Problem info

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

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

Results taken from other problems:

- *none*

Geometry model

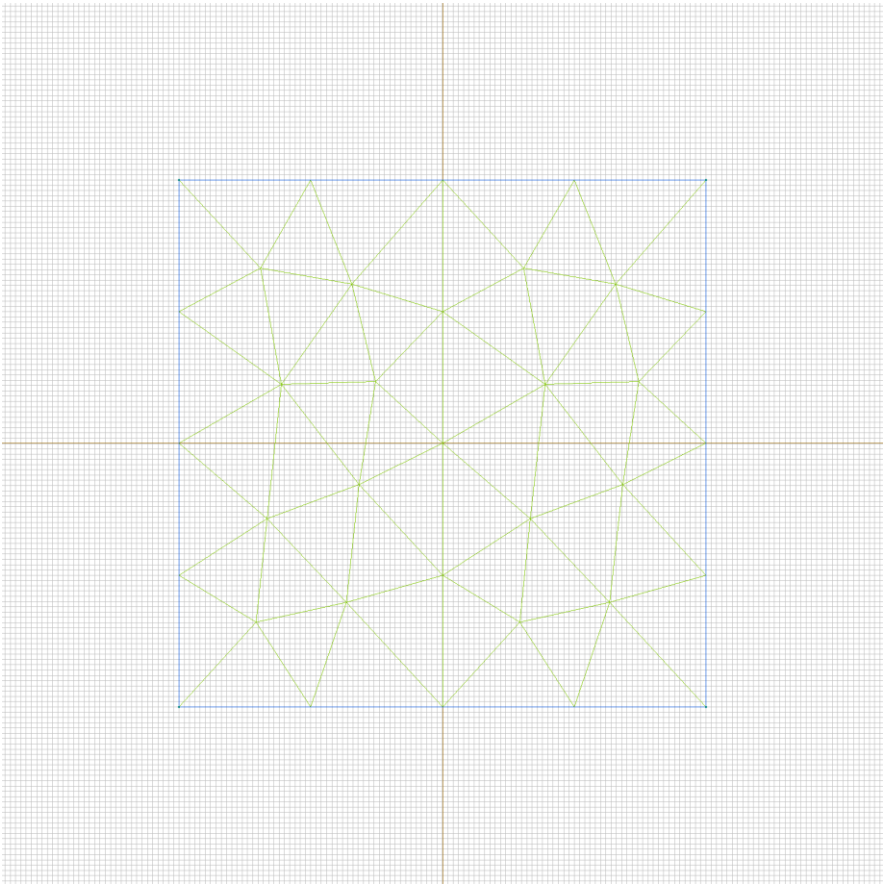


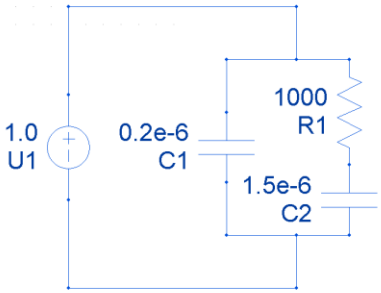
Table 1. Geometry model statistics

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

Number of nodes: 35.

Electric circuit

Coupled electric circuit



Circuit elements:

Resistor R1=1000 [Ohm]
Capacitor C1=0.0000002 [F]
Capacitor C2=0.0000015 [F]
Voltage source U1=1 [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)

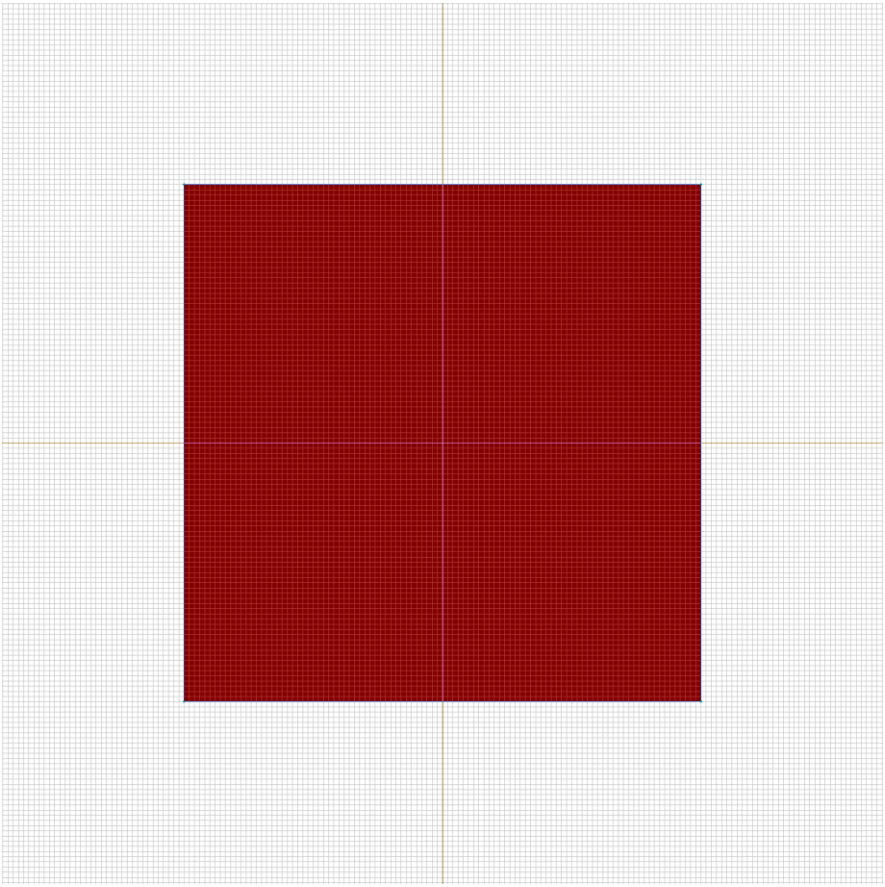
Blocks:	Edges:	Vertices:
• air •	• edge •	

Detailed information about each label is listed below.

Labelled objects: block "air"

There are (1) objects with this label

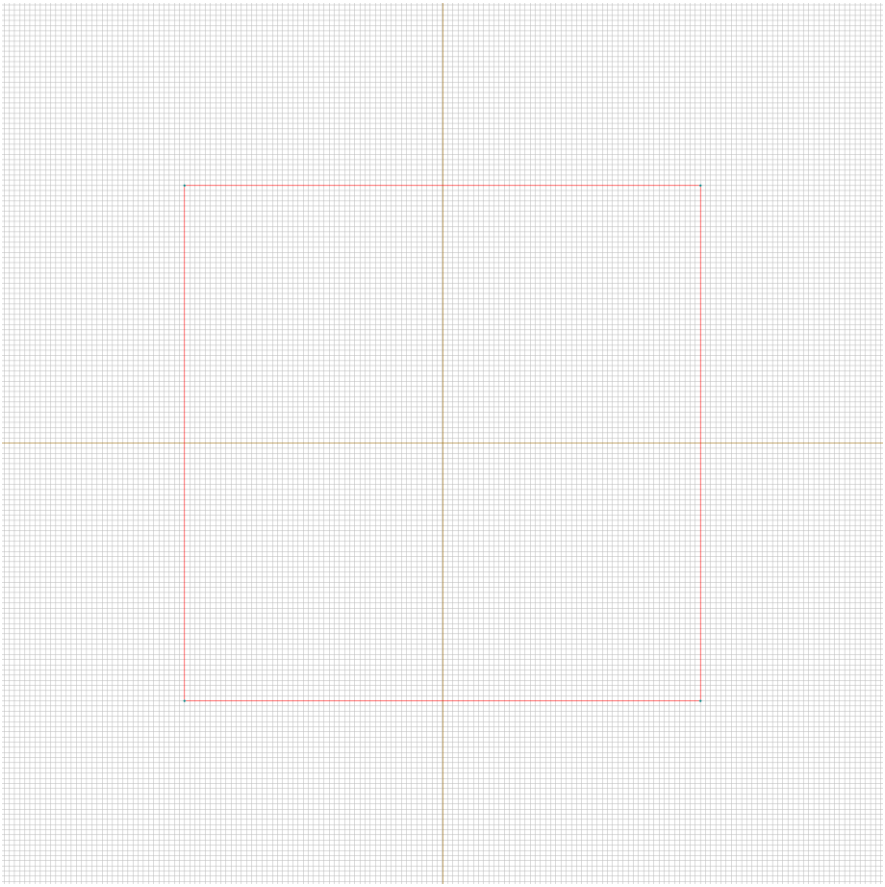
Relative magnetic permeability: mu_x=1, mu_y=1
Electric conductivity: sigma=0 [S/m]
Current density: j=0 [A/m2], phase 0 [deg]
Conductor's connection: in parallel



Labelled objects: edge "edge"

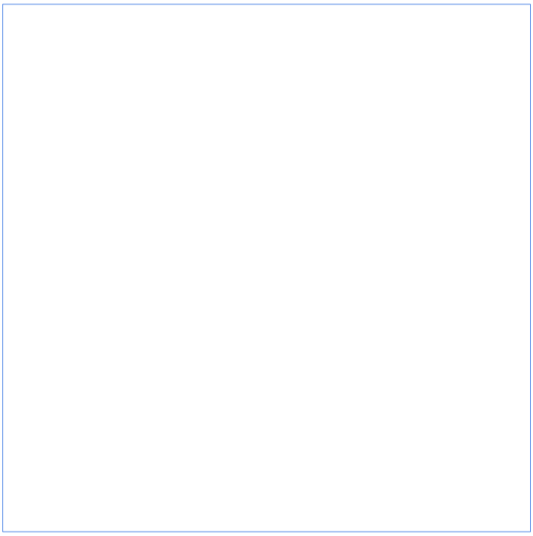
There are (4) objects with this label

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



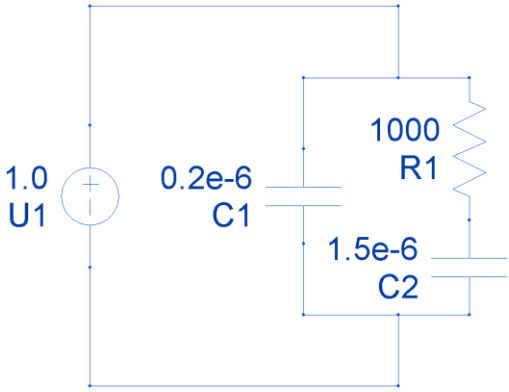
Results

Field lines



Results

Electric circuit currents



Circuit elements:

R1. I=0.0005125 [A], phase=-120.83 [deg]

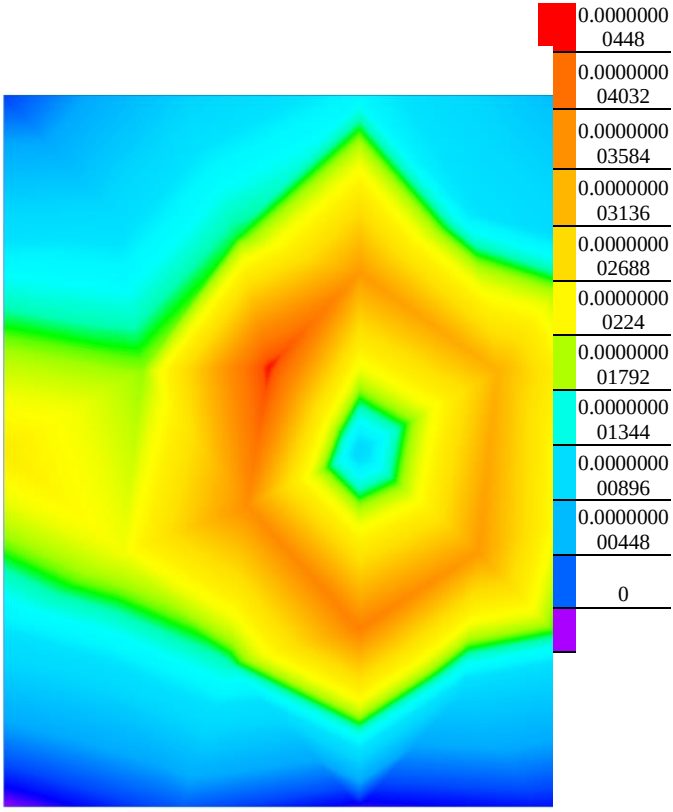
C1. I=0.00006283 [A], phase=-90 [deg]

C2. I=0.0004046 [A], phase=-120.83 [deg]

U1. I=0.0005674 [A], phase=62.42 [deg]

Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data