Problem info

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

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

Results taken from other problems:

- *none*

Geometry model

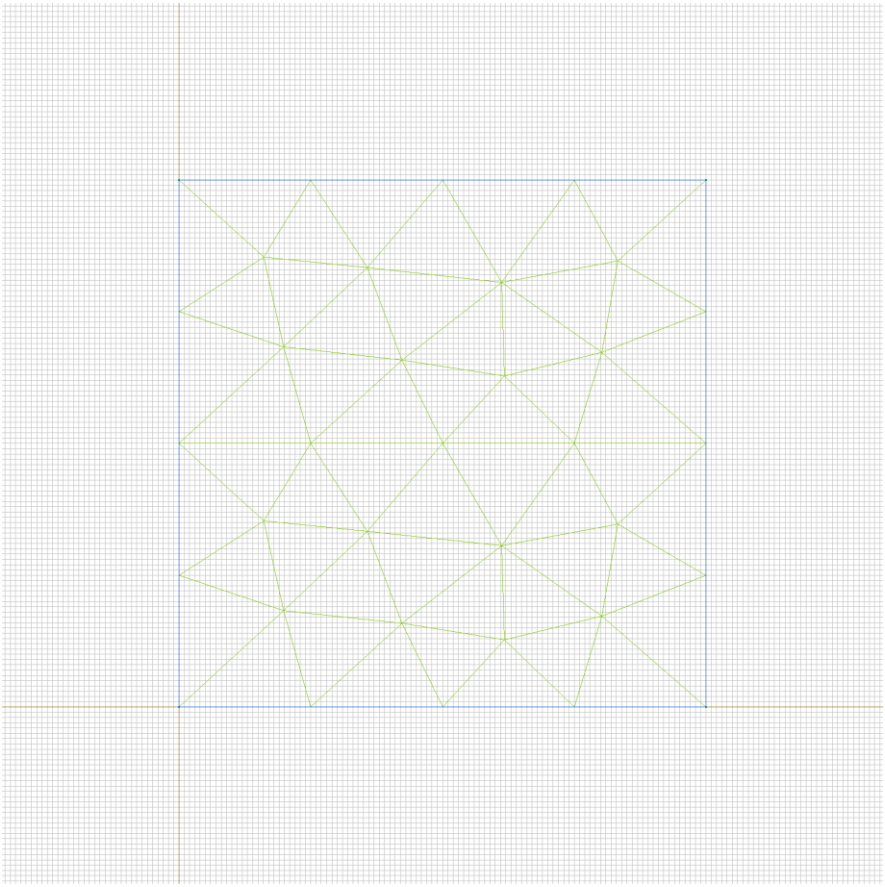


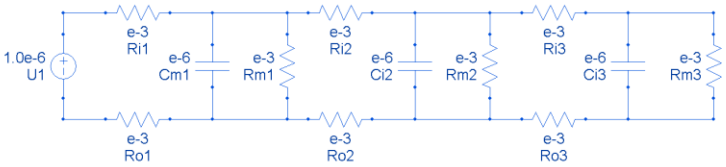
Table 1. Geometry model statistics

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

Number of nodes: 35.

Electric circuit

Coupled electric circuit



Circuit elements:

Resistor Ri1=e-3 [Ohm]
Resistor Ro1=e-3 [Ohm]
Resistor Rm1=e-3 [Ohm]
Capacitor Cm1=e-6 [F]
Resistor Ri2=e-3 [Ohm]
Resistor Ro2=e-3 [Ohm]

Resistor Rm2=e-3 [Ohm]
Capacitor Ci2=e-6 [F]
Resistor Ri3=e-3 [Ohm]
Resistor Ro3=e-3 [Ohm]
Resistor Rm3=e-3 [Ohm]
Capacitor Ci3=e-6 [F]
Voltage source U1=0.000001 [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)

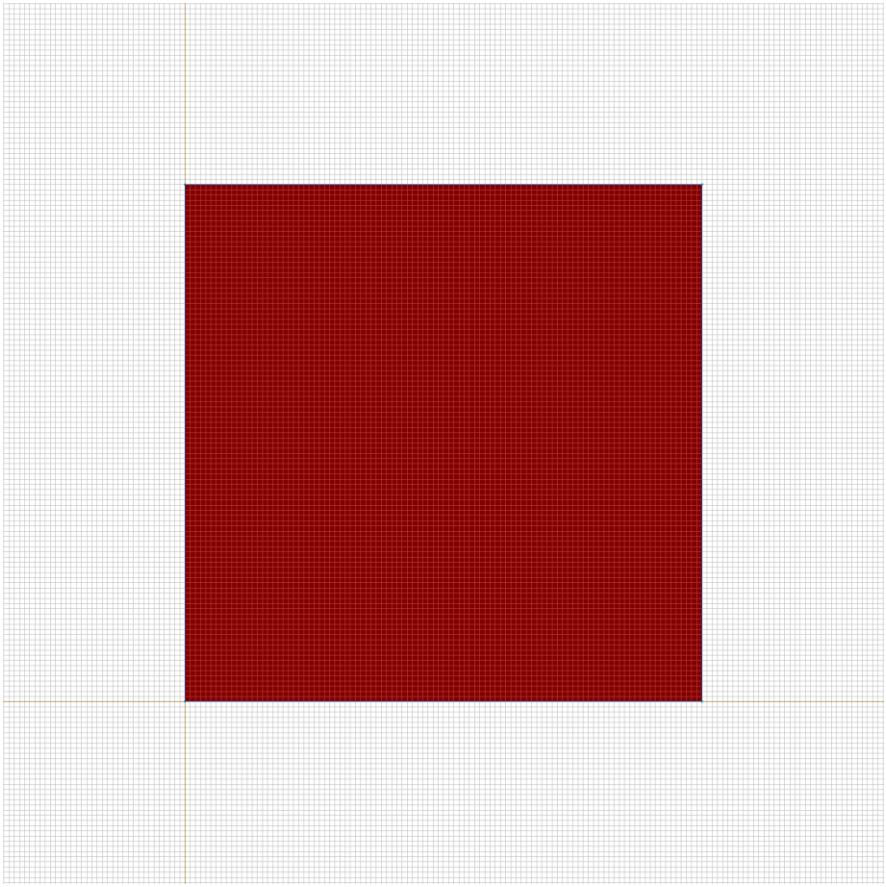
Blocks:	Edges:	Vertices:
• air •	• edge •	

Detailed information about each label is listed below.

Labelled objects: block "air"

There are (1) objects with this label

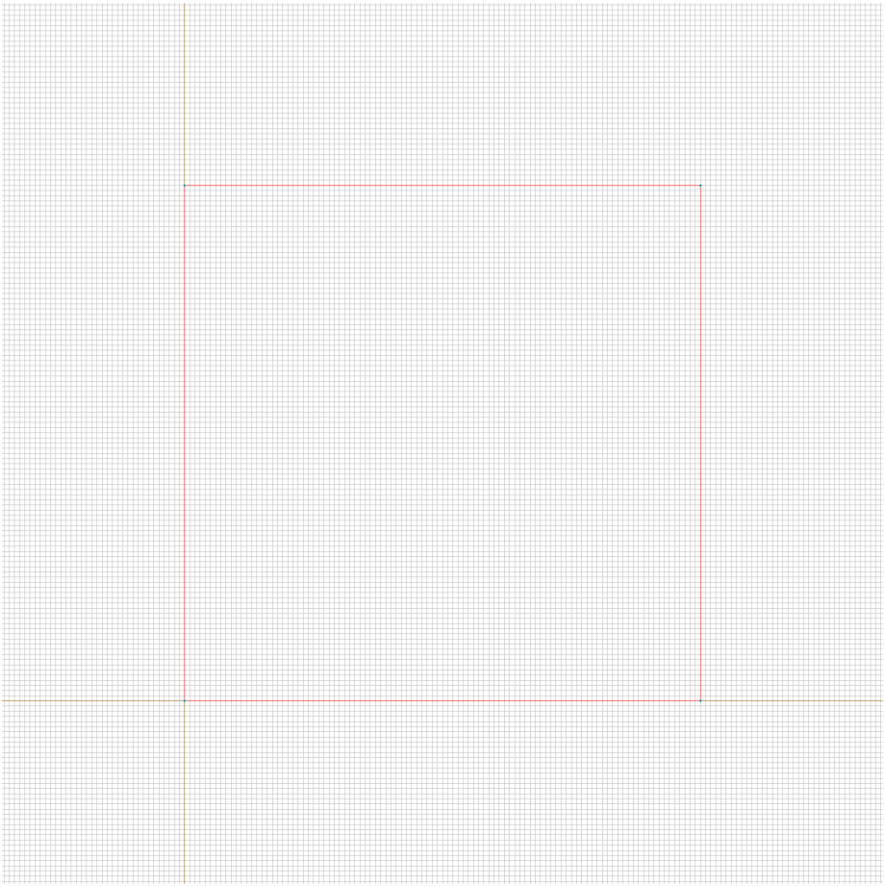
Relative magnetic permeability: mu_x=1, mu_y=1
Electric conductivity: sigma=0 [S/m]
Current density: j=0 [A/m2], phase 0 [deg]
Conductor's connection: in parallel



Labelled objects: edge "edge"

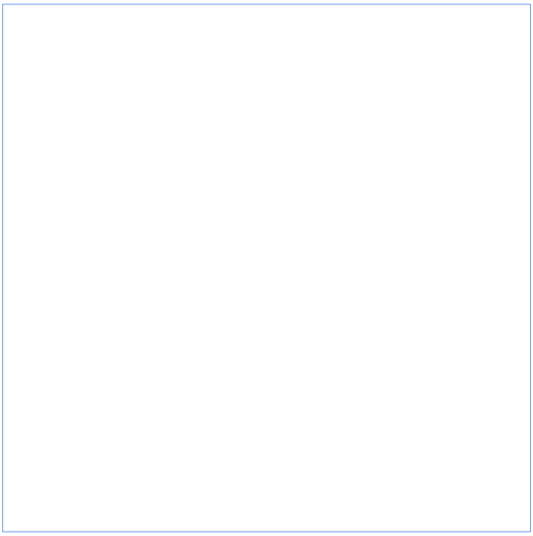
There are (4) objects with this label

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



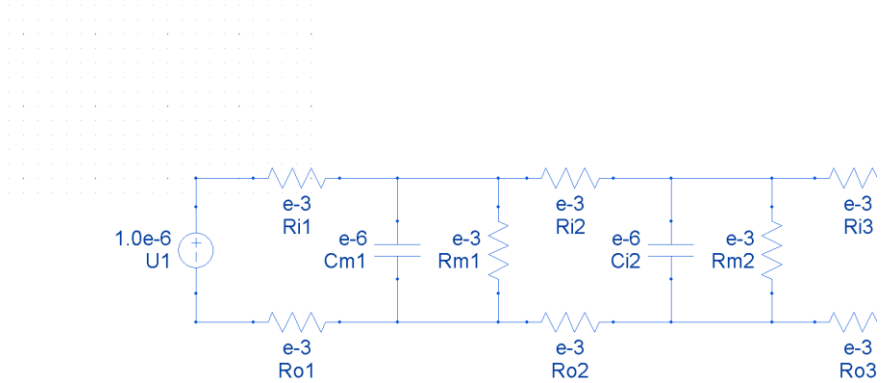
Results

Field lines



Results

Electric circuit currents



Circuit elements:

Ri1. I=0.0000017748 [A], phase=-179.9 [deg]

Ro1. I=0.0000017748 [A], phase=0.09863 [deg]

Rm1. I=0.000000006111 [A], phase=-89.61 [deg]

Cm1. I=0.0000017748 [A], phase=0.3945 [deg]

Ri2. I=0.0000000030552 [A], phase=90.49 [deg]

Ro2. I=0.0000000030552 [A], phase=-89.51 [deg]

Rm2. I=0.000000000010519 [A], phase=-179.21 [deg]

Ci2. I=0.0000000030552 [A], phase=-89.21 [deg]

Ri3. I=0.000000000005259 [A], phase=0.8877 [deg]

Ro3. I=0.000000000005259 [A], phase=-179.11 [deg]

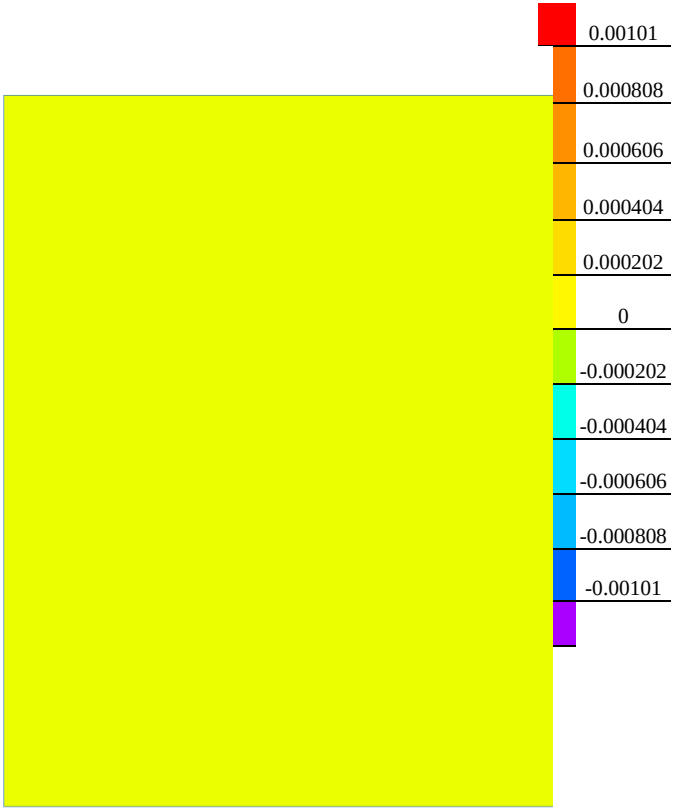
Rm3. I=1.8108E-14 [A], phase=91.08 [deg]

Ci3. I=0.000000000005259 [A], phase=-178.92 [deg]

U1. I=0.0000017748 [A], phase=-179.9 [deg]

Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data