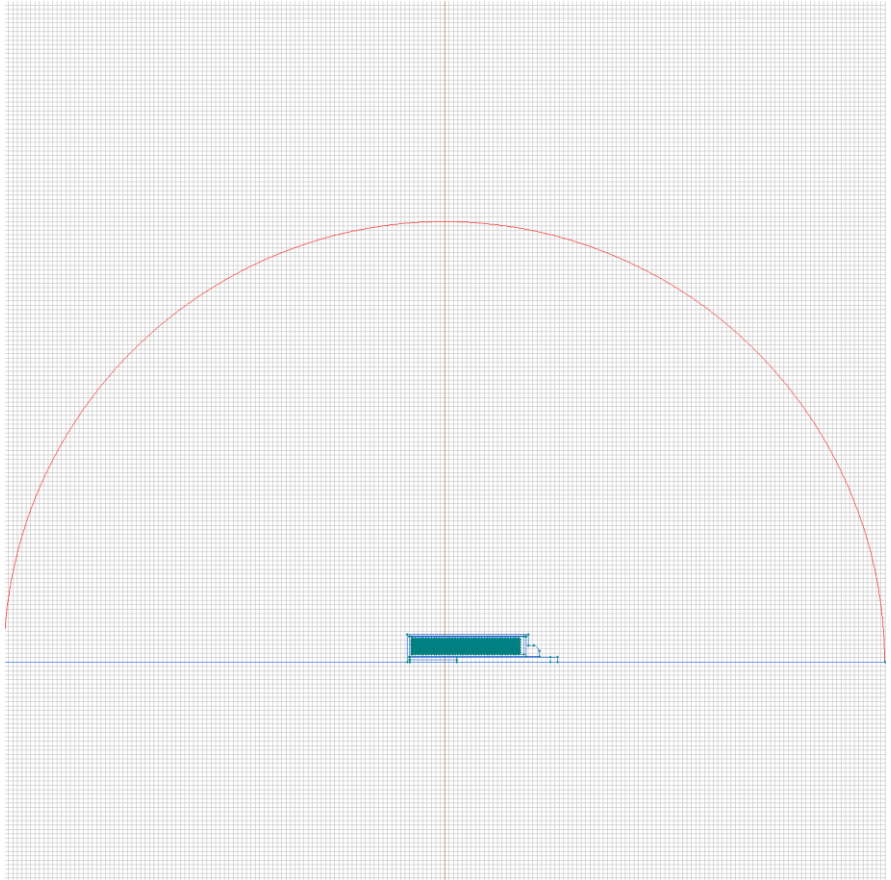
No material data (boundary conditions) are specified



Labelled objects: edge "world"

There are (1) objects with this label

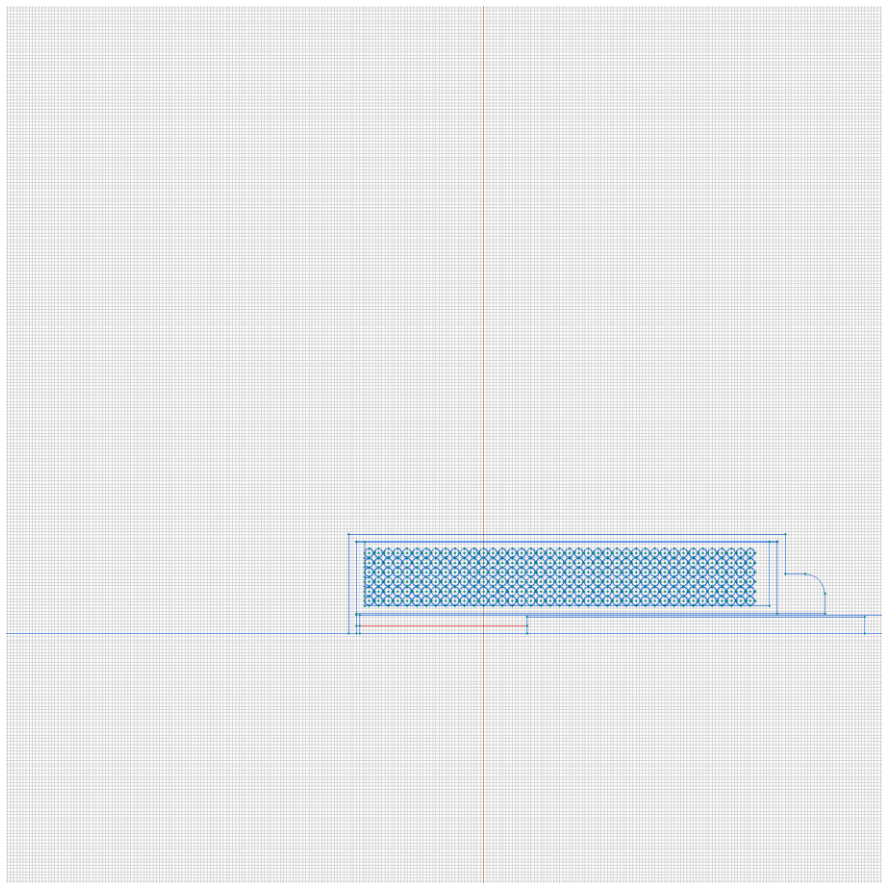
Magnetic potential: $A=0$ [Wb/m]



Labelled objects: edge "stroke"

There are (2) objects with this label

No material data (boundary conditions) are specified



[Problem info](#)

[Geometry model](#)

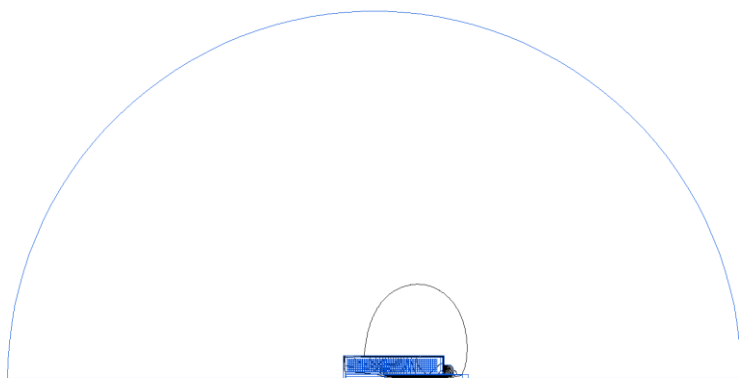
[Labelled Objects](#)

[Results](#)

[Nonlinear dependencies](#)

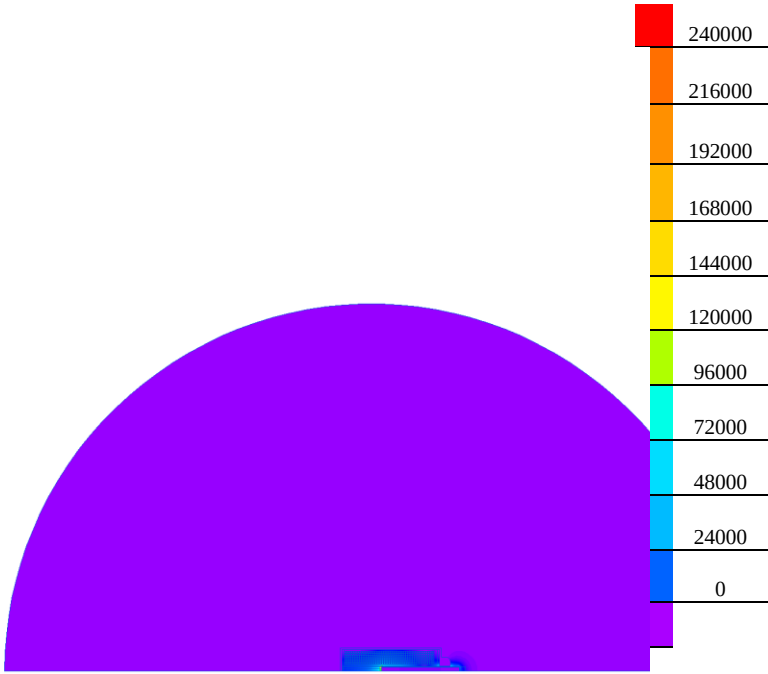
Results

Field lines



Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data