Problem info

Problem type: AC Magnetics , frequency: 40000 Hz,
Geometry model class: Plane-Parallel
Problem database file names:

- Problem: *Circuit3.pbm*
- Geometry: *Circuit3.mod*
- Material Data: *Circuit3.dhe*
- Material Data 2 (library): *none*
- Electric circuit: *Circuit3.qcr*

Results taken from other problems:

- *none*

Geometry model

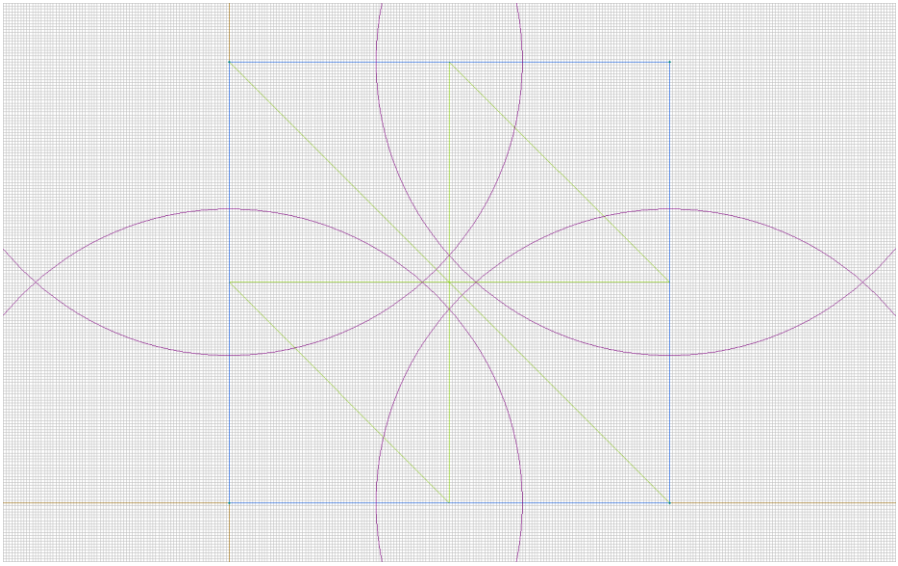


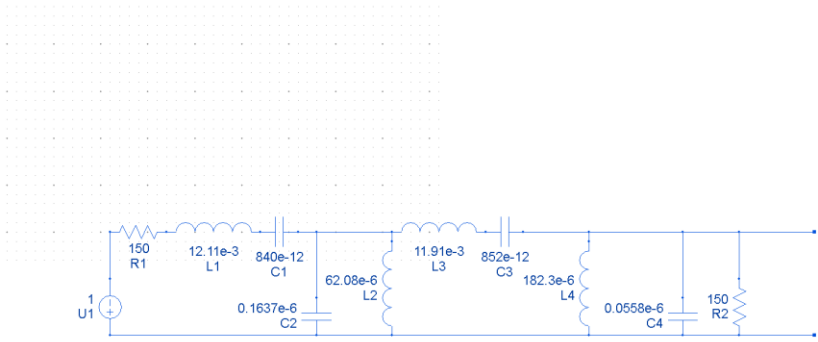
Table 1. Geometry model statistics

	With Label	Total
Blocks	1	1
Edges	1	4
Vertices	1	4

Number of nodes: 9.

Electric circuit

Coupled electric circuit



Circuit elements:

Voltage source U1=1 [V] 0 [deg]
Inductor L1=0.01211 [H]
Capacitor C2=0.0000001637 [F]
Resistor R1=150 [Ohm]
Capacitor C1=0.00000000084 [F]
Inductor L2=0.00006208 [H]
Inductor L3=0.01191 [H]
Capacitor C3=0.000000000852 [F]
Inductor L4=0.0001823 [H]
Capacitor C4=0.0000000558 [F]
Resistor R2=150 [Ohm]

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)

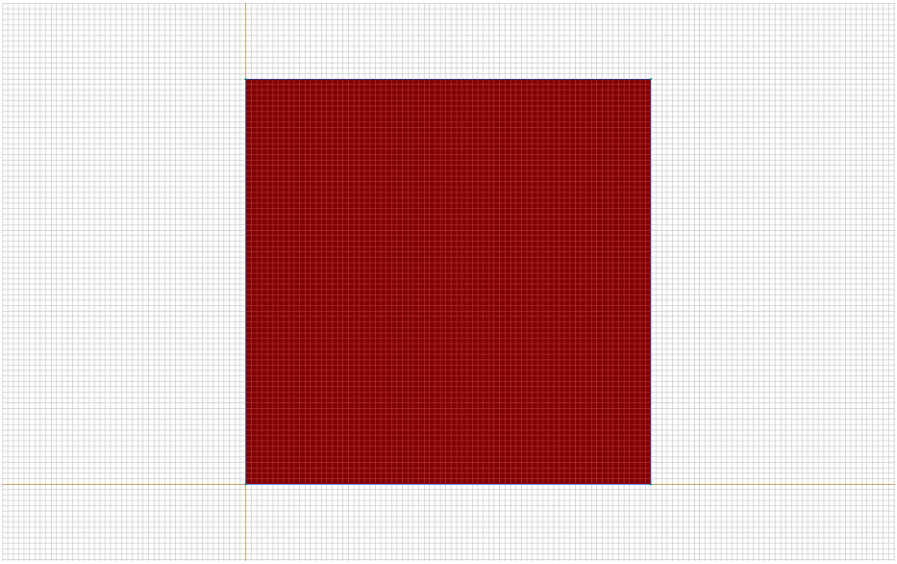
Blocks:	Edges:	Vertices:
• load •	• a0 •	• output voltage •

Detailed information about each label is listed below.

Labelled objects: block "load"

There are (1) objects with this label

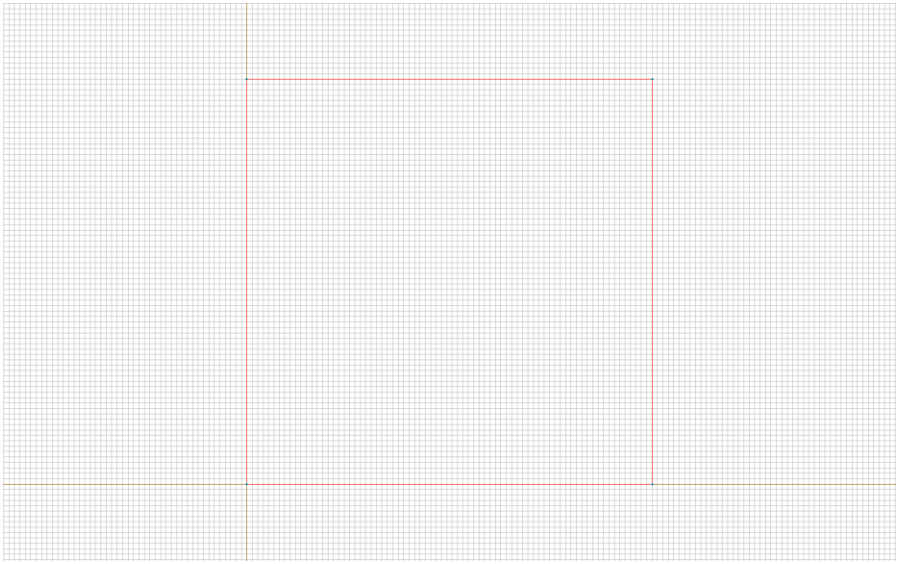
Relative magnetic permeability: mu_x=1, mu_y=1
Electric conductivity: sigma=0 [S/m]
Current density: j=0 [A/m2], phase 0 [deg]
Conductor's connection: in parallel



Labelled objects: edge "a0"

There are (4) objects with this label

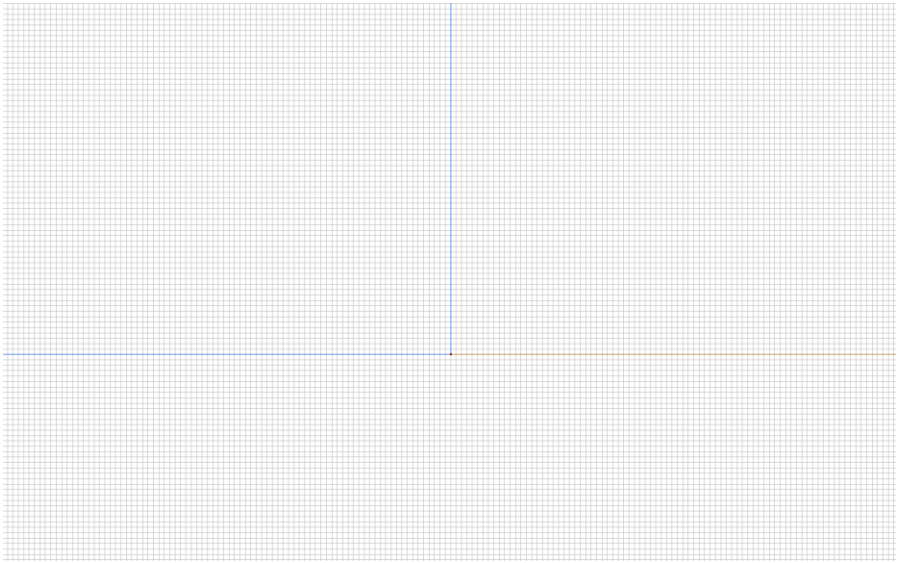
Magnetic potential: A=0 [Wb/m], phase 0 [deg]



Labelled objects: vertex "output voltage"

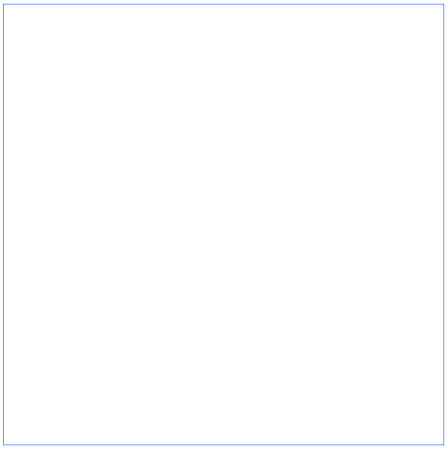
There are (1) objects with this label

No material data (boundary conditions) are specified



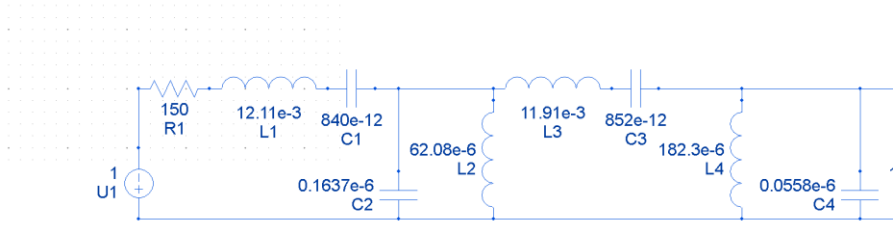
Results

Field lines



Results

Electric circuit currents



Circuit elements:

U1. I=0.0006042 [A], phase=84.8 [deg]

L1. I=0.0006042 [A], phase=-95.2 [deg]

C2. I=0.0011133 [A], phase=-95.26 [deg]

R1. I=0.0006042 [A], phase=-95.2 [deg]

C1. I=0.0006042 [A], phase=-95.2 [deg]

L2. I=0.0017343 [A], phase=84.74 [deg]

L3. I=0.000016871 [A], phase=82.47 [deg]

C3. I=0.000016871 [A], phase=82.47 [deg]

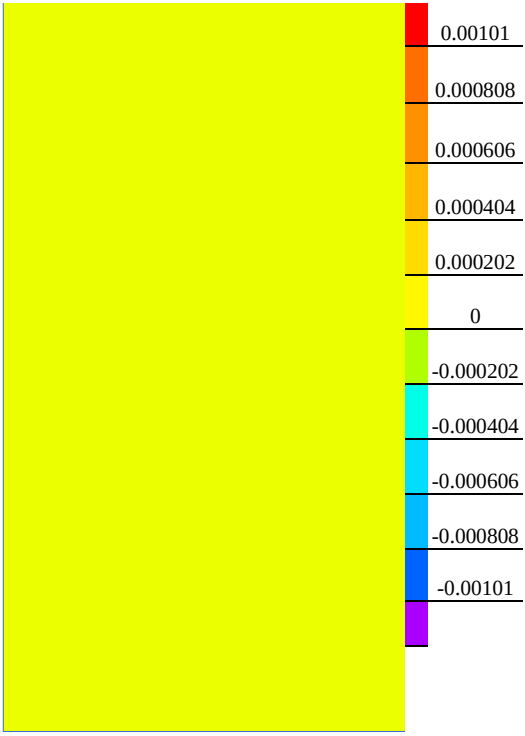
L4. I=0.00003588 [A], phase=-138.04 [deg]

C4. I=0.000023055 [A], phase=41.96 [deg]

R2. I=0.00001096 [A], phase=131.96 [deg]

Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data