Problem info

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

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

Results taken from other problems:

- *none*

Geometry model

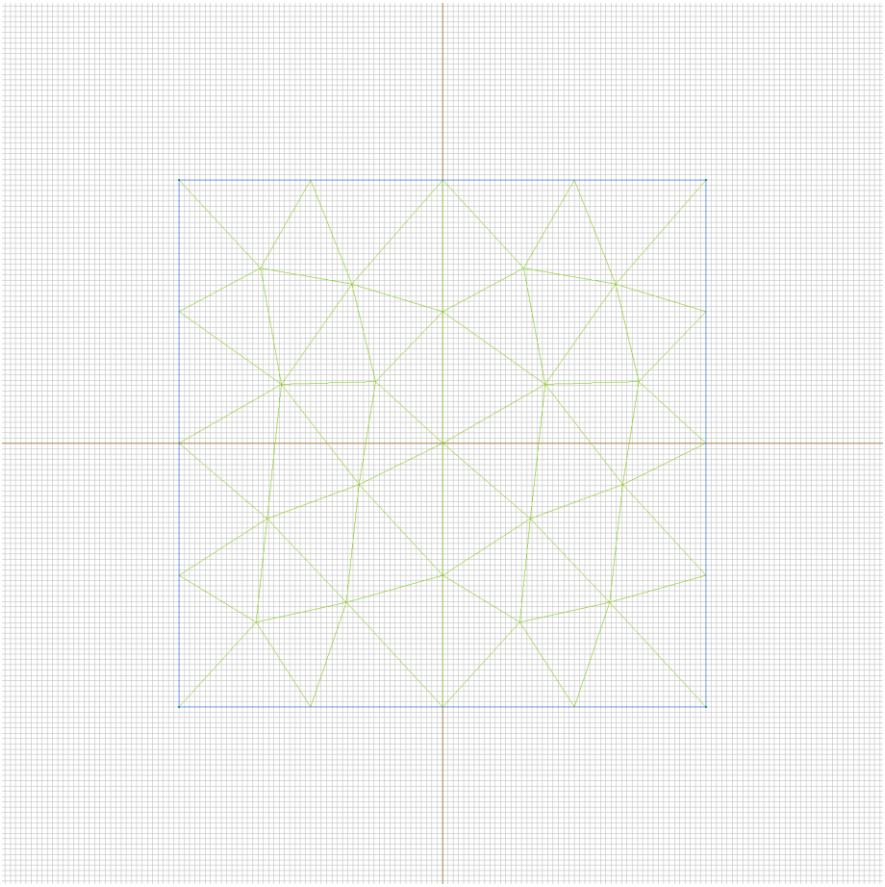


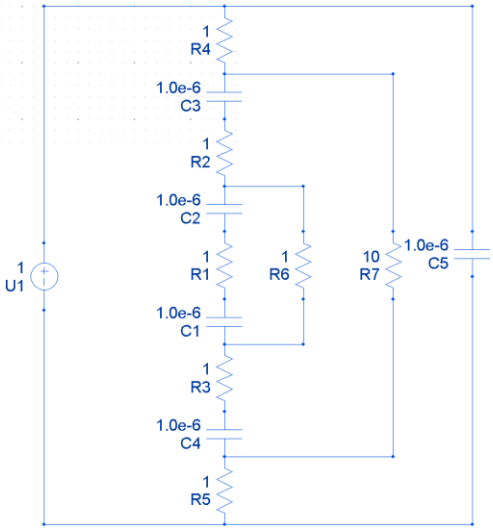
Table 1. Geometry model statistics

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

Number of nodes: 35.

Electric circuit

Coupled electric circuit



Circuit elements:

Capacitor C1=0.000001 [F]
Resistor R1=1 [Ohm]
Capacitor C2=0.000001 [F]
Resistor R2=1 [Ohm]
Resistor R3=1 [Ohm]
Capacitor C3=0.000001 [F]

Capacitor C4=0.000001 [F]
Resistor R4=1 [Ohm]
Resistor R5=1 [Ohm]
Resistor R6=1 [Ohm]
Resistor R7=10 [Ohm]
Capacitor C5=0.000001 [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)

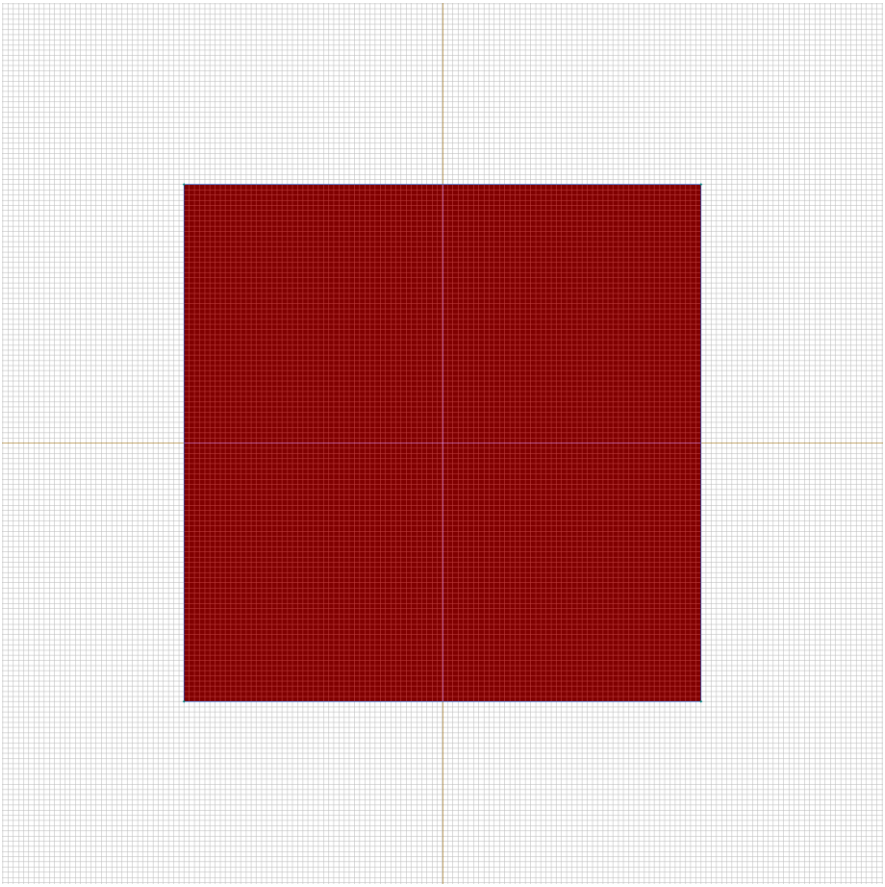
Blocks:	Edges:	Vertices:
• air •	• edge •	

Detailed information about each label is listed below.

Labelled objects: block "air"

There are (1) objects with this label

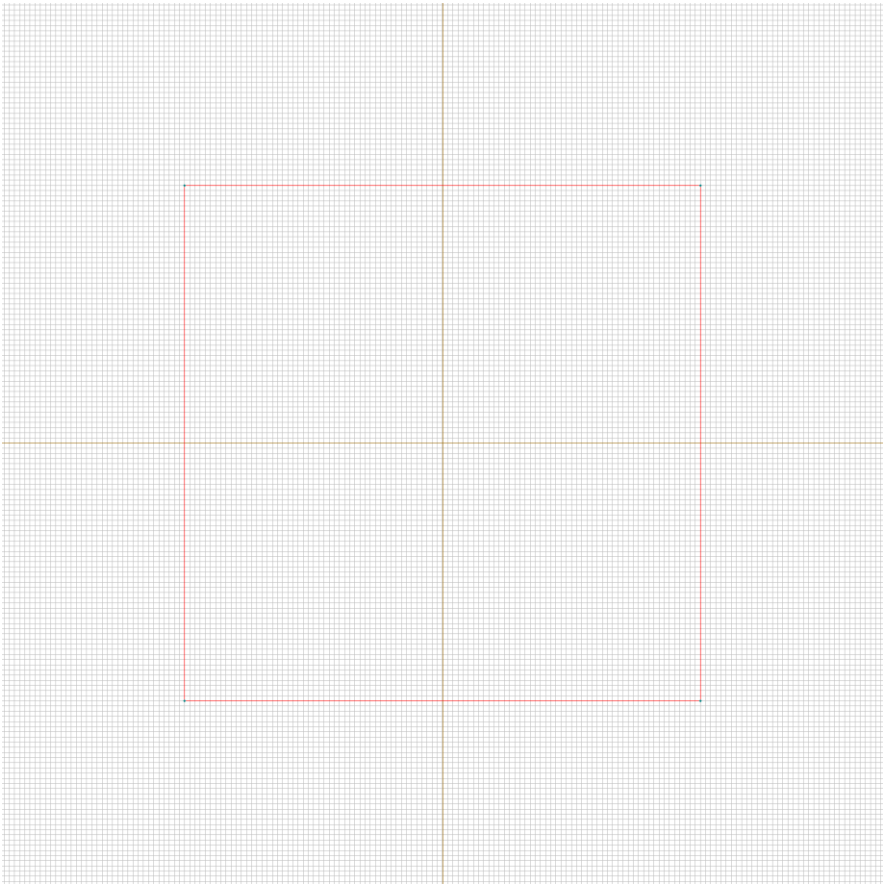
Relative magnetic permeability: mu_x=1, mu_y=1
Electric conductivity: sigma=0 [S/m]
Current density: j=0 [A/m2], phase 0 [deg]
Conductor's connection: in parallel



Labelled objects: edge "edge"

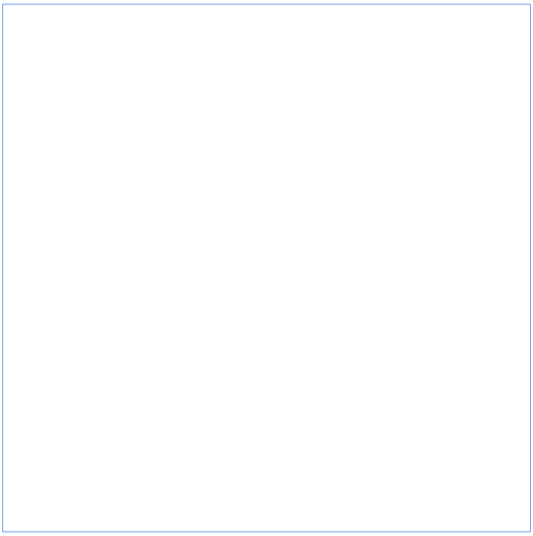
There are (4) objects with this label

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



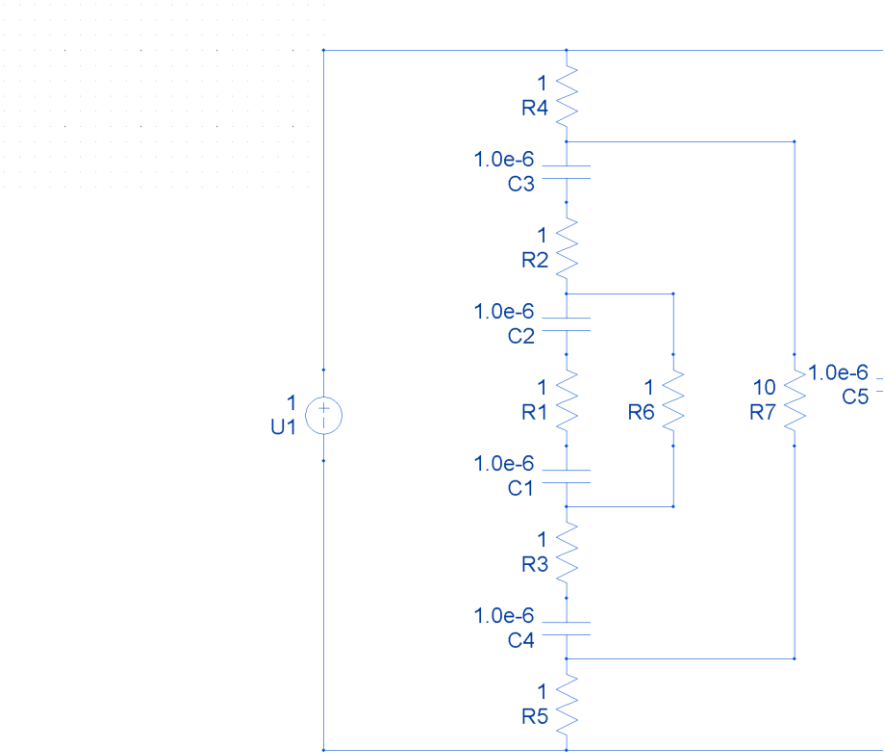
Results

Field lines



Results

Electric circuit currents



Circuit elements:

C1. I=0.000000008225 [A], phase=-0.087 [deg]

R1. I=0.000000008225 [A], phase=-0.087 [deg]

C2. I=0.000000008225 [A], phase=-0.087 [deg]

R2. I=0.00005236 [A], phase=-90.07 [deg]

R3. I=0.00020944 [A], phase=-90.03 [deg]

C3. I=0.00005236 [A], phase=-90.07 [deg]

C4. I=0.00020944 [A], phase=-90.03 [deg]

R4. I=0.08333 [A], phase=-179.98 [deg]

R5. I=0.08333 [A], phase=-179.87 [deg]

R6. I=0.00005236 [A], phase=-90.08 [deg]

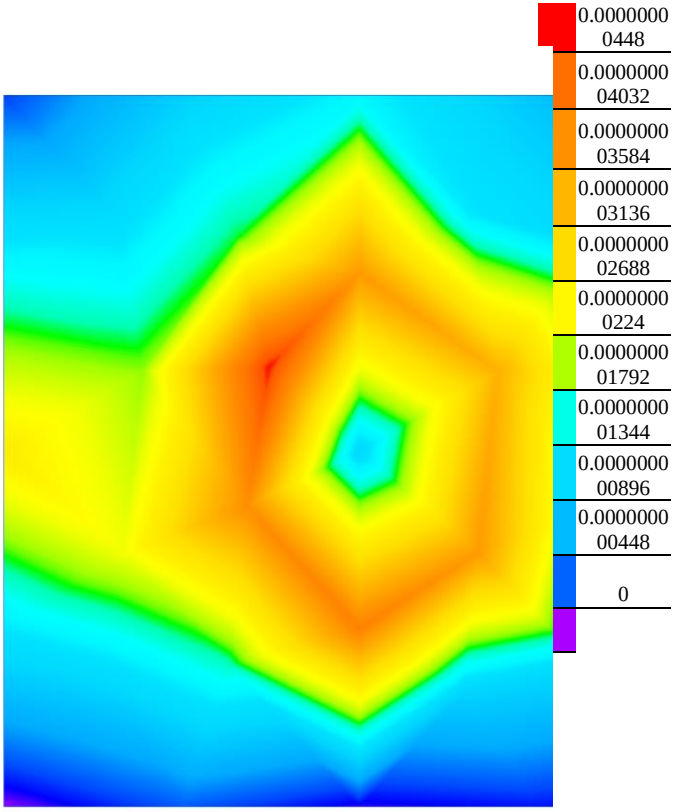
R7. I=0.08333 [A], phase=179.99 [deg]

C5. I=0.00031416 [A], phase=-90 [deg]

U1. I=0.08333 [A], phase=0.345 [deg]

Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data