Problem info

Problem type: AC Magnetics , frequency: 400 Hz,
Geometry model class: Plane-Parallel
Problem database file names:

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

Results taken from other problems:

- *none*

Geometry model

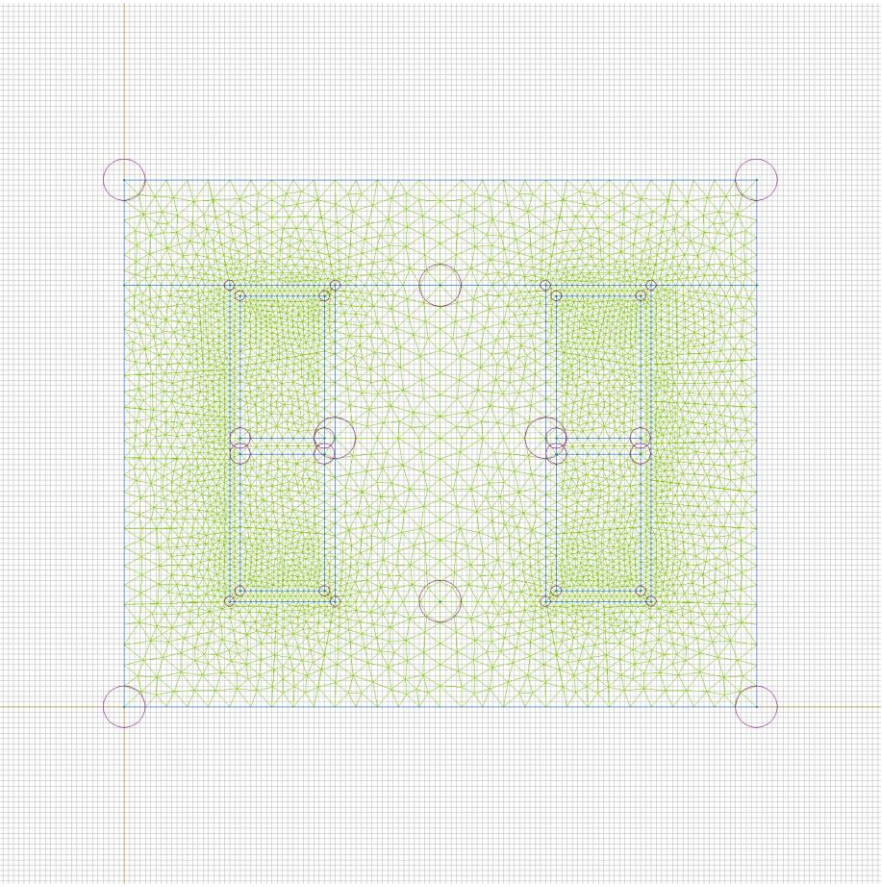


Table 1. Geometry model statistics

	With Label	Total
Blocks	6	10
Edges	1	40
Vertices	0	34

Number of nodes: 3824.

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)

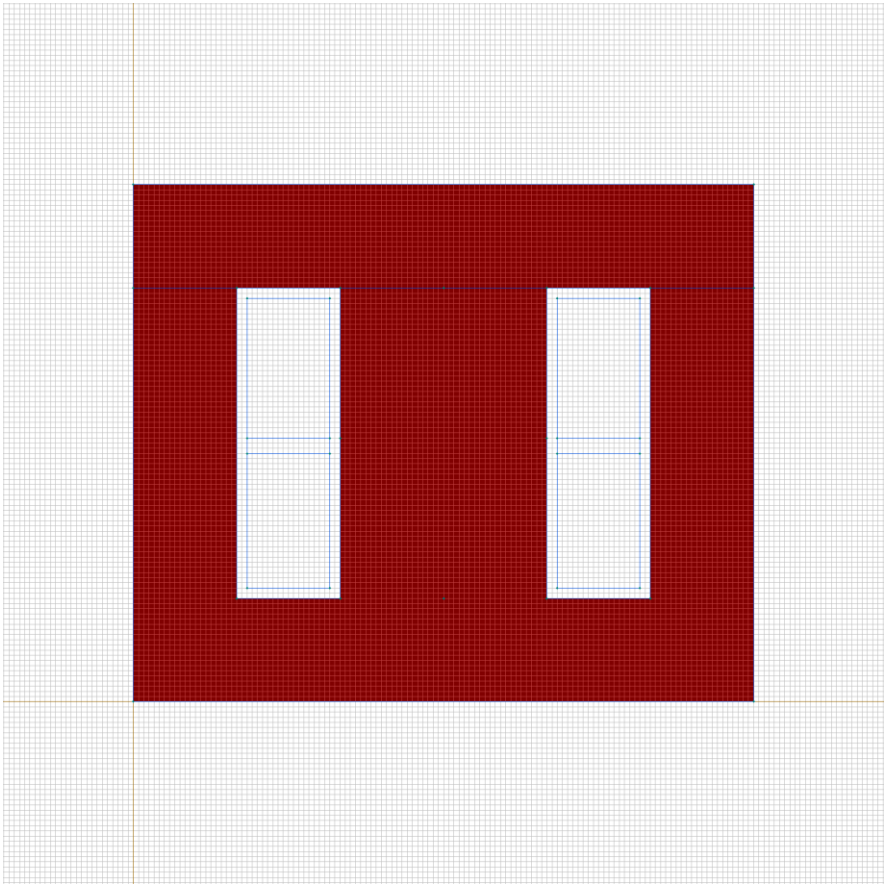
Blocks:	Edges:	Vertices:
• core • insulation • V1+ • v2- • V1- • v2+ •	• boundary •	

Detailed information about each label is listed below.

Labelled objects: block "core"

There are (2) objects with this label

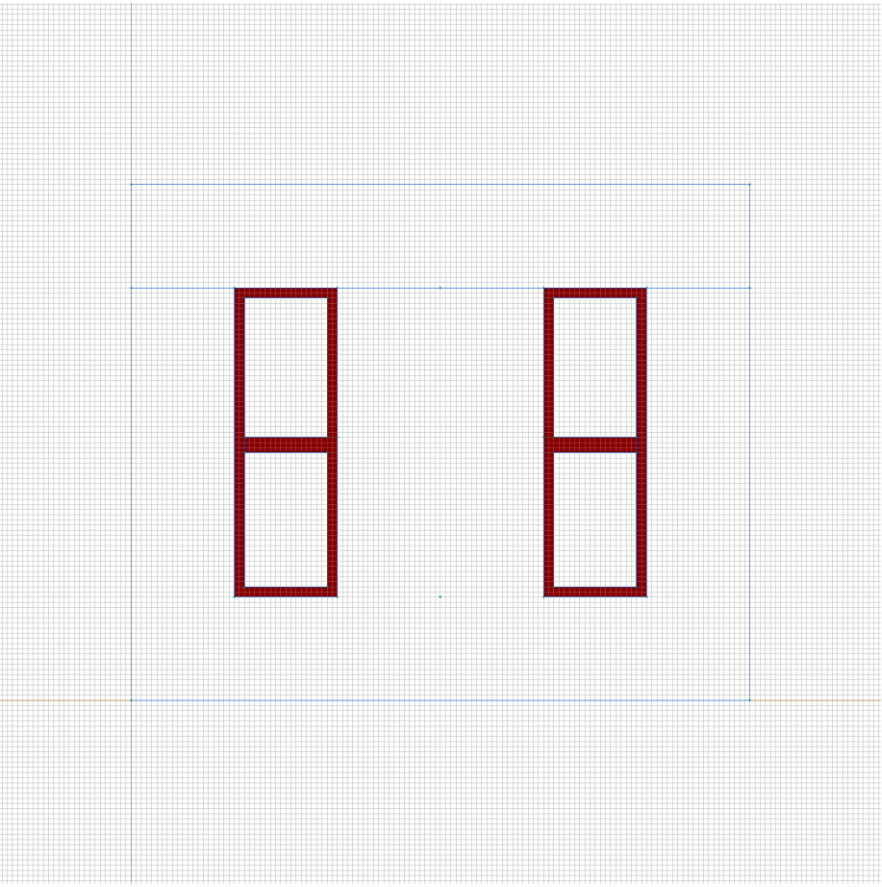
Relative magnetic permeability: mu_x=2000, mu_y=2000
Electric conductivity: sigma=0 [S/m]
Current density: j=0 [A/m2], phase 0 [deg]
Conductor's connection: in parallel



Labelled objects: block "insulation"

There are (4) objects with this label

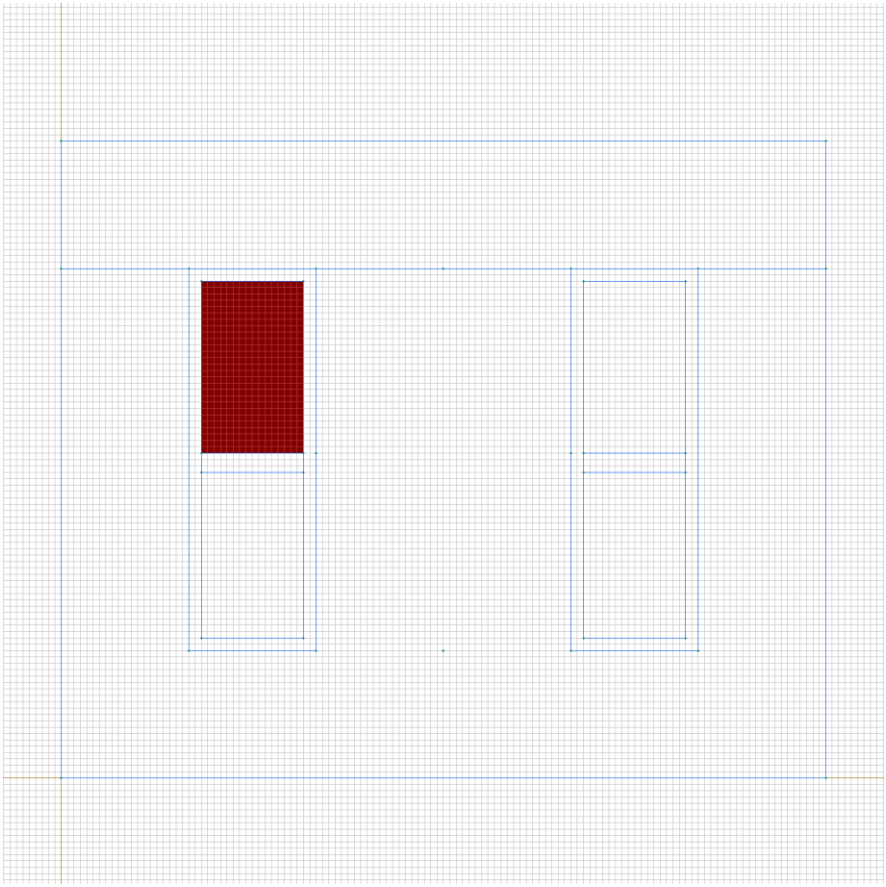
Relative magnetic permeability: mu_x=1, mu_y=1
Electric conductivity: sigma=0 [S/m]
Current density: j=0 [A/m2], phase 0 [deg]
Conductor's connection: in parallel



Labelled objects: block "V1+"

There are (1) objects with this label

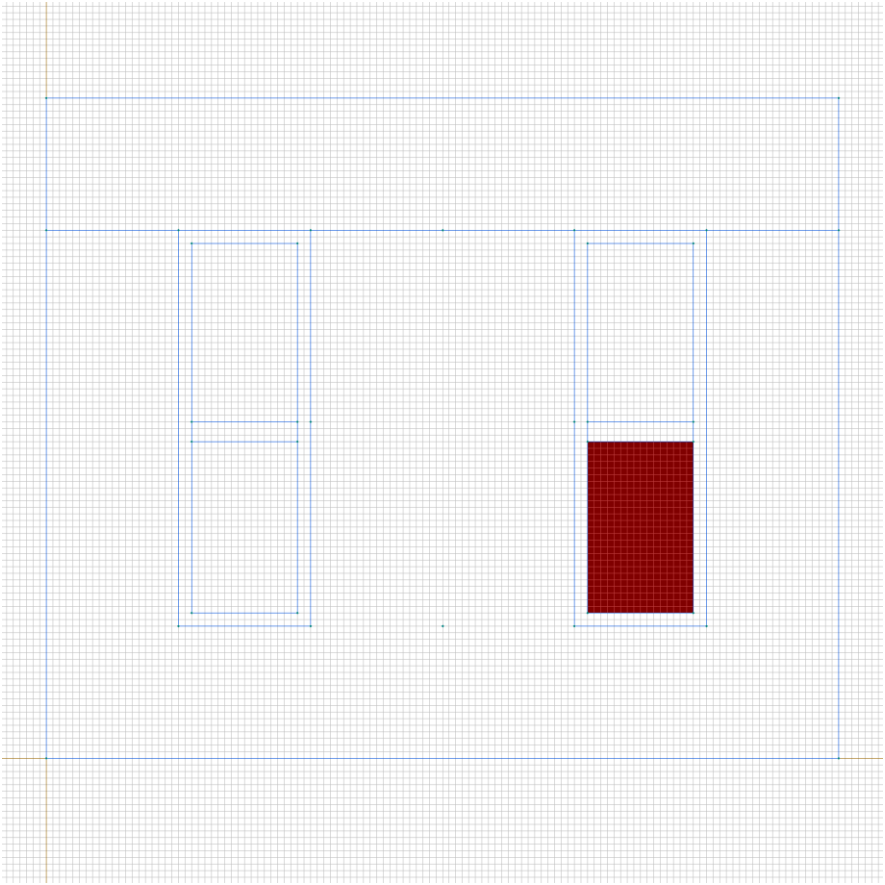
Relative magnetic permeability: mu_x=1, mu_y=1
Electric conductivity: sigma=0 [S/m]
Total current: I=20e-3*400 [A], phase 0 [deg]
Conductor's connection: in series



Labelled objects: block "v2-"

There are (1) objects with this label

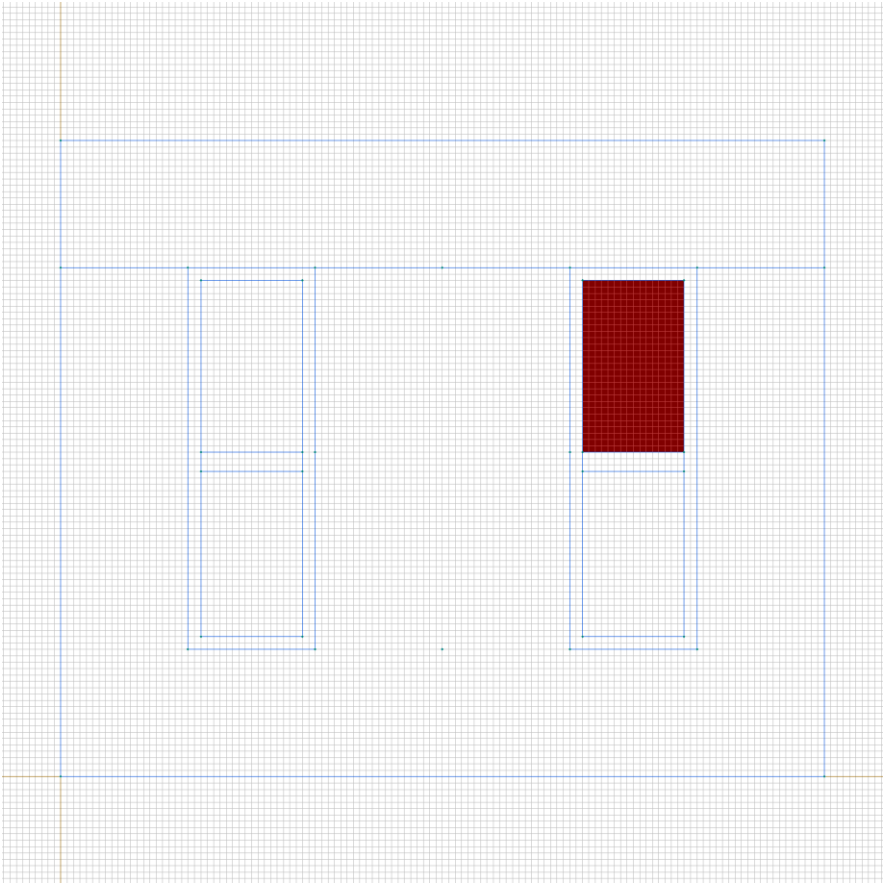
Relative magnetic permeability: mu_x=1, mu_y=1
Electric conductivity: sigma=0 [S/m]
Current density: j=0 [A/m2], phase 0 [deg]
Conductor's connection: in parallel



Labelled objects: block "V1-"

There are (1) objects with this label

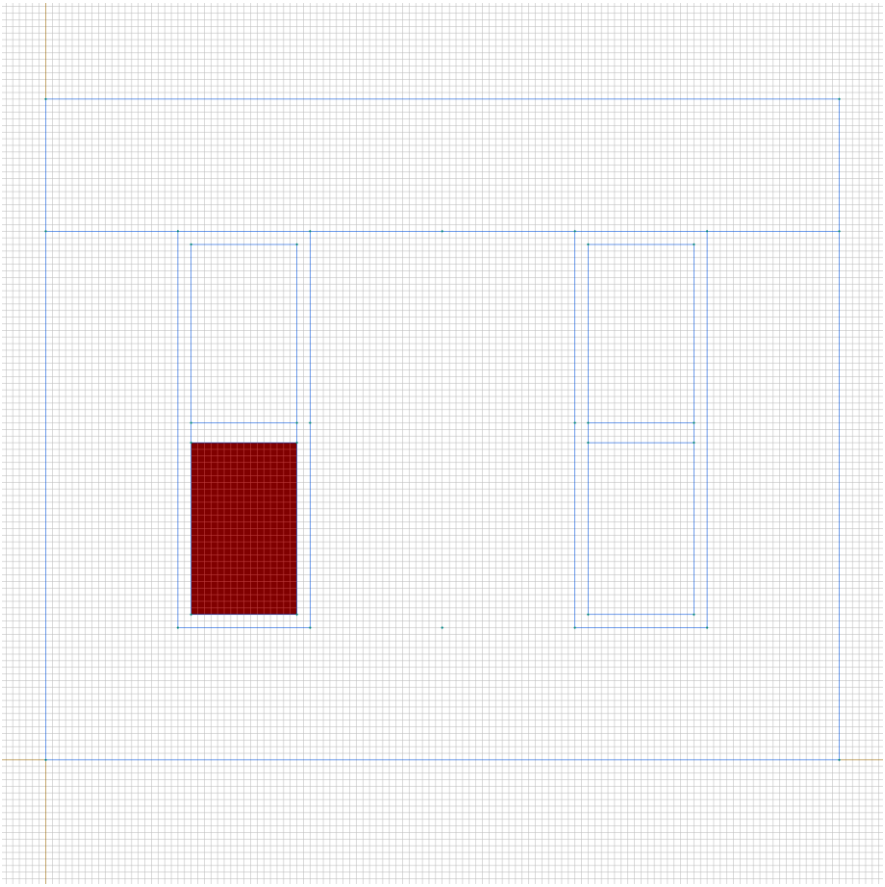
Relative magnetic permeability: mu_x=1, mu_y=1
Electric conductivity: sigma=0 [S/m]
Total current: I=-20e-3*400 [A], phase 0 [deg]
Conductor's connection: in series



Labelled objects: block "v2+"

There are (1) objects with this label

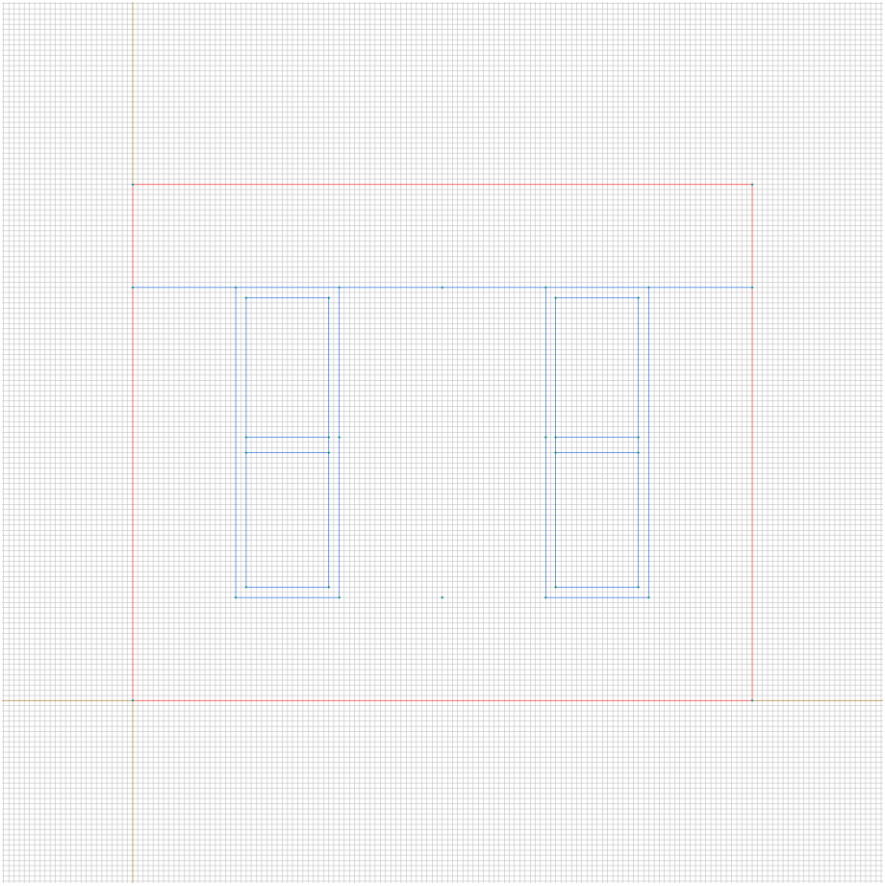
Relative magnetic permeability: mu_x=1, mu_y=1
Electric conductivity: sigma=0 [S/m]
Current density: j=0 [A/m2], phase 0 [deg]
Conductor's connection: in parallel



Labelled objects: edge "boundary"

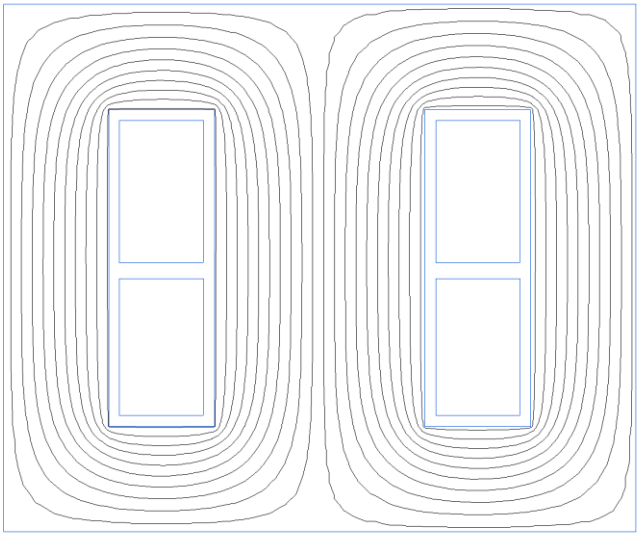
There are (6) objects with this label

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



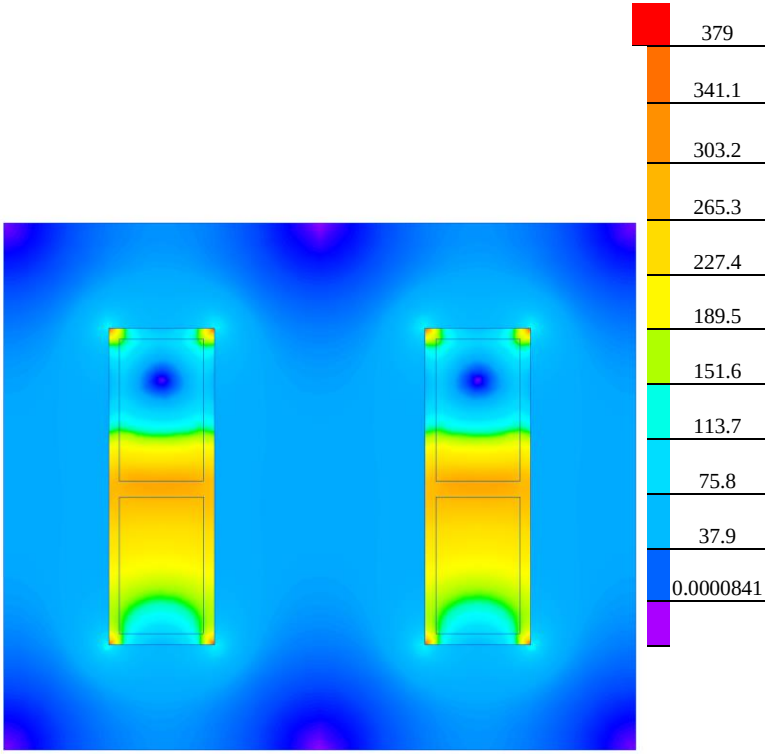
Results

Field lines



Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data