Problem info

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

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

Results taken from other problems:

- *none*

Geometry model

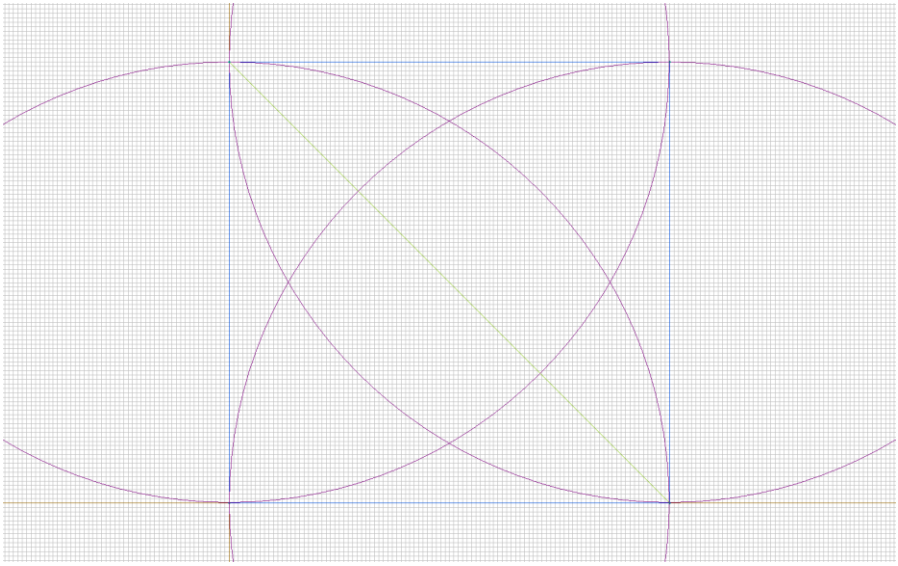


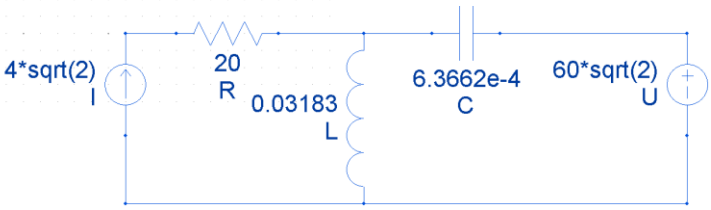
Table 1. Geometry model statistics

	With Label	Total
Blocks	1	1
Edges	1	4
Vertices	0	4

Number of nodes: 4.

Electric circuit

Coupled electric circuit



Circuit elements:

Voltage source U=60*sqrt(2) [V] 30 [deg]
Capacitor C=0.00063662 [F]
Inductor L=0.03183 [H]
Resistor R=20 [Ohm]
Current source I=4*sqrt(2) [A] 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)

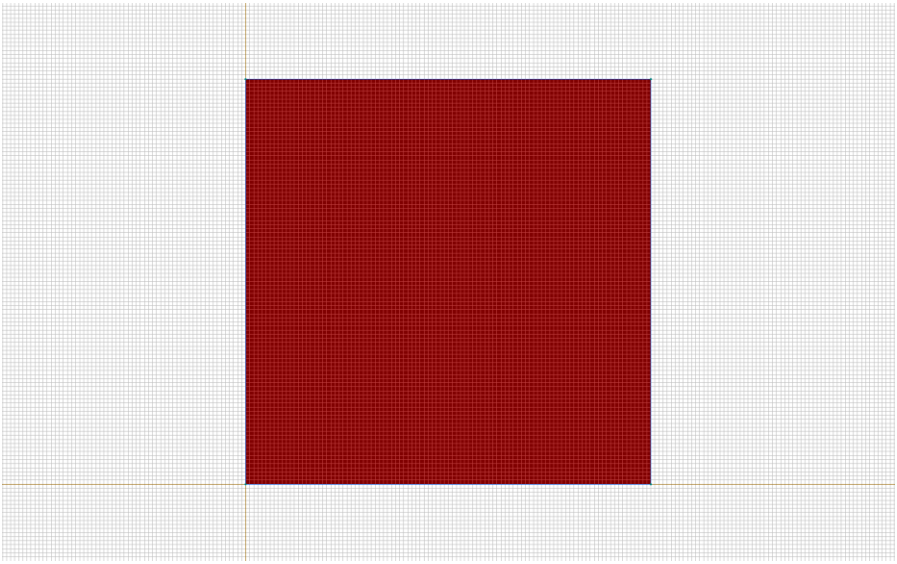
Blocks:	Edges:	Vertices:
• Block1 •	• Edge1 •	

Detailed information about each label is listed below.

Labelled objects: block "Block1"

There are (1) objects with this label

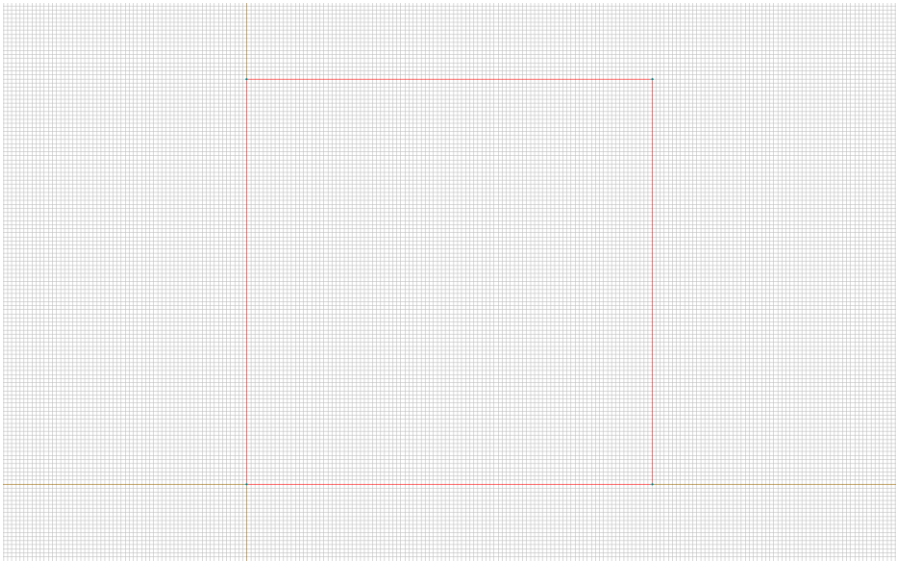
Relative magnetic permeability: mu_x=1, mu_y=1
Electric conductivity: sigma=0 [S/m]
Current density: j=0 [A/m2], phase 0 [deg]
Conductor's connection: in parallel



Labelled objects: edge "Edge1"

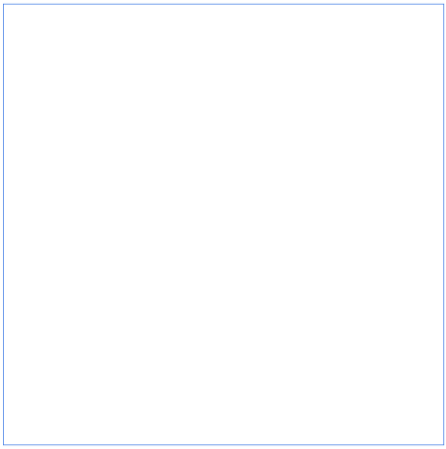
There are (4) objects with this label

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



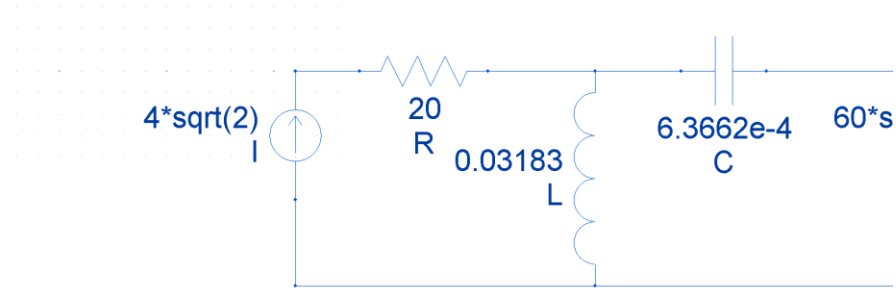
Results

Field lines



Results

Electric circuit currents



Circuit elements:

U. I=14.967 [A], phase=-100.89 [deg]

C. I=14.967 [A], phase=79.11 [deg]

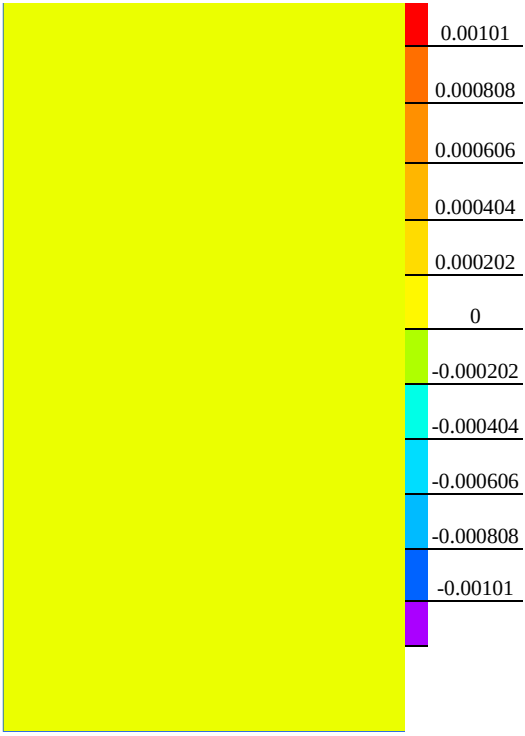
L. I=14.968 [A], phase=100.89 [deg]

R. I=5.657 [A], phase=180 [deg]

I. I=5.657 [A], phase=0 [deg]

Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data