Problem info

Problem type: Transient Magnetics (integration time: 10 s.)
Geometry model class: Plane-Parallel
Problem database file names:

- Problem: *Sample_1.pbm*
- Geometry: *Sample_1.mod*
- Material Data: *Sample_1.dms*
- Material Data 2 (library): *none*
- Electric circuit: *none*

Results taken from other problems:

- *none*

Geometry model

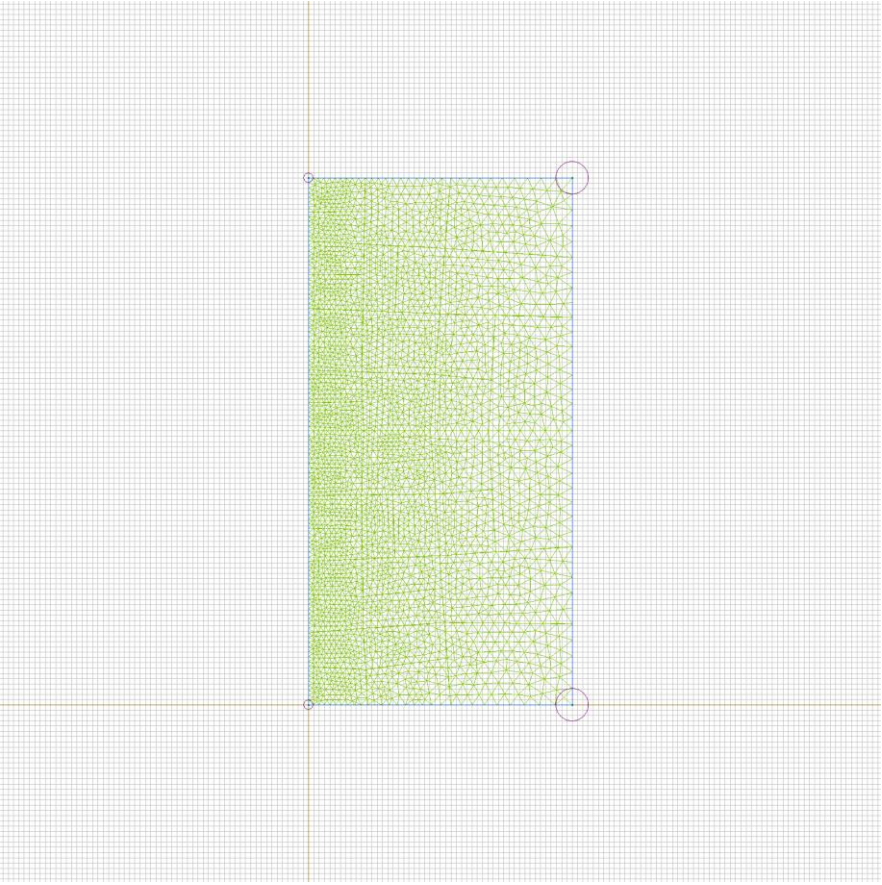


Table 1. Geometry model statistics

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

Number of nodes: 3151.

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)

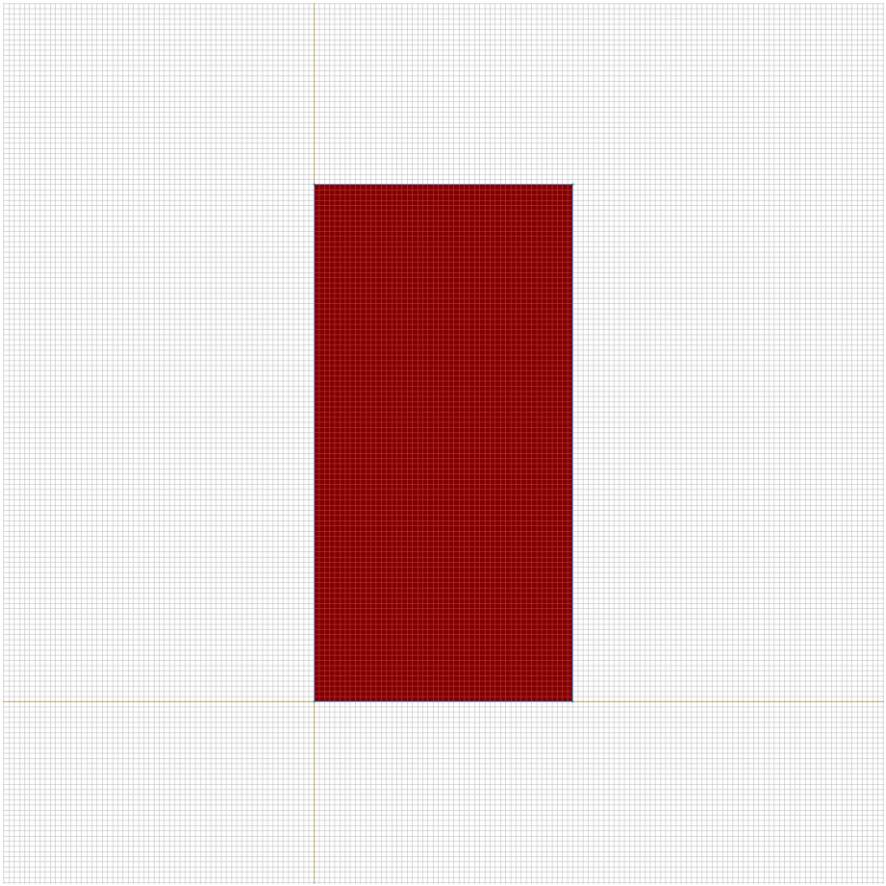
Blocks:	Edges:	Vertices:
• Block •	• b1 • a2 • b2 • a1 •	

Detailed information about each label is listed below.

Labelled objects: block "Block"

There are (1) objects with this label

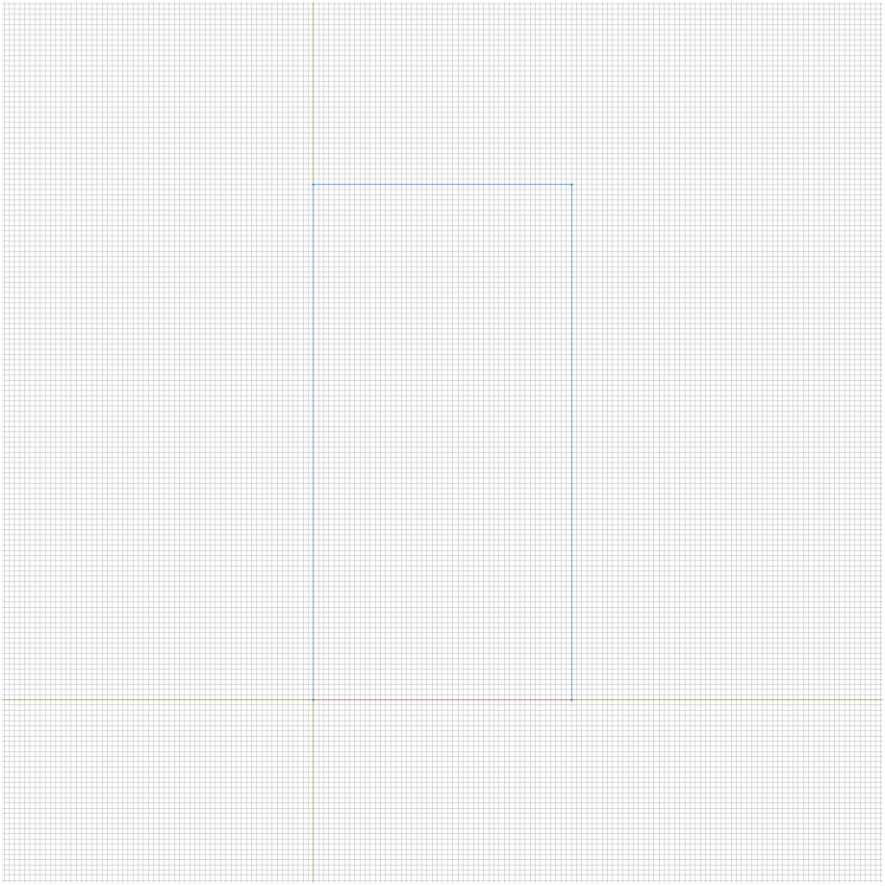
Relative magnetic permeability: mu=nonlinear (see Table 2 in the "Nonlinear dependencies" section)
Electric conductivity: sigma(T)=1000000 [S/m]
Voltage: U=0 [V]
Conductor's connection: in parallel



Labelled objects: edge "b1"

There are (1) objects with this label

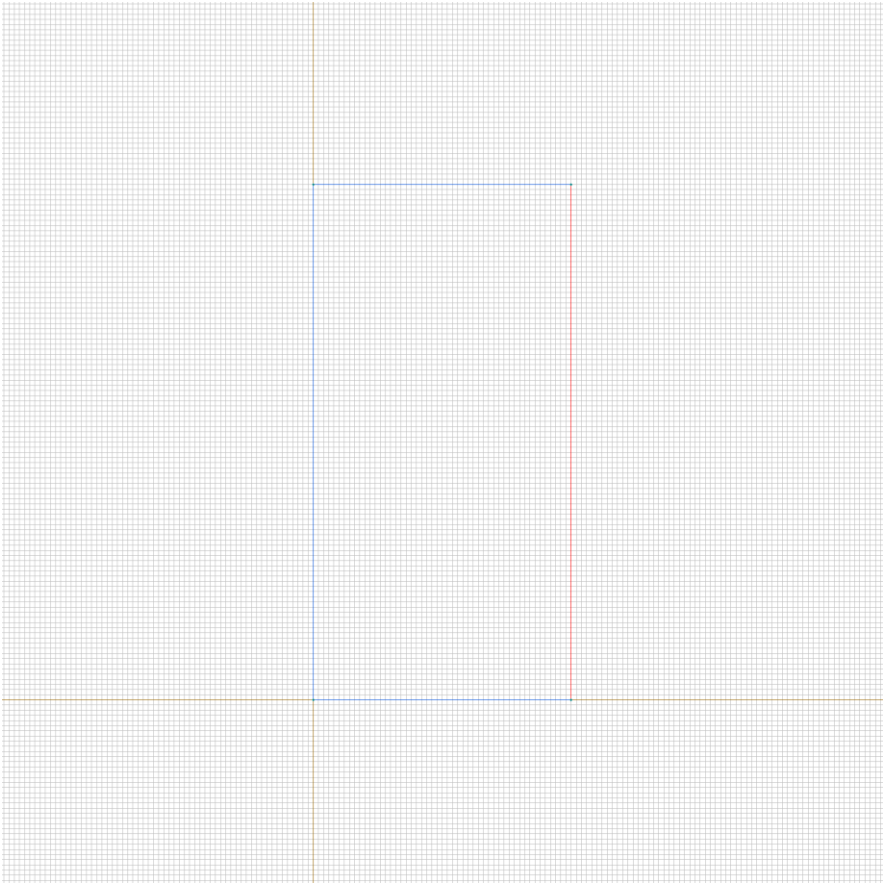
Tangential field: H_t=0 [A/m]



Labelled objects: edge "a2"

There are (1) objects with this label

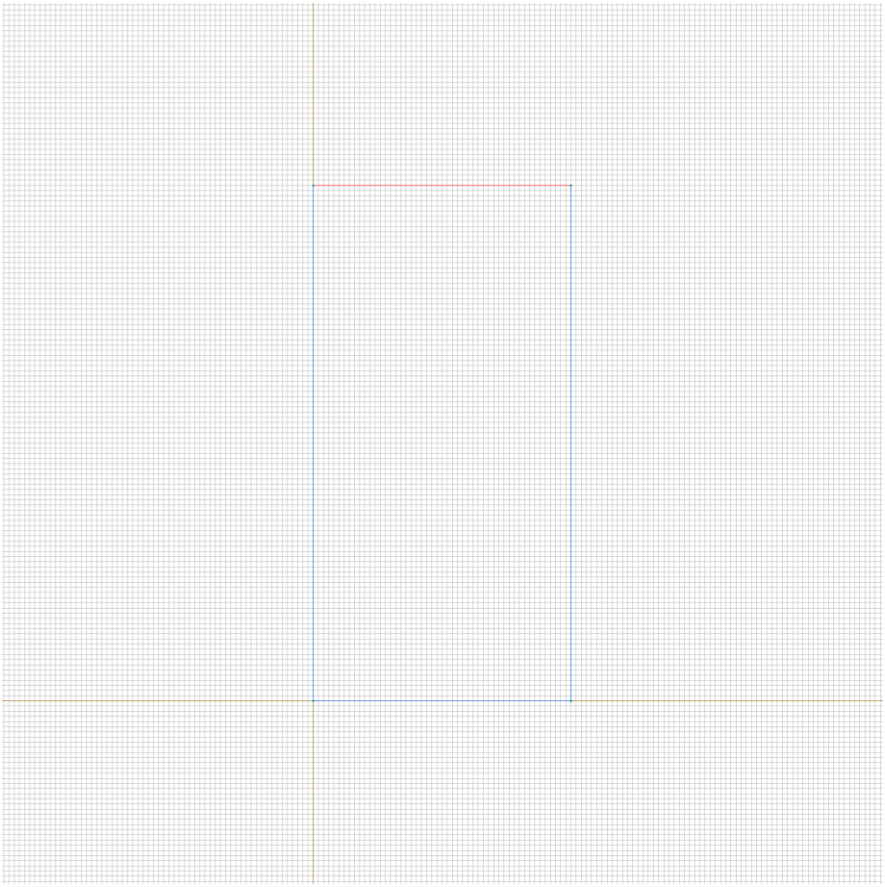
Magnetic potential: A=0 [Wb/m]



Labelled objects: edge "b2"

There are (1) objects with this label

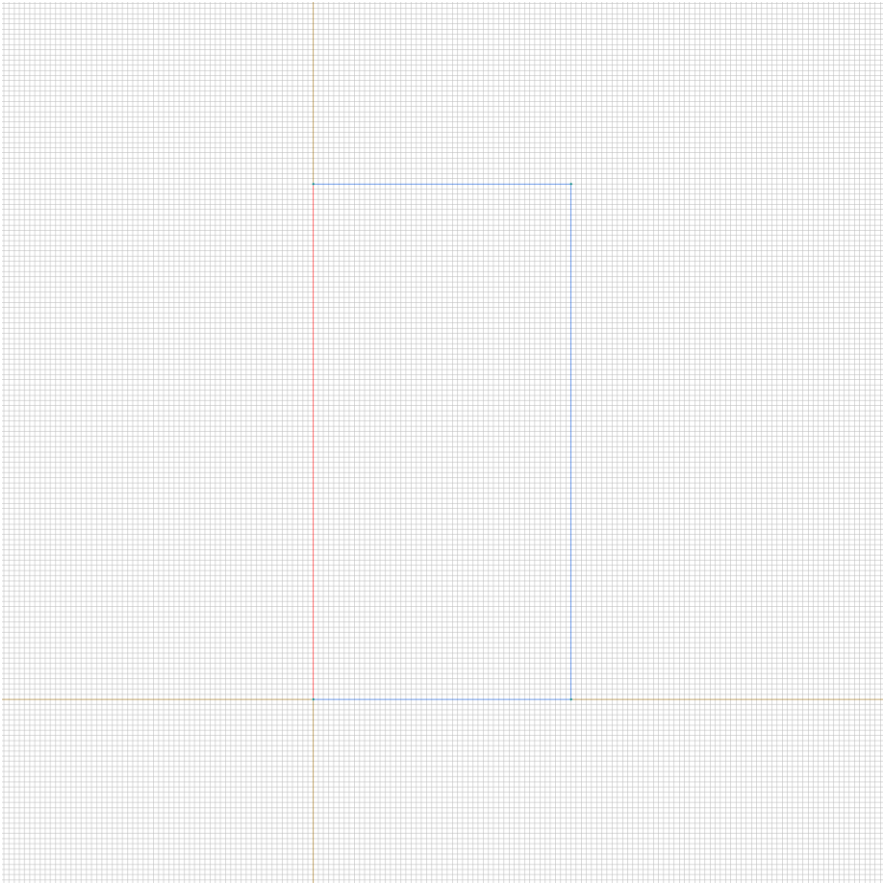
Tangential field: H_t=0 [A/m]



Labelled objects: edge "a1"

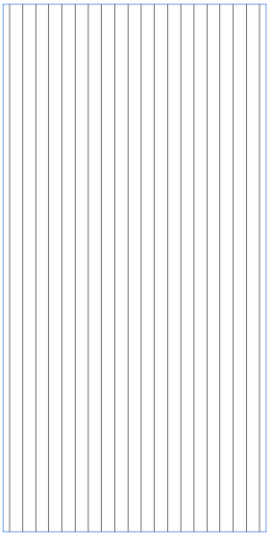
There are (1) objects with this label

Magnetic potential: A=0.8 [Wb/m]



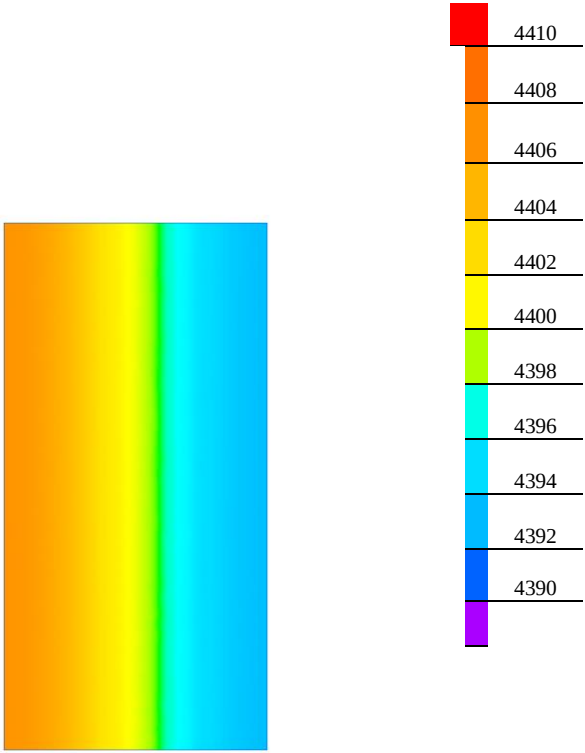
Results

Field lines



Results

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



Nonlinear dependencies

Table 2. BH-curve

B [T]	H [A/m]
0	0
0.4	140
0.5	171
0.6	211
0.7	261
0.8	318
0.9	397
1	502
1.1	647
1.2	843
1.3	1140
1.4	1580
1.5	2500
1.6	4400
1.7	7800
1.8	13000
1.9	22000
2	34200
2.3	200000