Problem info

Problem type: AC Magnetics , frequency: 50 Hz,
Geometry model class: Axisymmetric
Problem database file names:

- Problem: *cup_core.pbm*
- Geometry: *Cup_core.mod*
- Material Data: *Cup_core.dhe*
- Material Data 2 (library): *none*
- Electric circuit: *cup_core.qcr*

Results taken from other problems:

- *none*

Geometry model

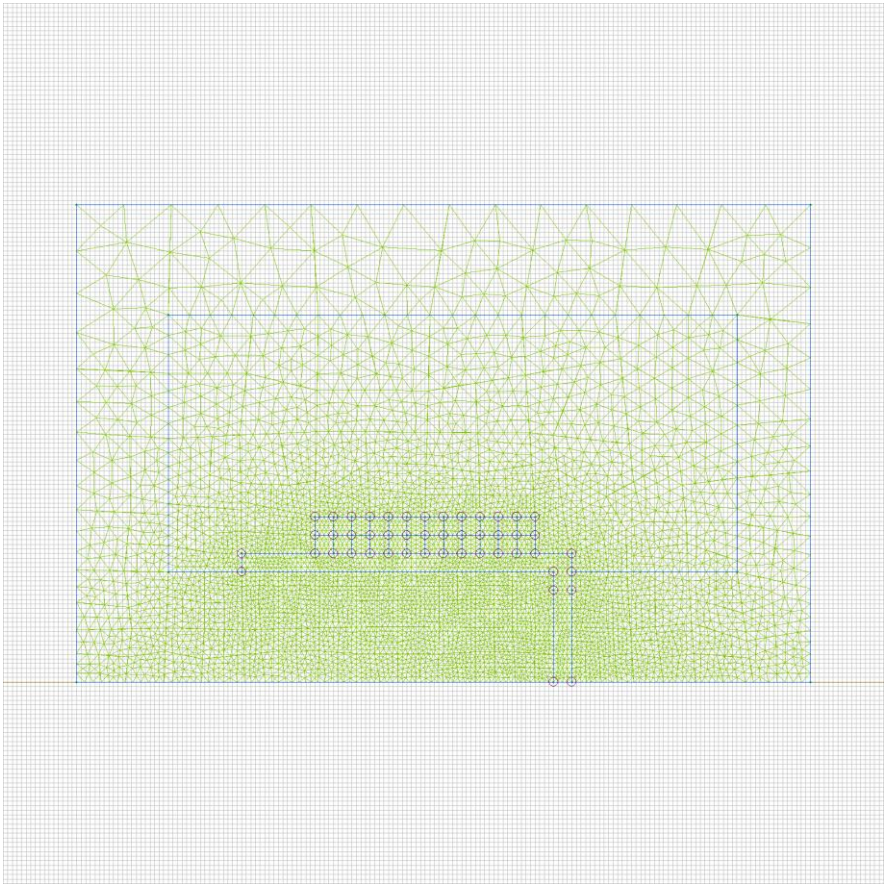


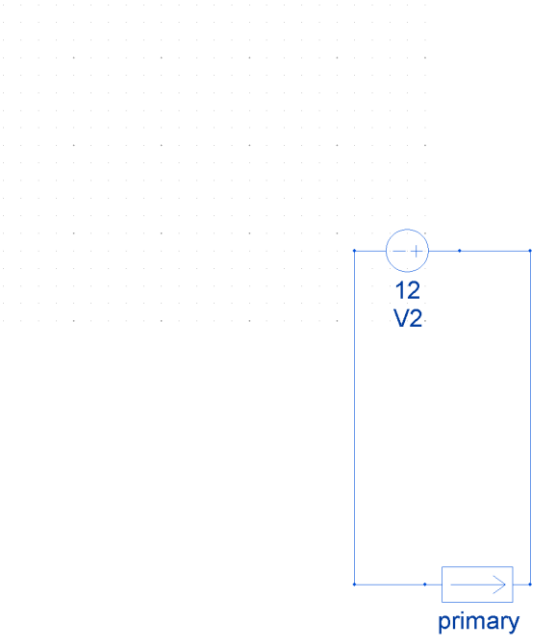
Table 1. Geometry model statistics

	With Label	Total
Blocks	3	27
Edges	1	82
Vertices	0	56

Number of nodes: 5451.

Electric circuit

Coupled electric circuit



Circuit elements:

QuickField block 'primary'
Voltage source V2=12 [V] 0 [deg]

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)

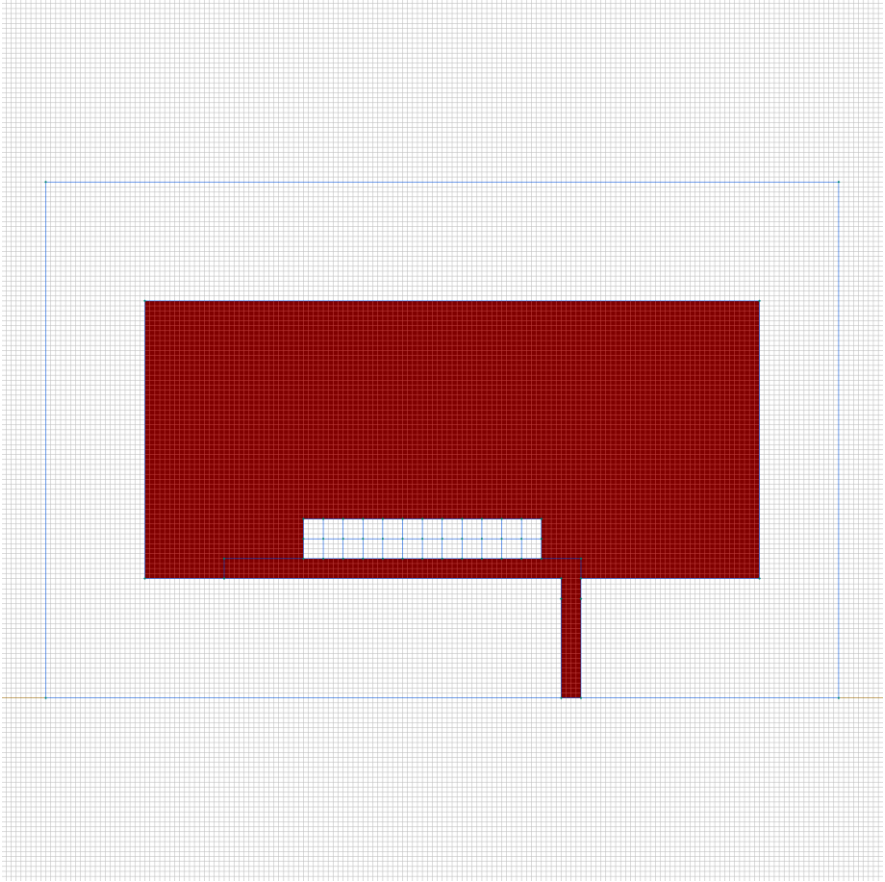
Blocks:	Edges:	Vertices:
• air • iron • primary •	• sides •	

Detailed information about each label is listed below.

Labelled objects: block "air"

There are (2) objects with this label

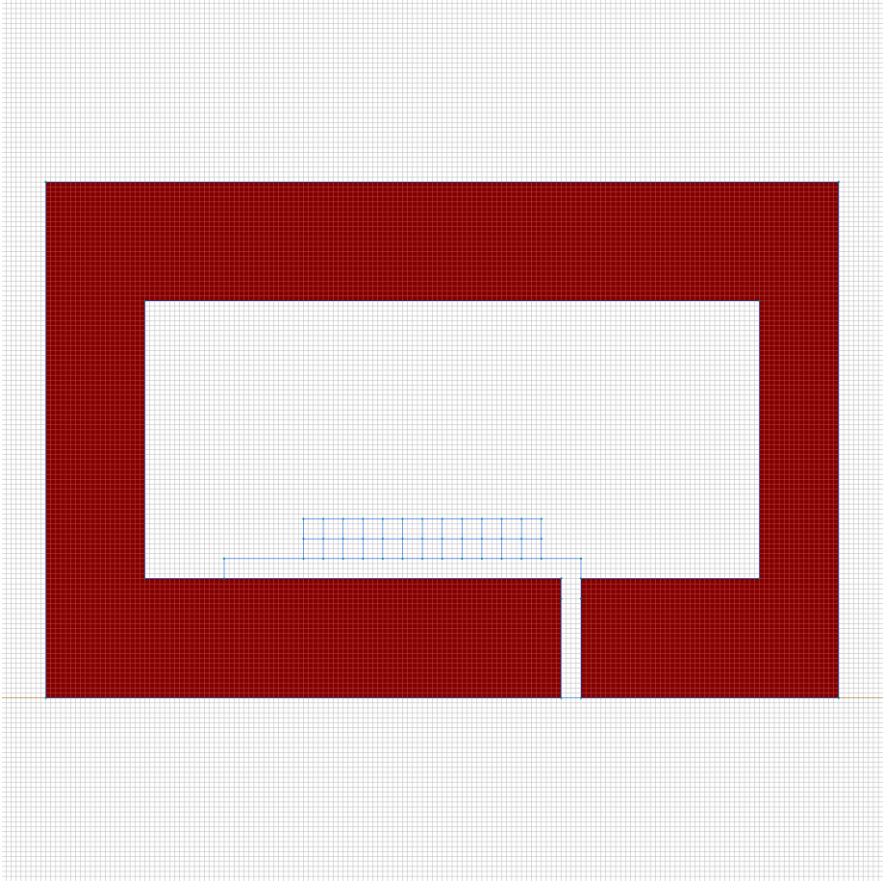
Relative magnetic permeability: mu_x=1, mu_y=1
Electric conductivity: sigma=0 [S/m]
Current density: j=0 [A/m2], phase 0 [deg]
Conductor's connection: in parallel



Labelled objects: block "iron"

There are (1) objects with this label

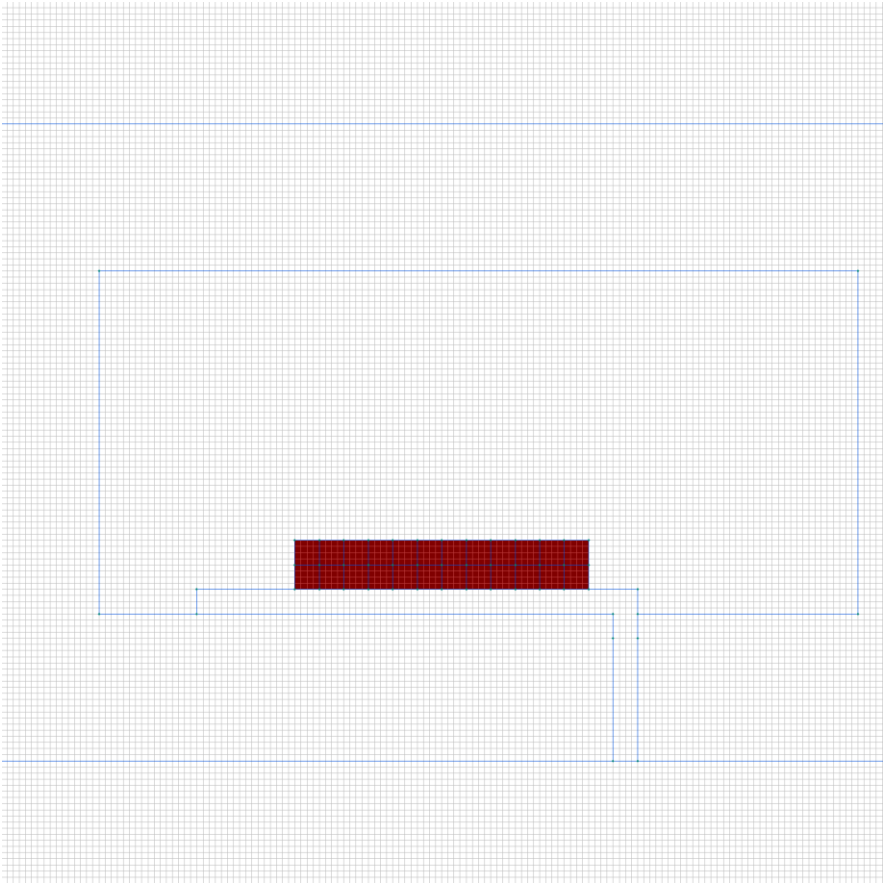
Relative magnetic permeability: mu_x=500, mu_y=500
Electric conductivity: sigma=0 [S/m]
Current density: j=0 [A/m2], phase 0 [deg]
Conductor's connection: in parallel



Labelled objects: block "primary"

There are (24) objects with this label

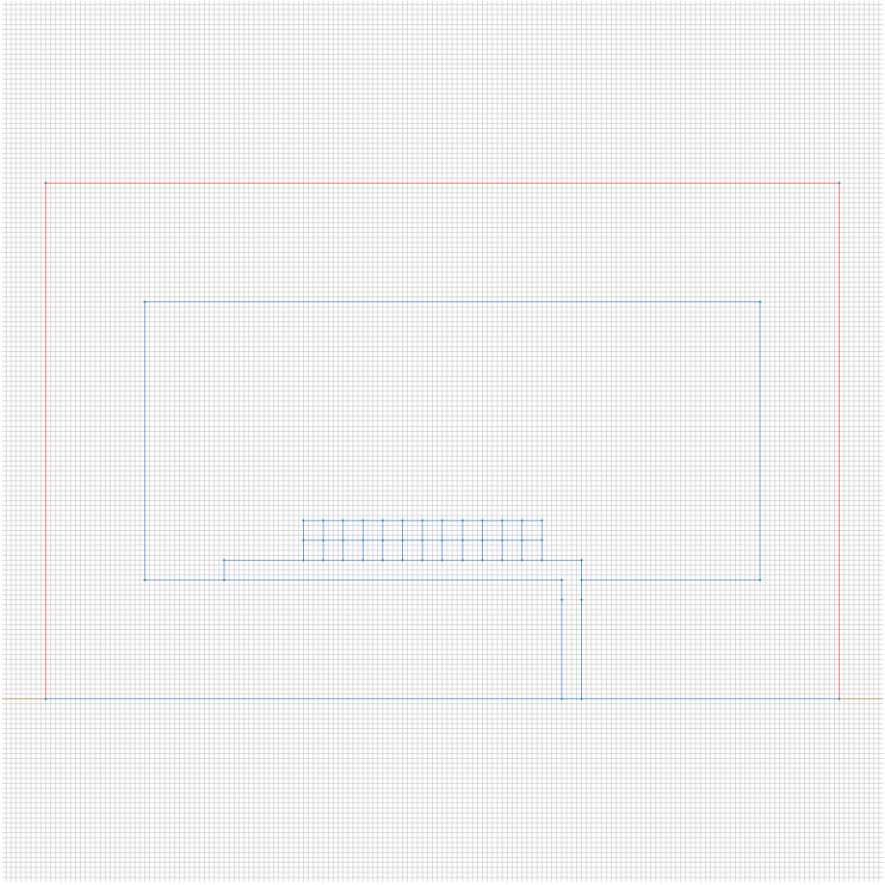
Relative magnetic permeability: mu_x=1, mu_y=1
Electric conductivity: sigma=57000000 [S/m]
Current density: j=0 [A/m2], phase 0 [deg]
Conductor's connection: in series



Labelled objects: edge "sides"

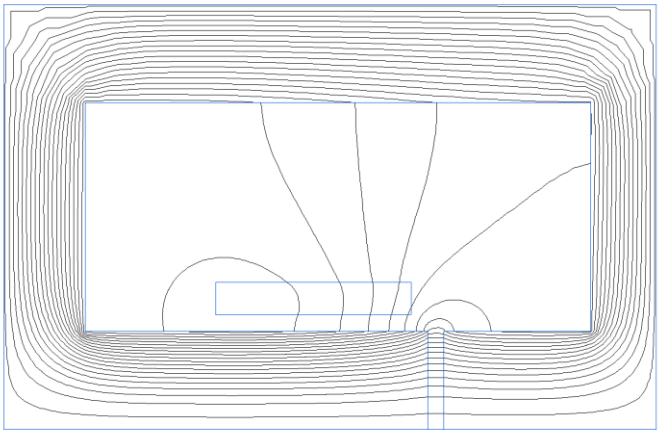
There are (3) objects with this label

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



Results

Field lines



Results

Electric circuit currents

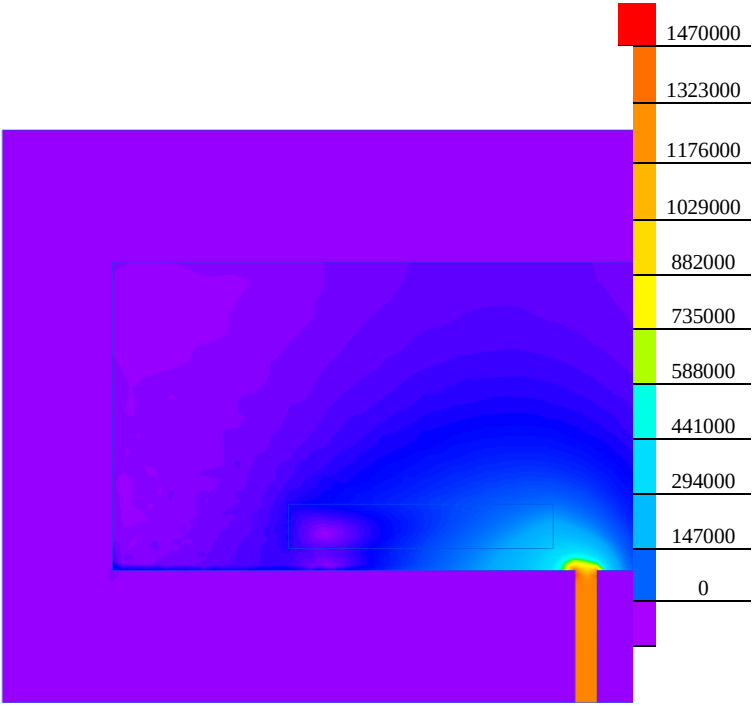
Circuit elements:

primary. I=168.01 [A], phase=98.47 [deg]

V2. I=168.01 [A], phase=-81.53 [deg]

Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data