Problem info

Problem type: Transient Magnetics (integration time: 1.00000004749745E-03 s.)
Geometry model class: Plane-Parallel
Problem database file names:

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

Results taken from other problems:

- *none*

Geometry model

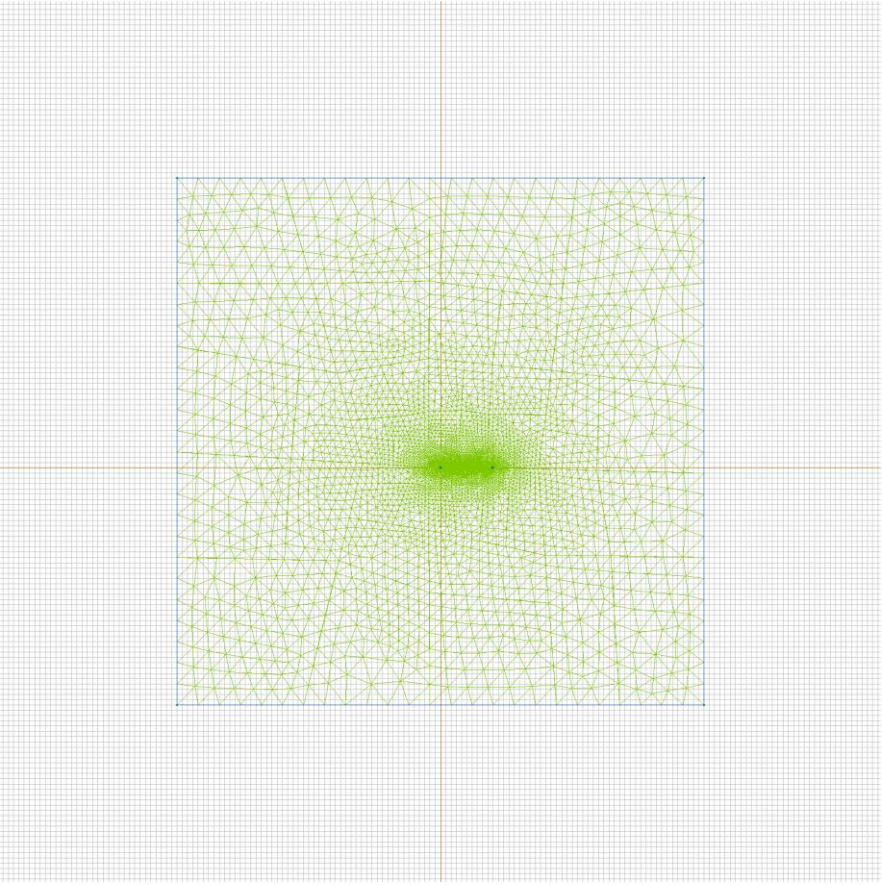


Table 1. Geometry model statistics

	With Label	Total
Blocks	3	3
Edges	1	8
Vertices	0	8

Number of nodes: 6814.

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)

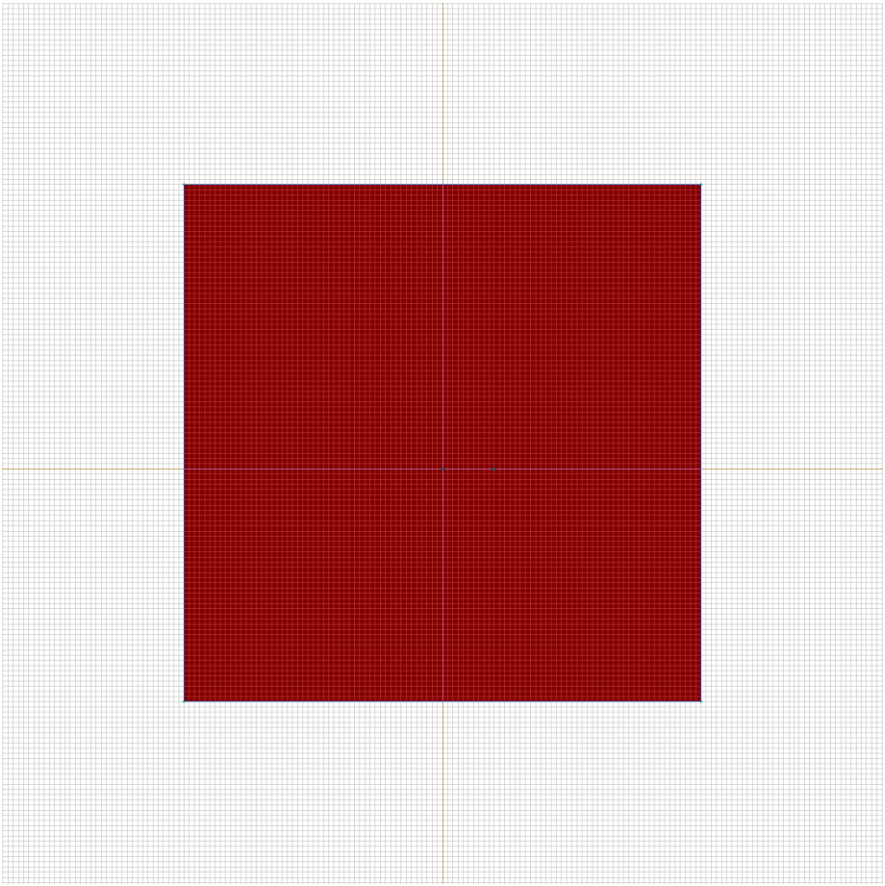
Blocks:	Edges:	Vertices:
• air • lightning • conductor •	• boundary •	

Detailed information about each label is listed below.

Labelled objects: block "air"

There are (1) objects with this label

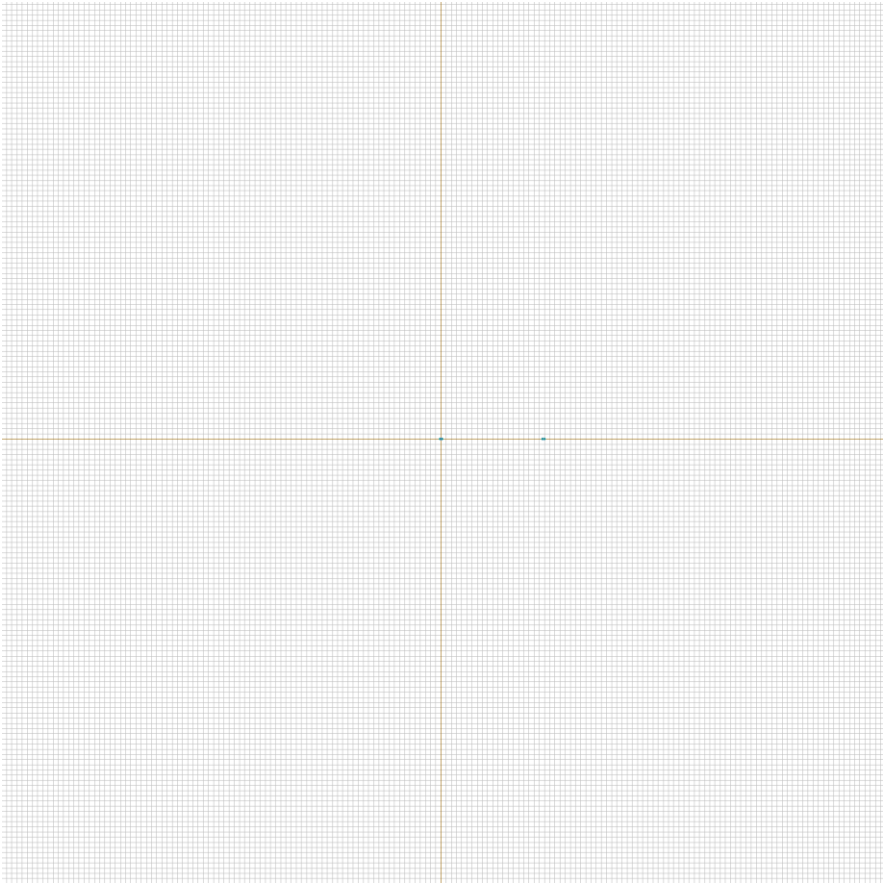
Relative magnetic permeability: mu_x=1, mu_y=1
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "lightning"

There are (1) objects with this label

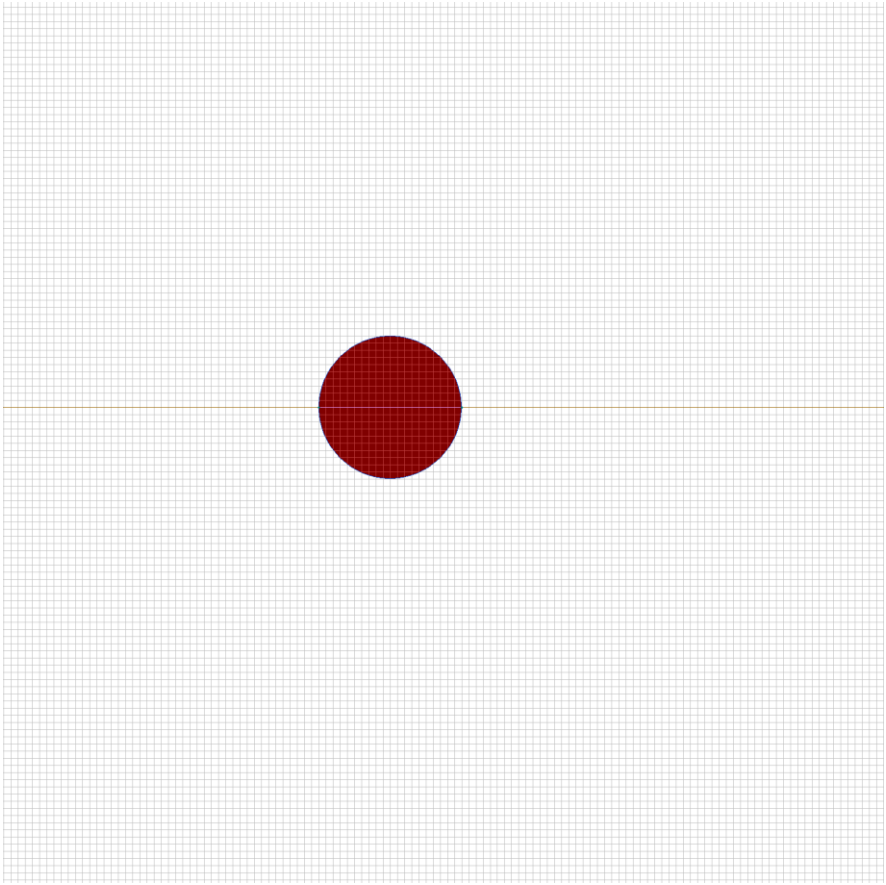
Relative magnetic permeability: mu_x=1, mu_y=1
Current density: j=(5.5e+10)*t*exp(-sqrt(t/5e-6)) [A/m2]
Conductor's connection: in parallel



Labelled objects: block "conductor"

There are (1) objects with this label

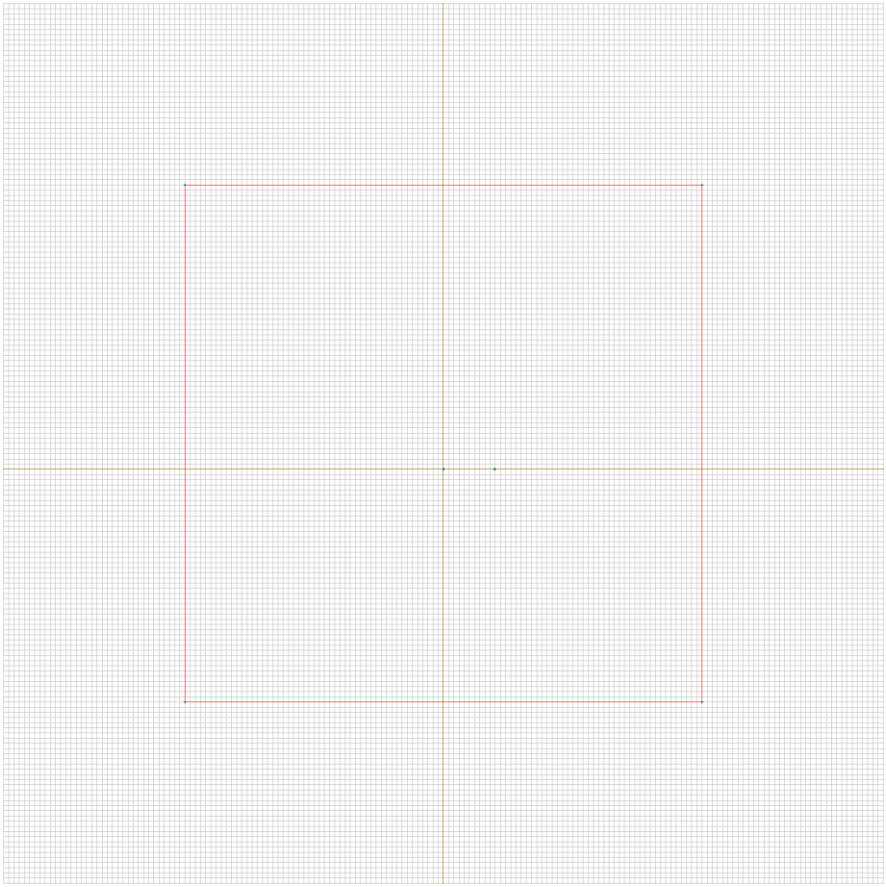
Relative magnetic permeability: mu_x=1, mu_y=1
Electric conductivity: sigma(T)=10000000 [S/m]
Voltage: U=0 [V]
Conductor's connection: in parallel



Labelled objects: edge "boundary"

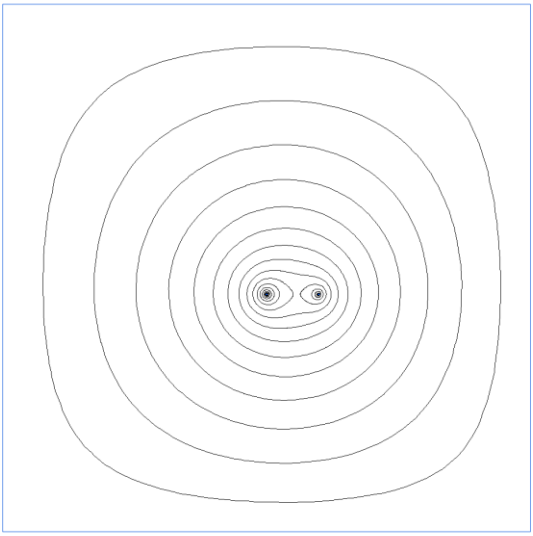
There are (4) objects with this label

Magnetic potential: A=0 [Wb/m]



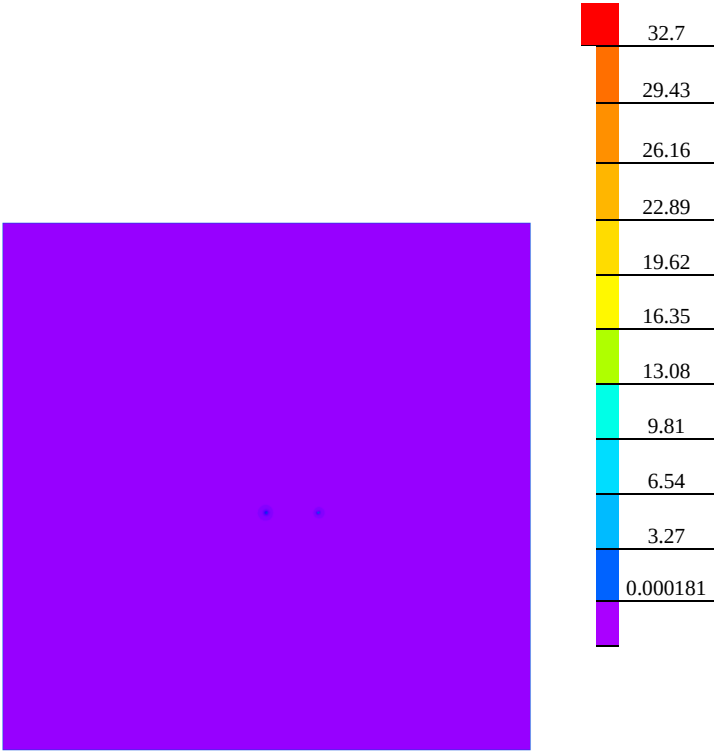
Results

Field lines



Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data