

# Problem info

Problem type: Transient Magnetics (integration time: 1000 s.)

Geometry model class: Plane-Parallel

Problem database file names:

- Problem: *Sample\_2.pbm*
- Geometry: *Sample\_2.mod*
- Material Data: *Sample\_2.dms*
- Material Data 2 (library): *none*
- Electric circuit: *none*

Results taken from other problems:

- *none*

# Geometry model

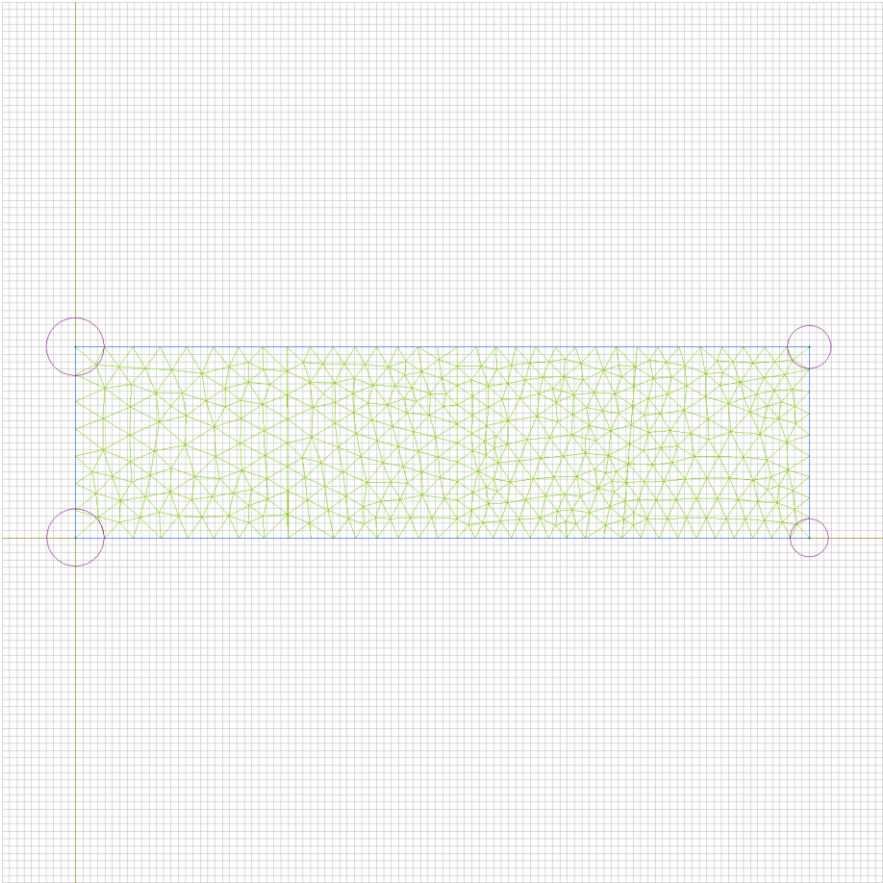


Table 1. Geometry model statistics

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

Number of nodes: 417.

# 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:

- [Block](#)
- 

Edges:

- [a1](#)
- [b2](#)
- [a2](#)
- [b1](#)
- 

Vertices:

Detailed information about each label is listed below.

Labelled objects: block "Block"

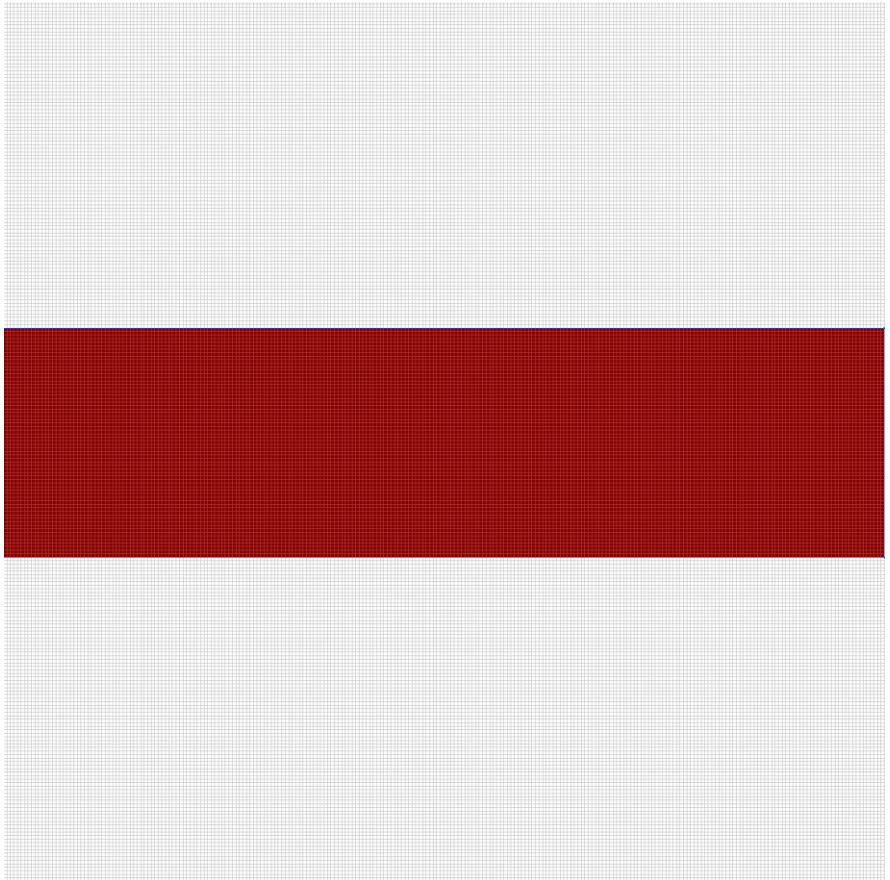
There are (1) objects with this label

Relative magnetic permeability:  $\mu$ =nonlinear (see Table 2 in the "Nonlinear dependencies" section)

Electric conductivity:  $\sigma(T)=1000000$  [S/m]

Voltage:  $U=0$  [V]

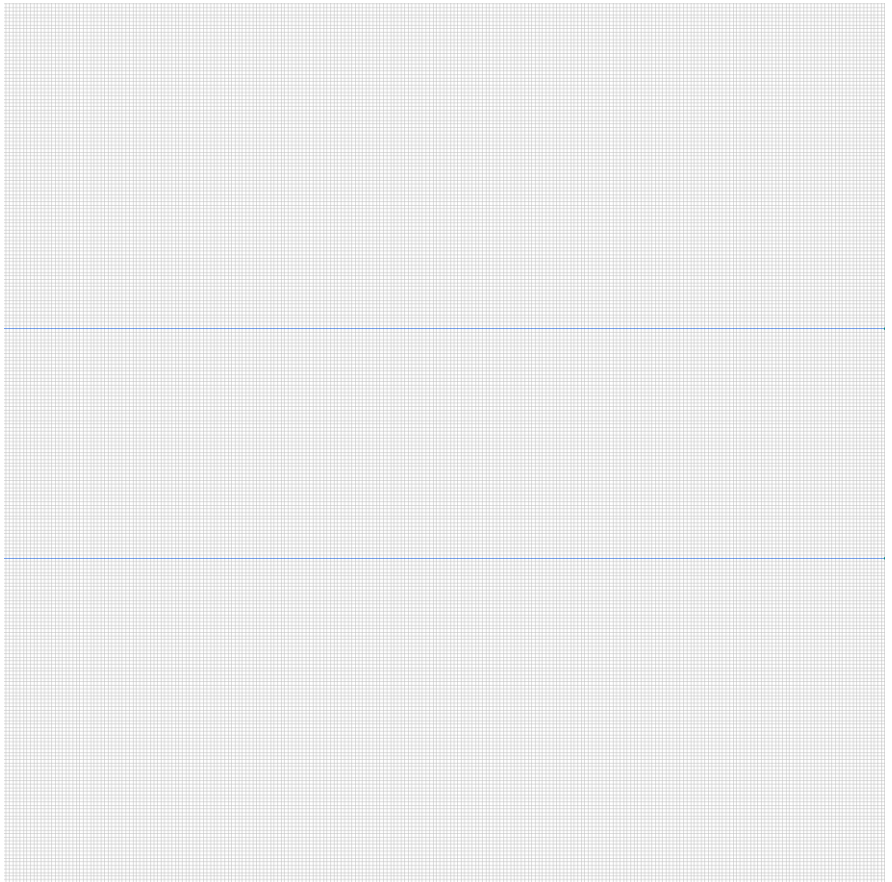
Conductor's connection: in parallel



Labelled objects: edge "a1"

There are (1) objects with this label

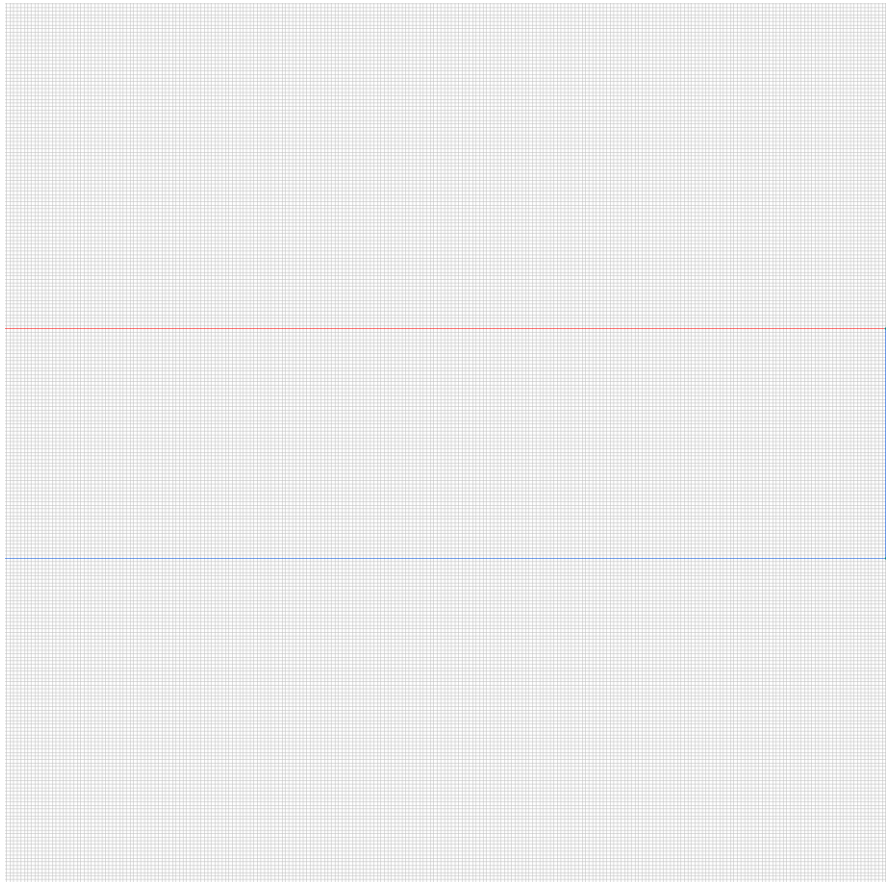
Magnetic potential:  $A=8$  [Wb/m]



Labelled objects: edge "b2"

There are (1) objects with this label

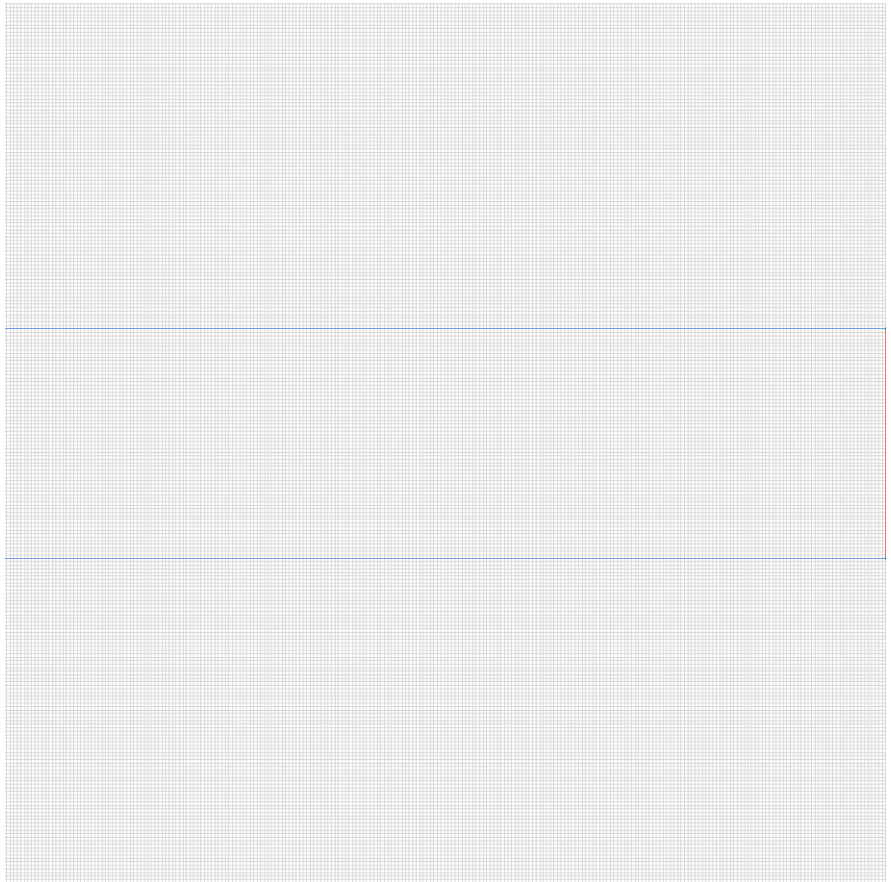
Tangential field:  $H_{t=0}$  [A/m]



Labelled objects: edge "a2"

There are (1) objects with this label

Magnetic potential:  $A=0$  [Wb/m]

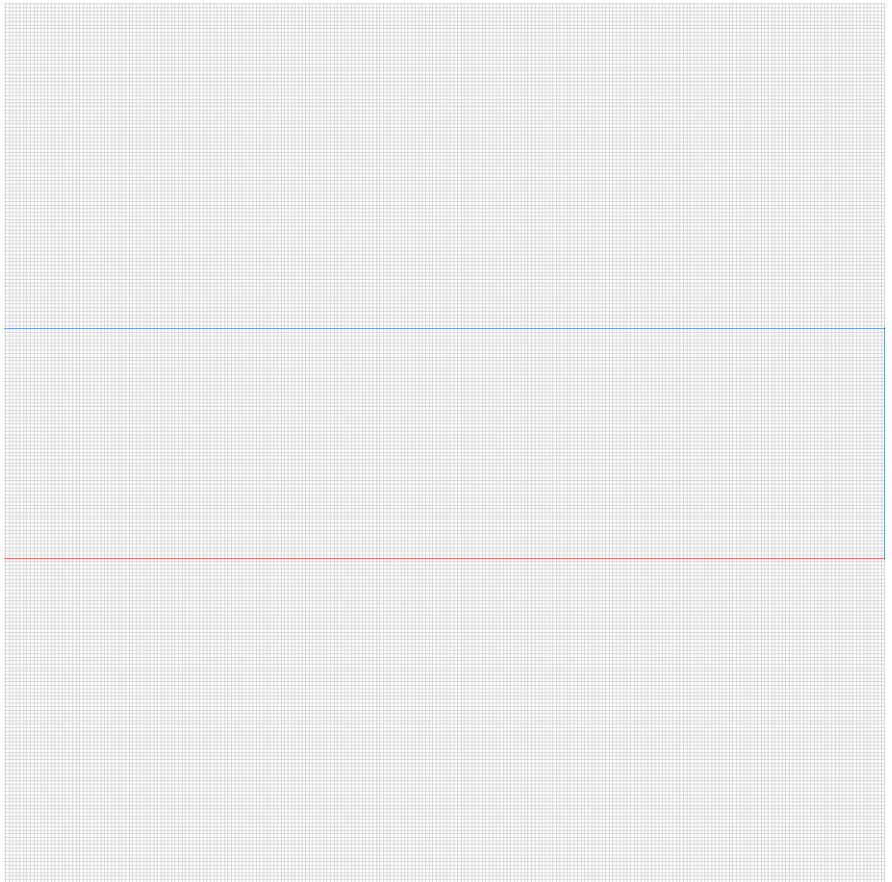




Labelled objects: edge "b1"

There are (1) objects with this label

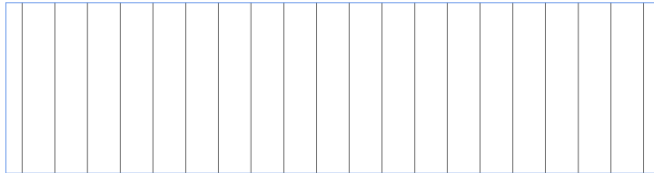
Tangential field:  $H_{t=0}$  [A/m]





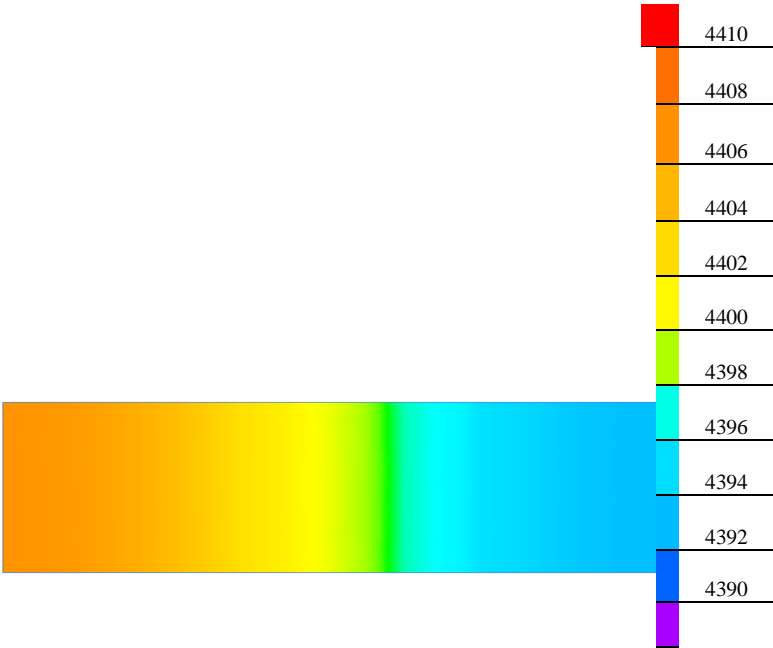
# Results

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