Problem info

Problem type: Transient Magnetics (integration time: 5 s.)
Geometry model class: Plane-Parallel
Problem database file names:

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

Results taken from other problems:

- *none*

Geometry model

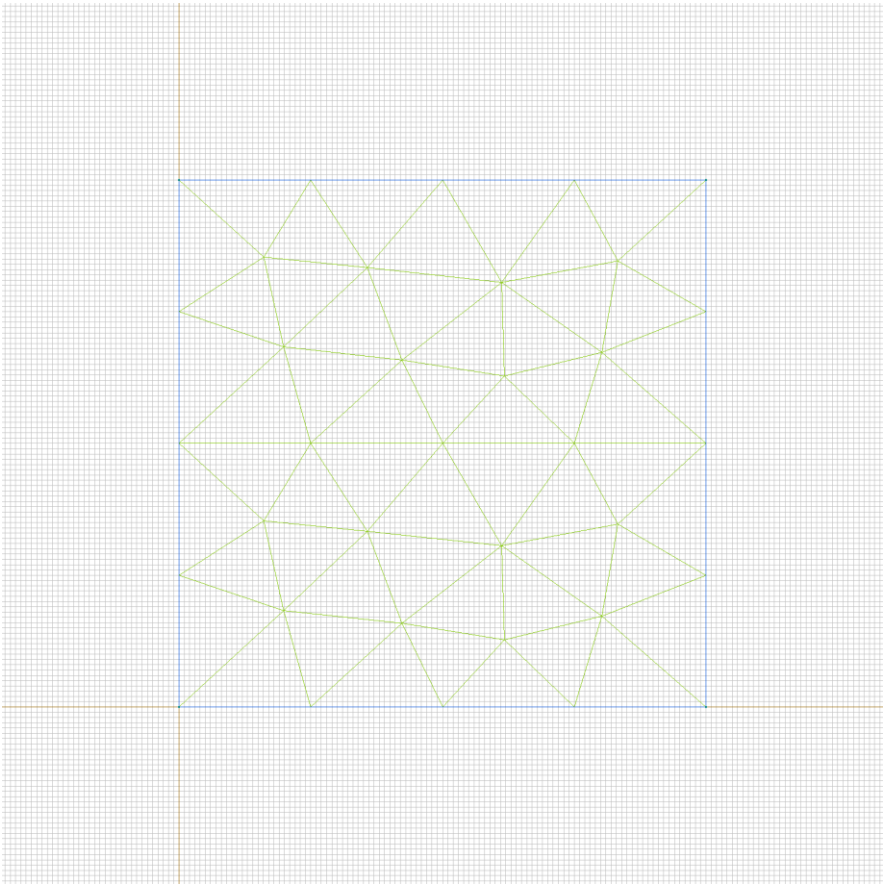


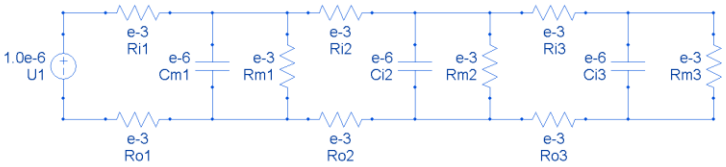
Table 1. Geometry model statistics

	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]

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)

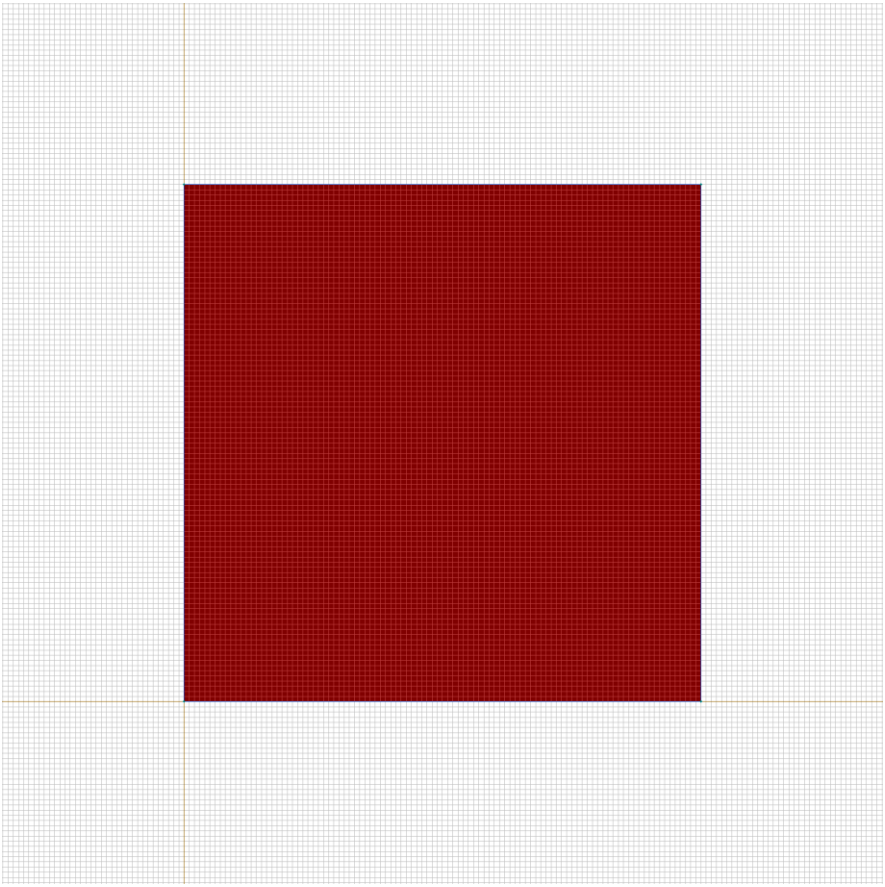
Blocks:	Edges:	Vertices:
• air •	• edge •	

Detailed information about each label is listed below.

Labelled objects: block "air"

There are (1) objects with this label

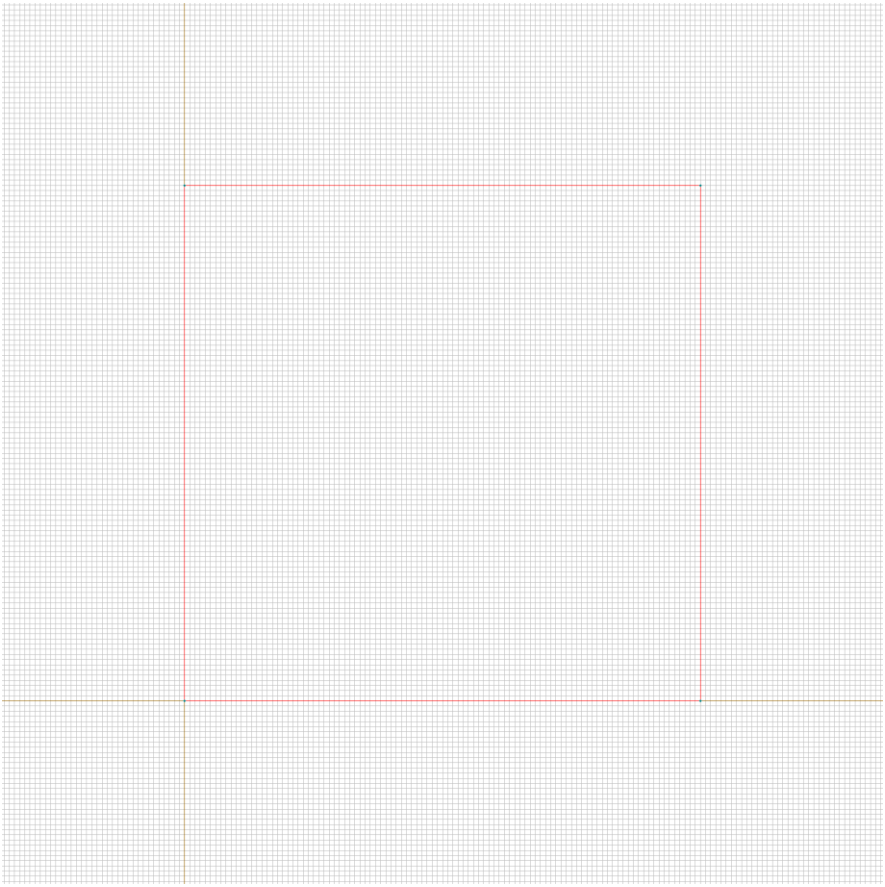
Relative magnetic permeability: mu_x=1, mu_y=1
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: edge "edge"

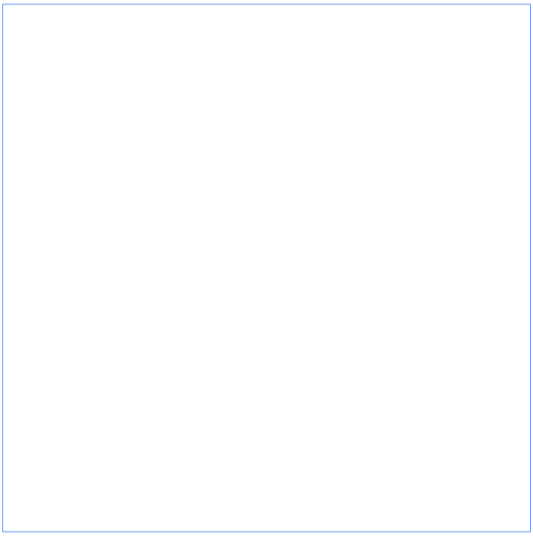
There are (4) objects with this label

Magnetic potential: A=1 [Wb/m]



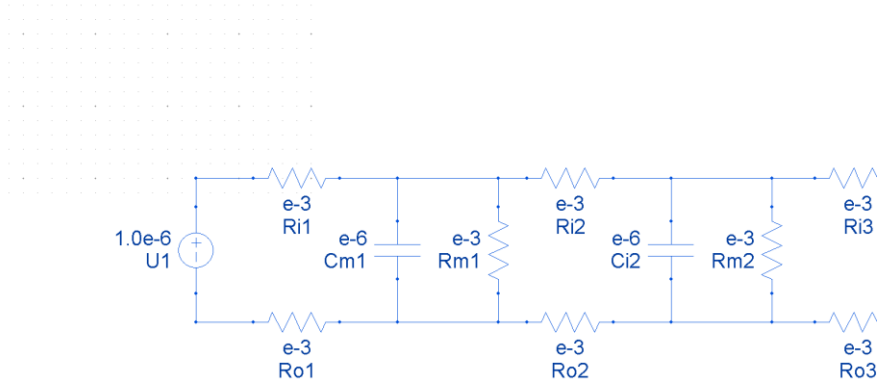
Results

Field lines



Results

Electric circuit currents



Circuit elements:

Ri1. I=0.0000012989 [A]

Ro1. I=0.0000012989 [A]

Rm1. I=0.0000009518 [A]

Cm1. I=0.0000000005896 [A]

Ri2. I=0.0000003465 [A]

Ro2. I=0.0000003465 [A]

Rm2. I=0.00000025886 [A]

Ci2. I=0.000000000965 [A]

Ri3. I=0.00000008666 [A]

Ro3. I=0.00000008666 [A]

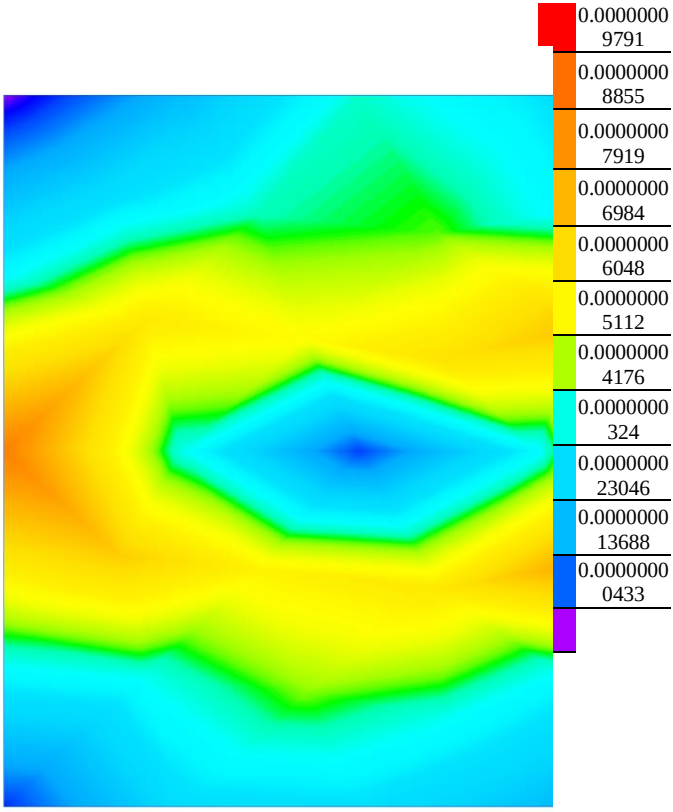
Rm3. I=0.00000008555 [A]

Ci3. I=0.0000000011087 [A]

U1. I=0.0000012989 [A]

Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data