Problem info

Problem type: AC Magnetics , frequency: 50 Hz,
Geometry model class: Plane-Parallel
Problem database file names:

- Problem: *concrete_rebar_window.pbm*
- Geometry: *Concrete_rebar_window.mod*
- Material Data: *Concrete_rebar_window.dhe*
- Material Data 2 (library): *none*
- Electric circuit: *none*

Results taken from other problems:

- *none*

Geometry model

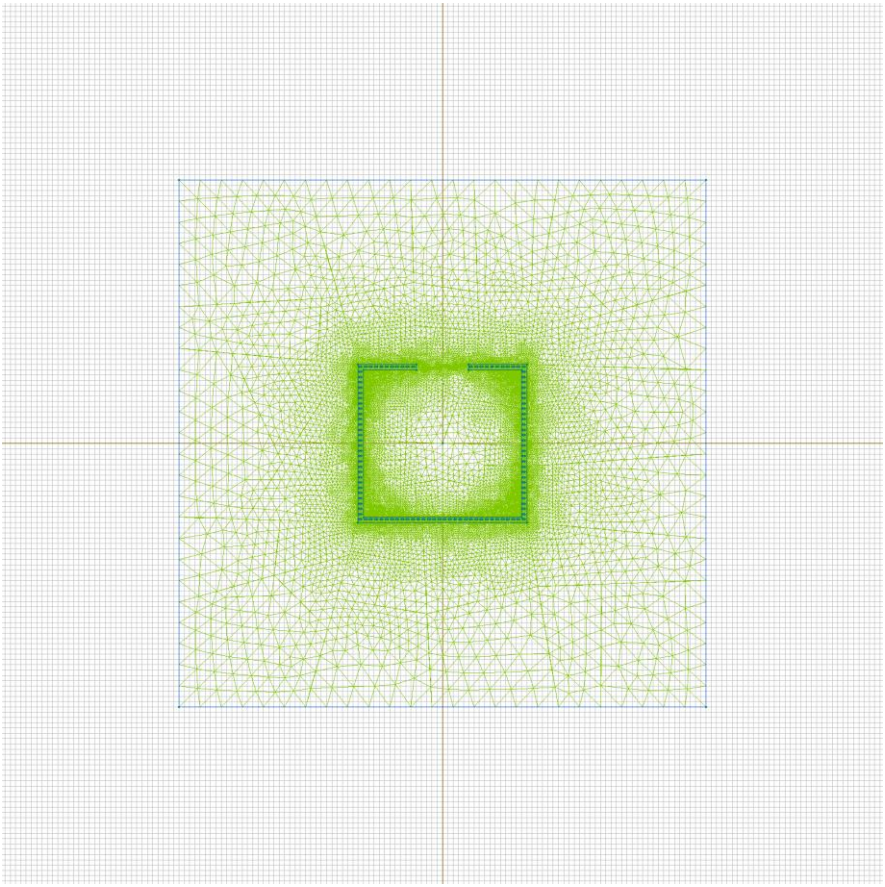


Table 1. Geometry model statistics

	With Label	Total
Blocks	3	112
Edges	4	236
Vertices	1	237

Number of nodes: 22416.

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)

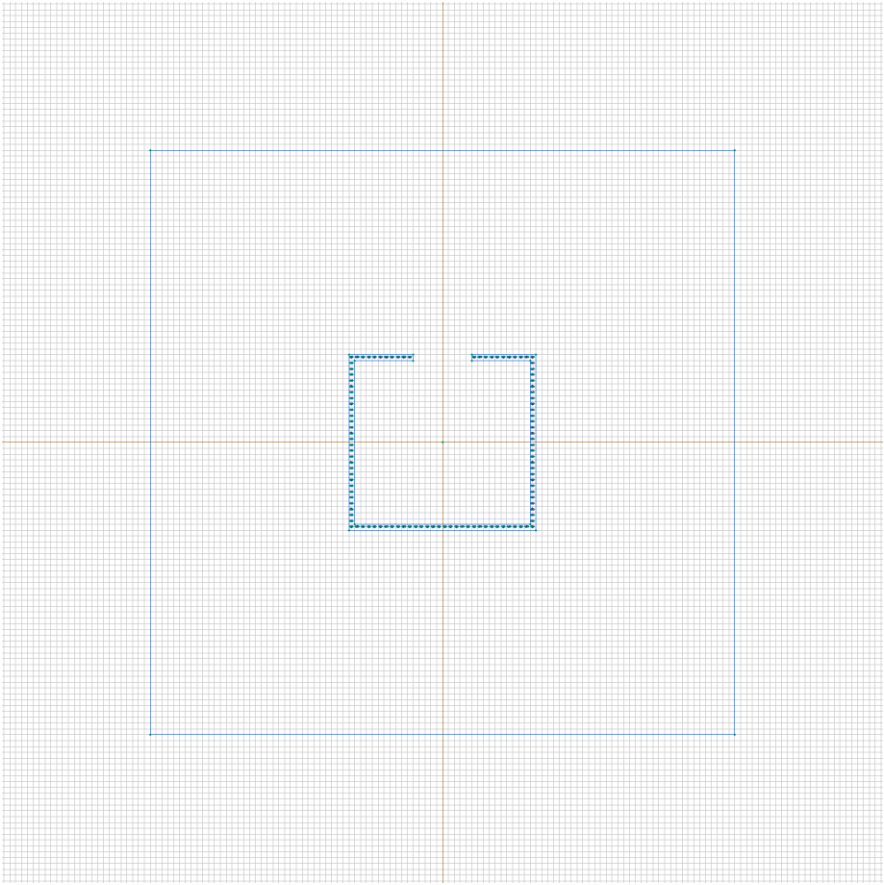
Blocks:	Edges:	Vertices:
• rebar • concrete • air •	• top • bottom • right • left •	• test_pt •

Detailed information about each label is listed below.

Labelled objects: block "rebar"

There are (110) objects with this label

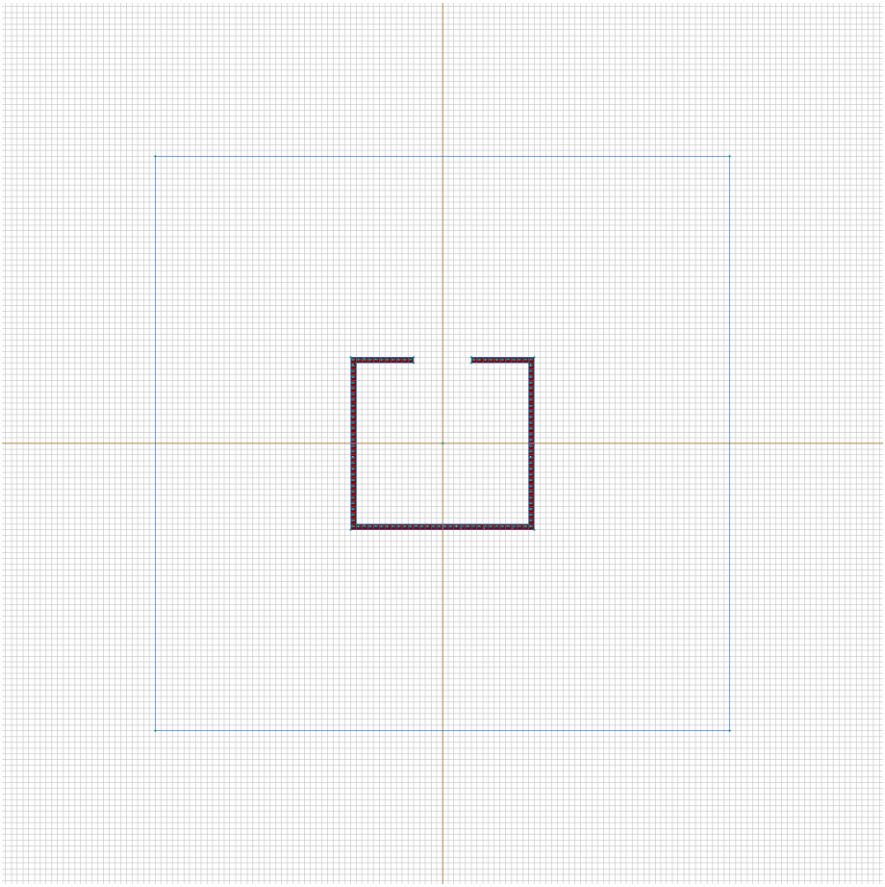
Relative magnetic permeability: mu_x=100, mu_y=100
Electric conductivity: sigma=1700000 [S/m]
Current density: j=0 [A/m2], phase 0 [deg]
Conductor's connection: in parallel



Labelled objects: block "concrete"

There are (1) objects with this label

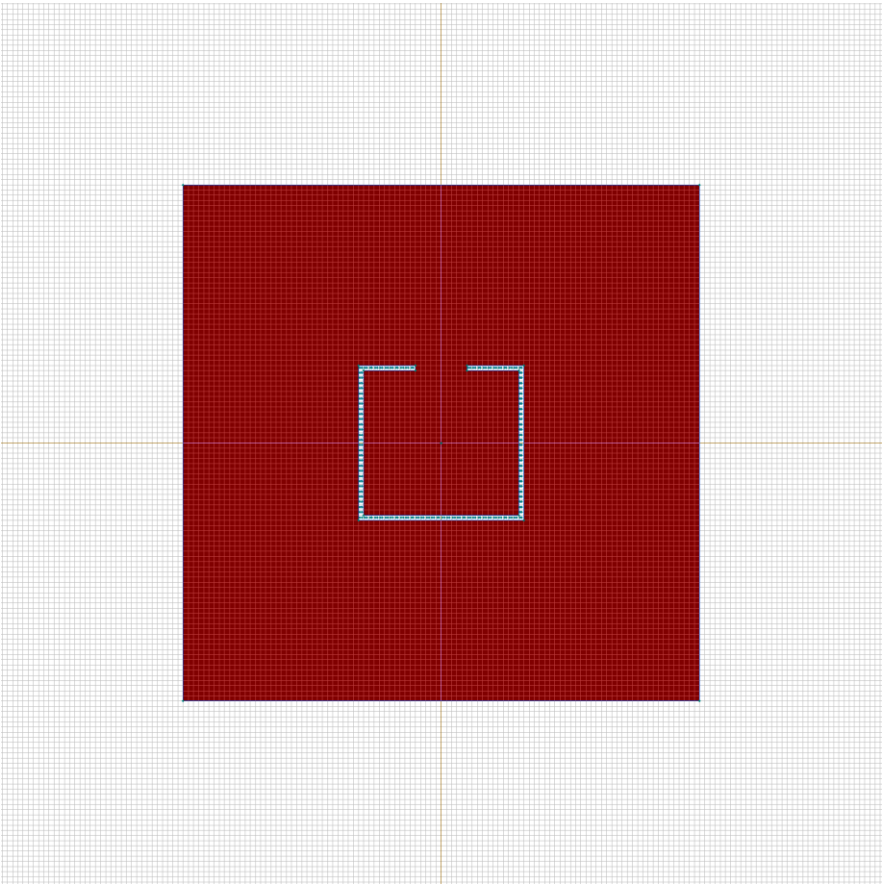
Relative magnetic permeability: mu_x=1, mu_y=1
Electric conductivity: sigma=0.01 [S/m]
Current density: j=0 [A/m2], phase 0 [deg]
Conductor's connection: in parallel



Labelled objects: block "air"

There are (1) objects with this label

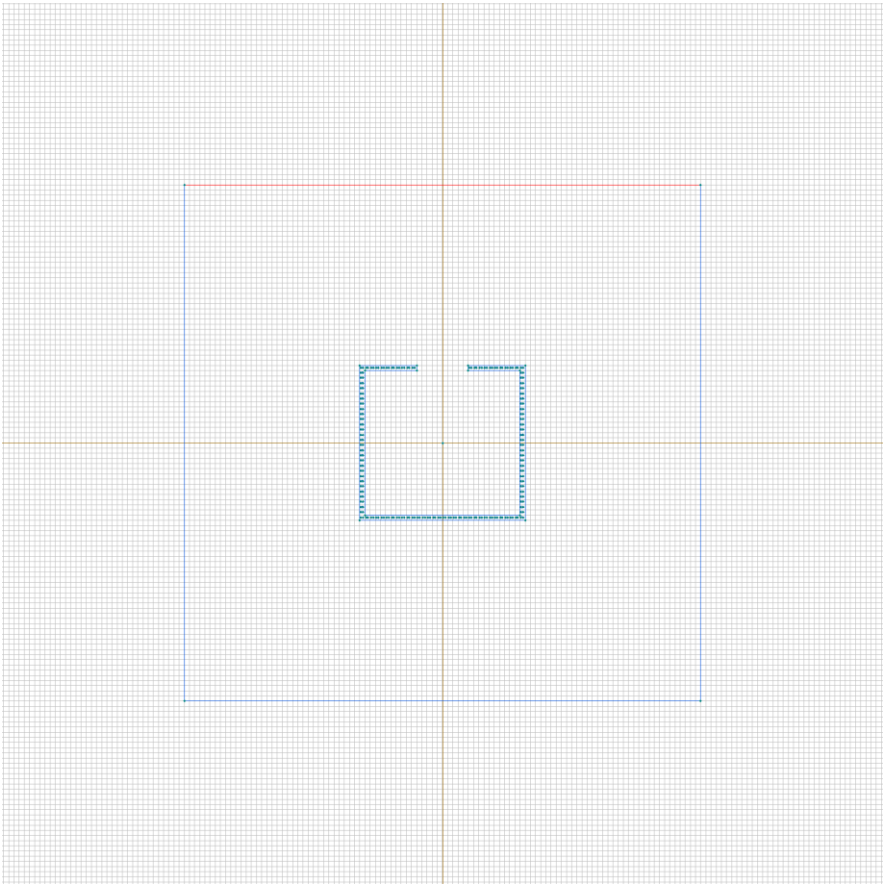
Relative magnetic permeability: mu_x=1, mu_y=1
Electric conductivity: sigma=0 [S/m]
Current density: j=0 [A/m2], phase 0 [deg]
Conductor's connection: in parallel



Labelled objects: edge "top"

There are (1) objects with this label

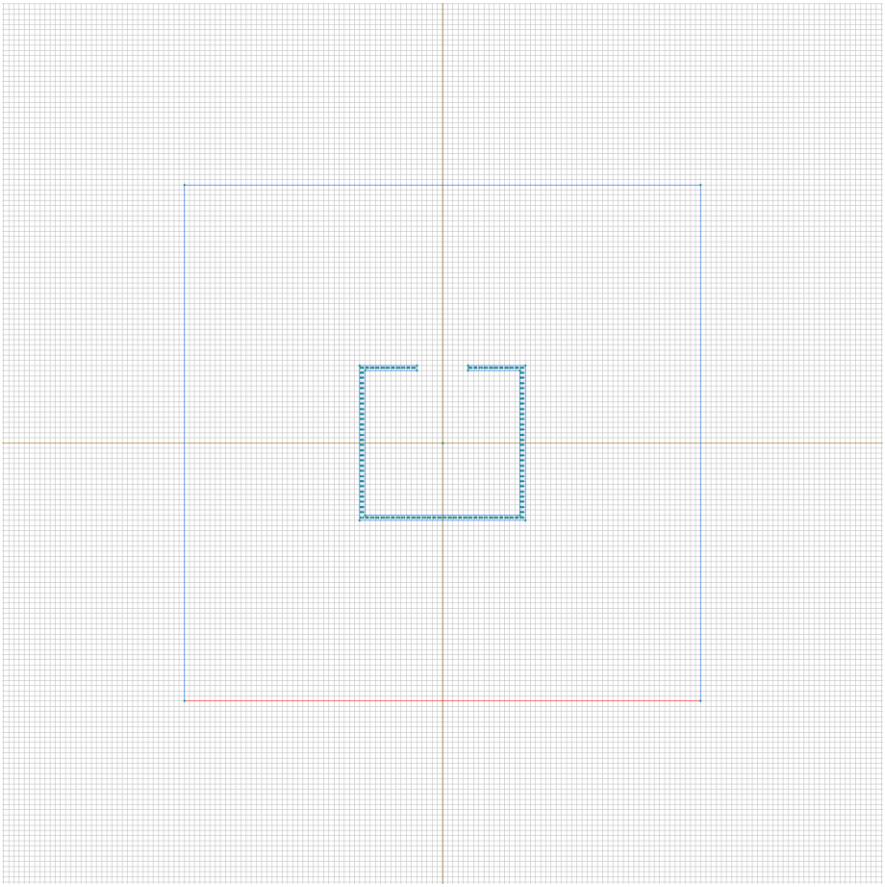
Tangential field: Ht=0 [A/m], phase 0 [deg]



Labelled objects: edge "bottom"

There are (1) objects with this label

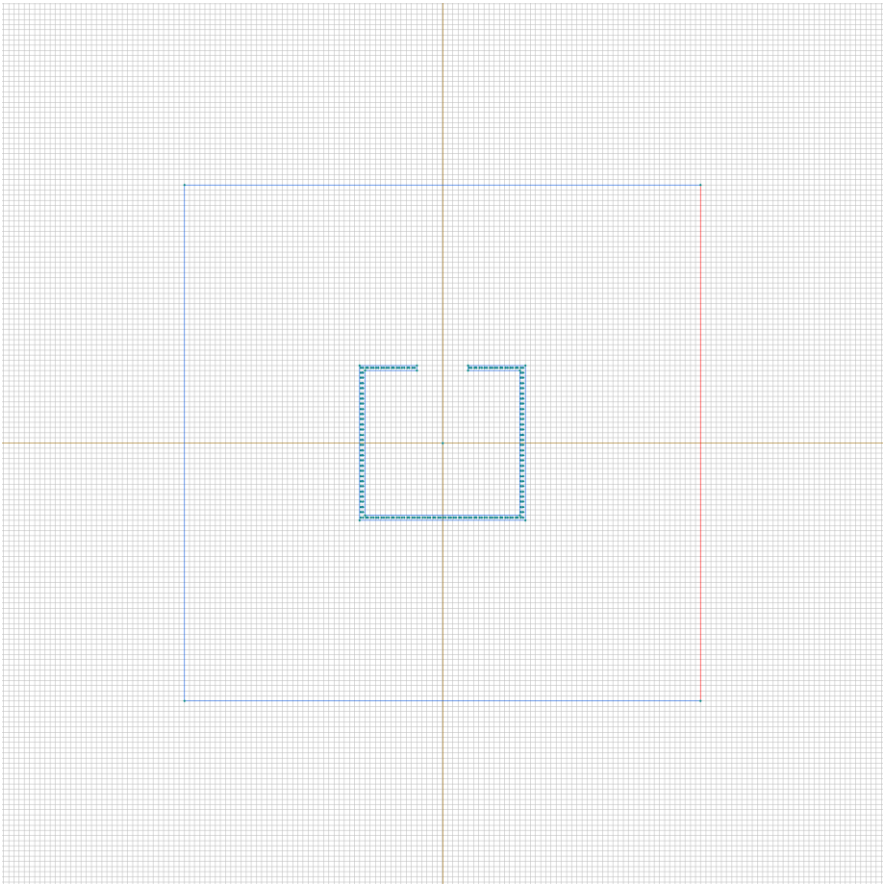
Tangential field: Ht=0 [A/m], phase 0 [deg]



Labelled objects: edge "right"

There are (1) objects with this label

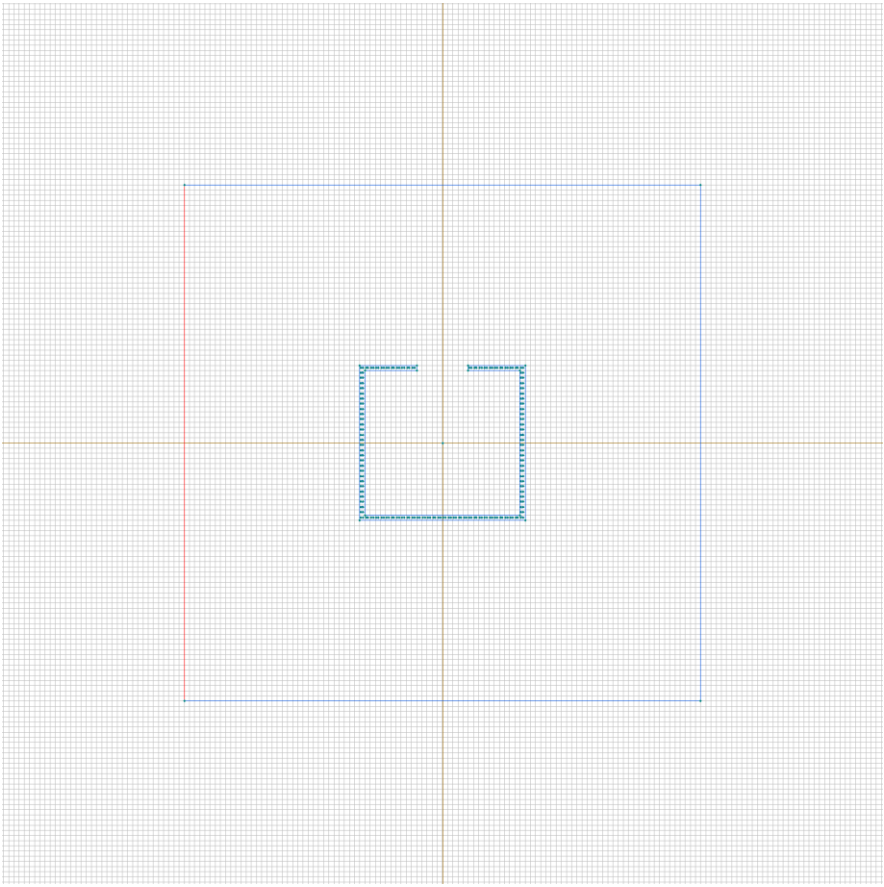
Magnetic potential: A=1 [Wb/m], phase 0 [deg]



Labelled objects: edge "left"

There are (1) objects with this label

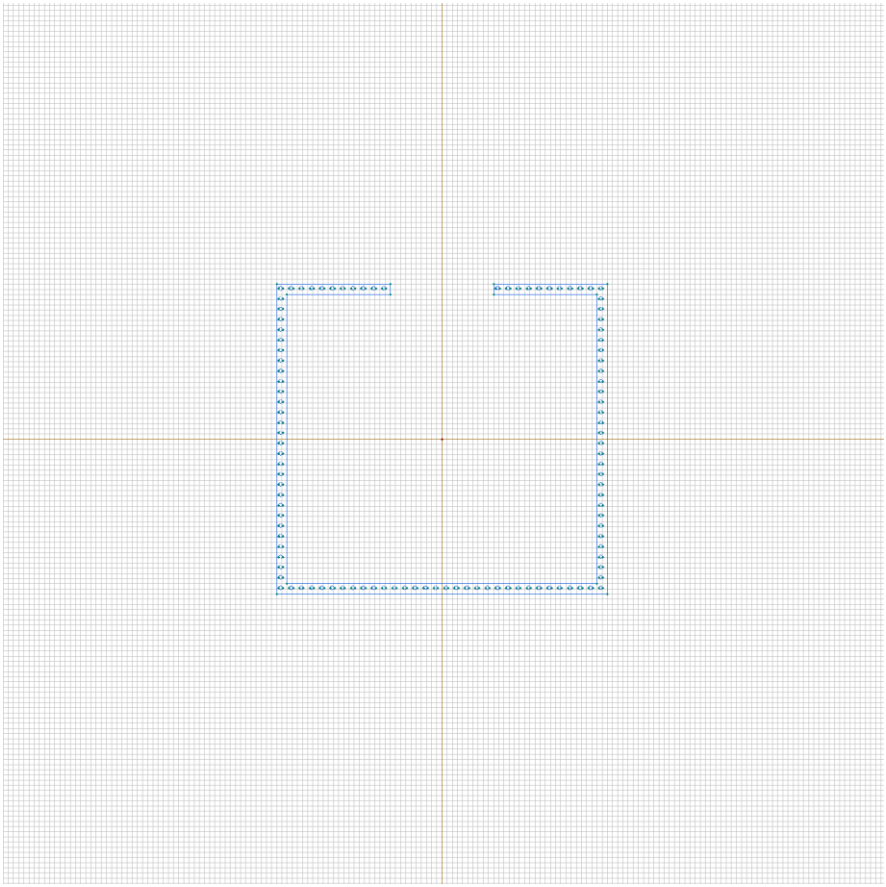
Magnetic potential: A=-1 [Wb/m], phase 0 [deg]



Labelled objects: vertex "test_pt"

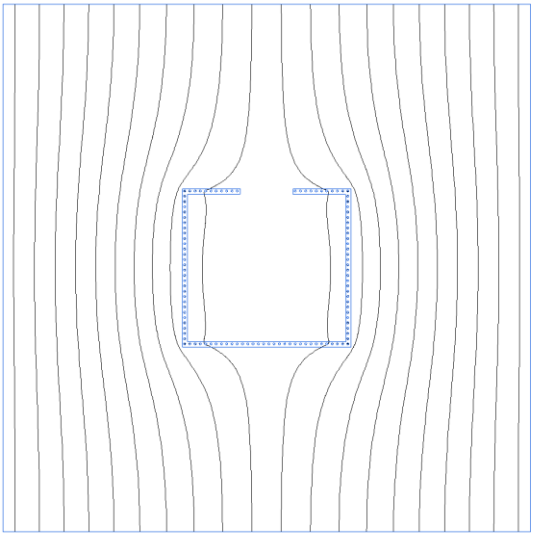
There are (1) objects with this label

No material data (boundary conditions) are specified



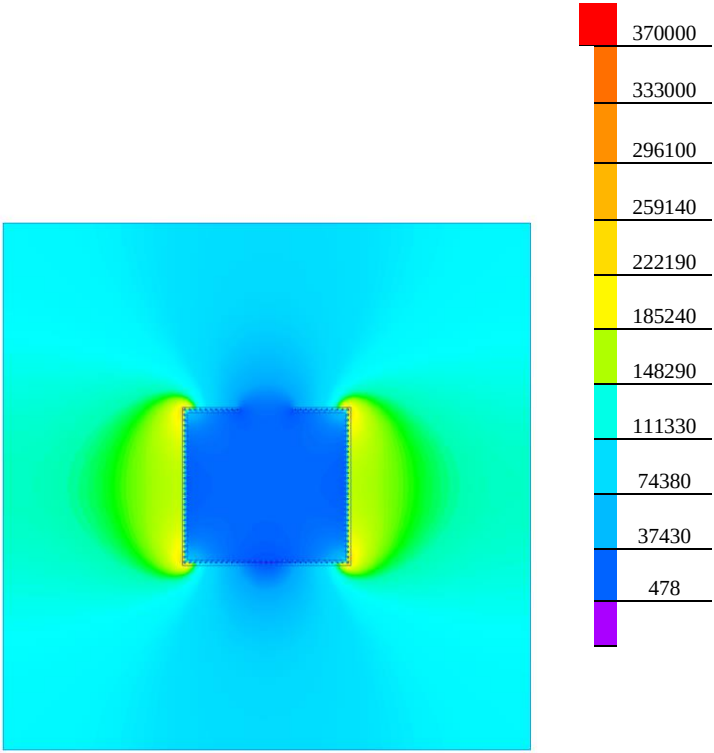
Results

Field lines



Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data