Problem info

Problem type: Magnetostatics
Geometry model class: Plane-Parallel
Problem database file names:

- Problem: *BUSS1.PBM*
- Geometry: *Buss1.mod*
- Material Data: *Buss1.dms*
- Material Data 2 (library): *none*
- Electric circuit: *none*

Results taken from other problems:

- *none*

Geometry model

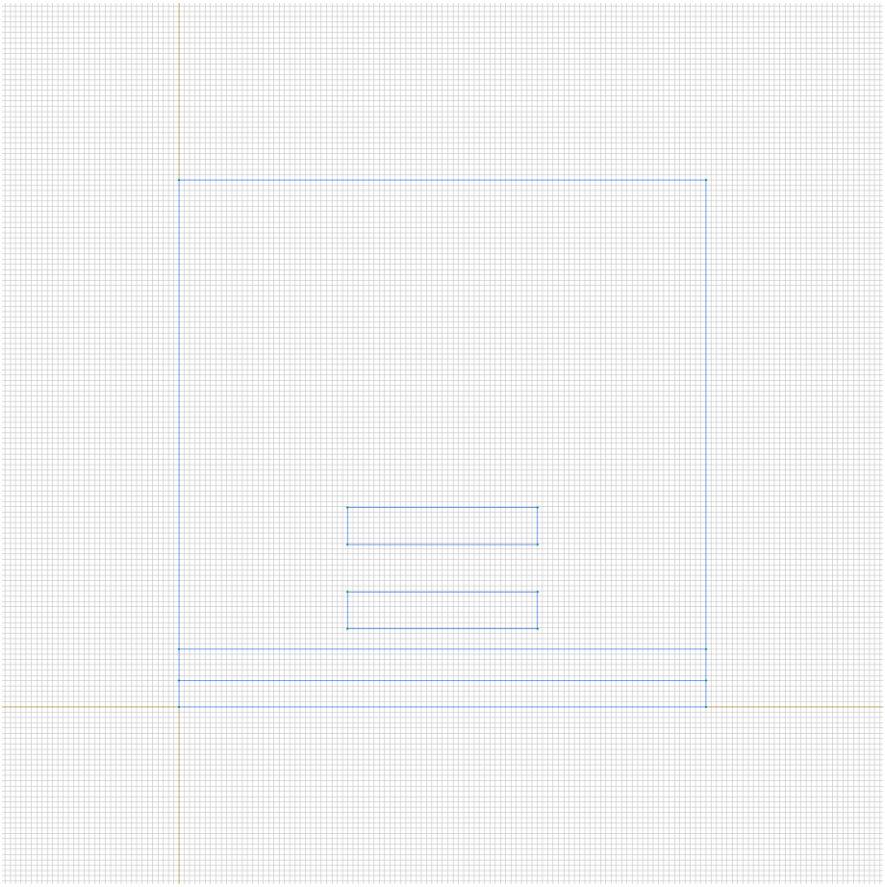


Table 1. Geometry model statistics

	With Label	Total
Blocks	4	5
Edges	1	18
Vertices	0	16

Number of nodes: 1122.

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)

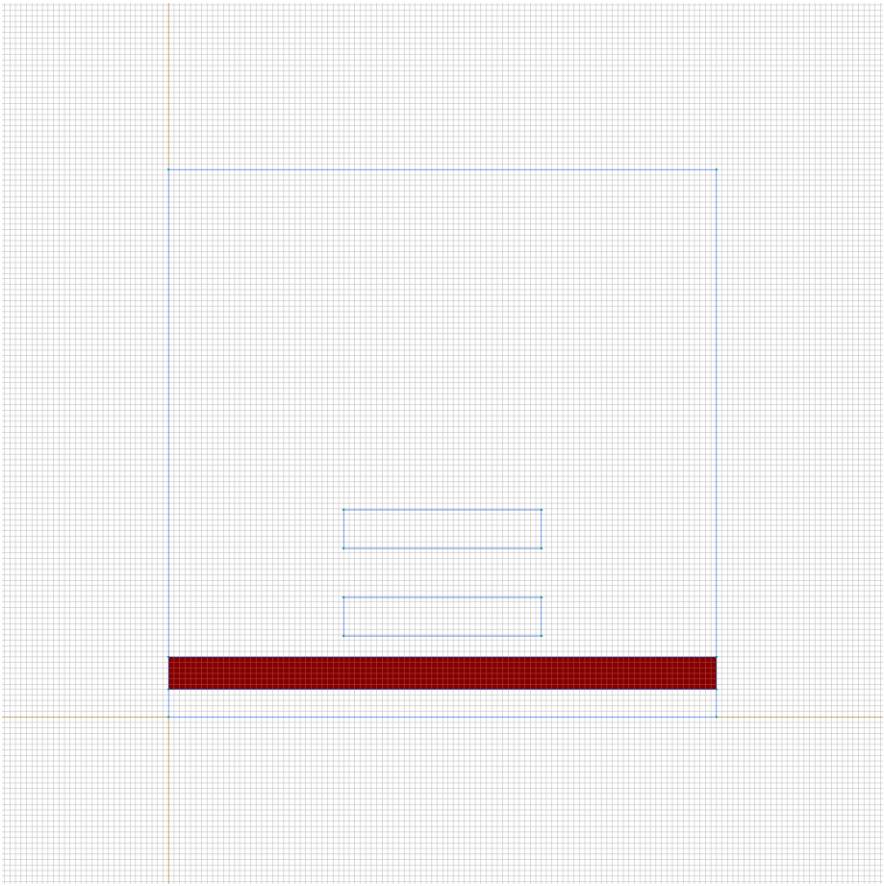
Blocks:	Edges:	Vertices:
• wall • air • powerbus_- • powerbus_+ •	• edge •	

Detailed information about each label is listed below.

Labelled objects: block "wall"

There are (1) objects with this label

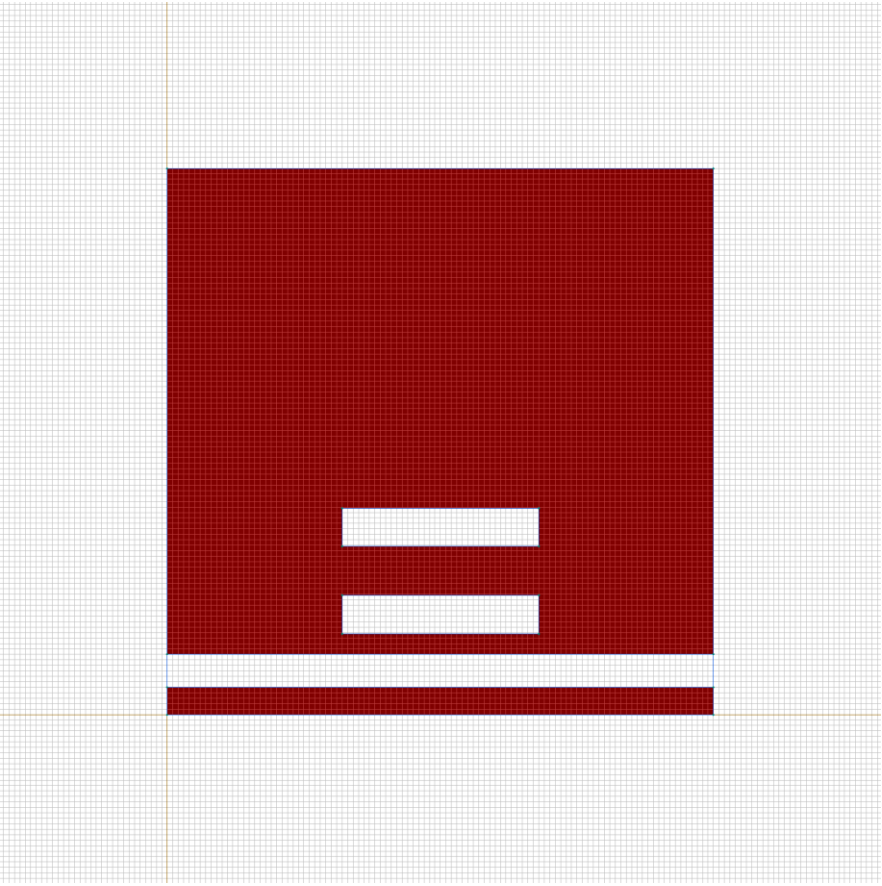
Relative magnetic permeability: mu=nonlinear (see Table 2 in the "Nonlinear dependencies" section)
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "air"

There are (2) objects with this label

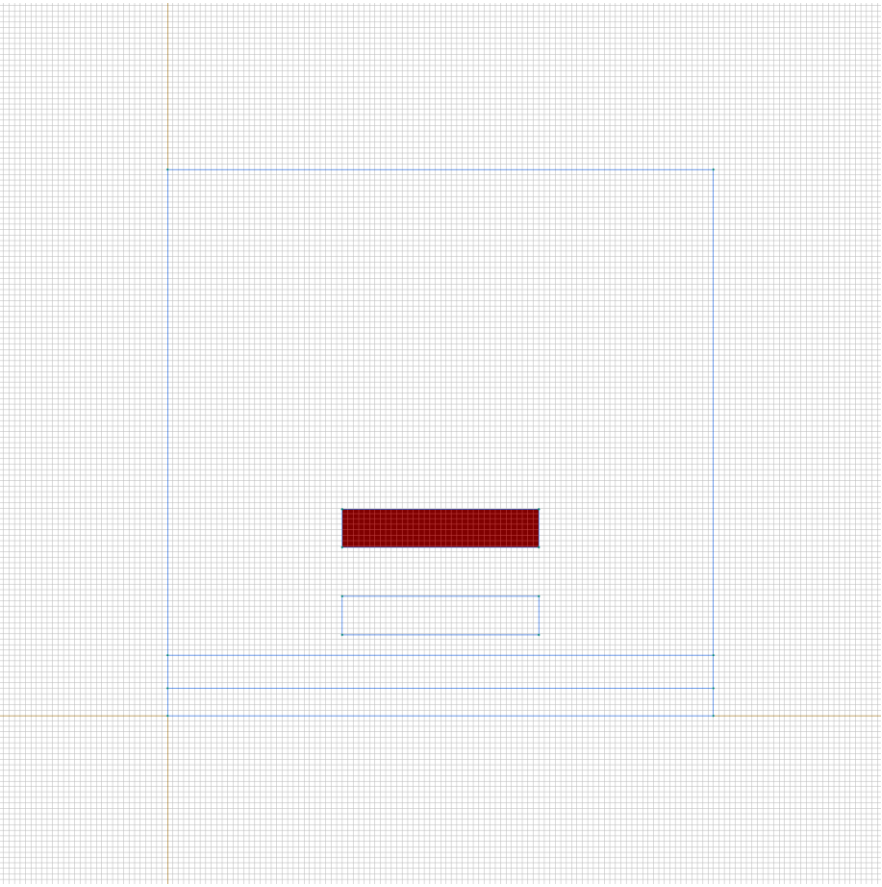
Relative magnetic permeability: mu_x=1, mu_y=1
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "powerbus_-"

There are (1) objects with this label

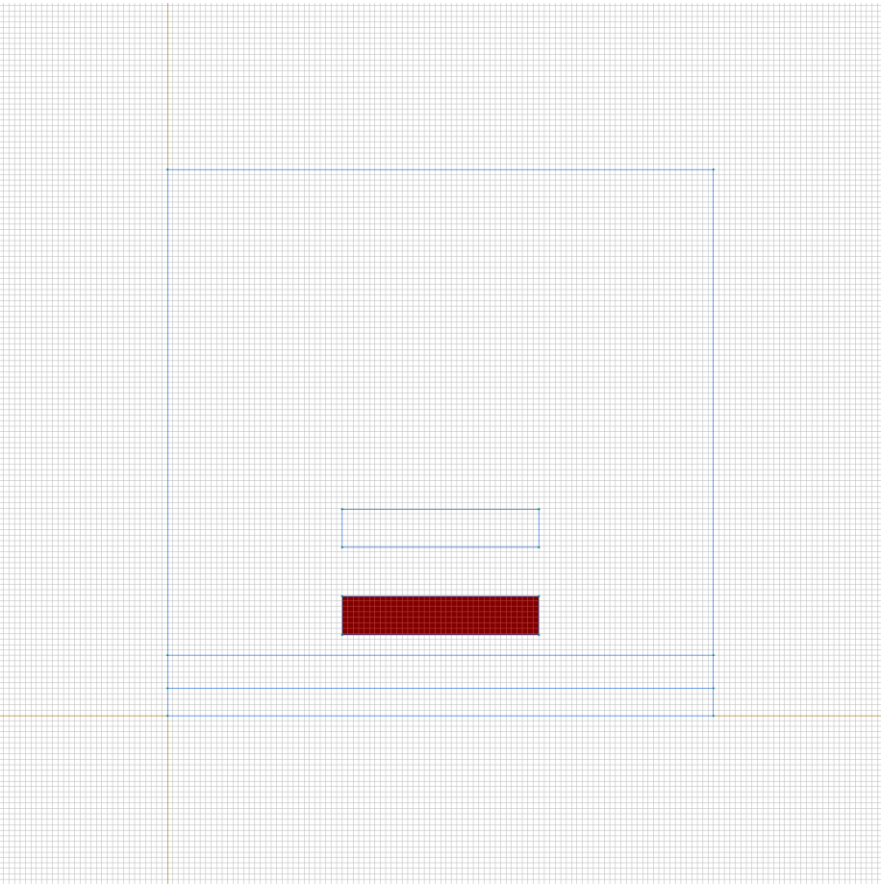
Relative magnetic permeability: mu_x=1, mu_y=1
Current density: j=-3000000 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "powerbus_+"

There are (1) objects with this label

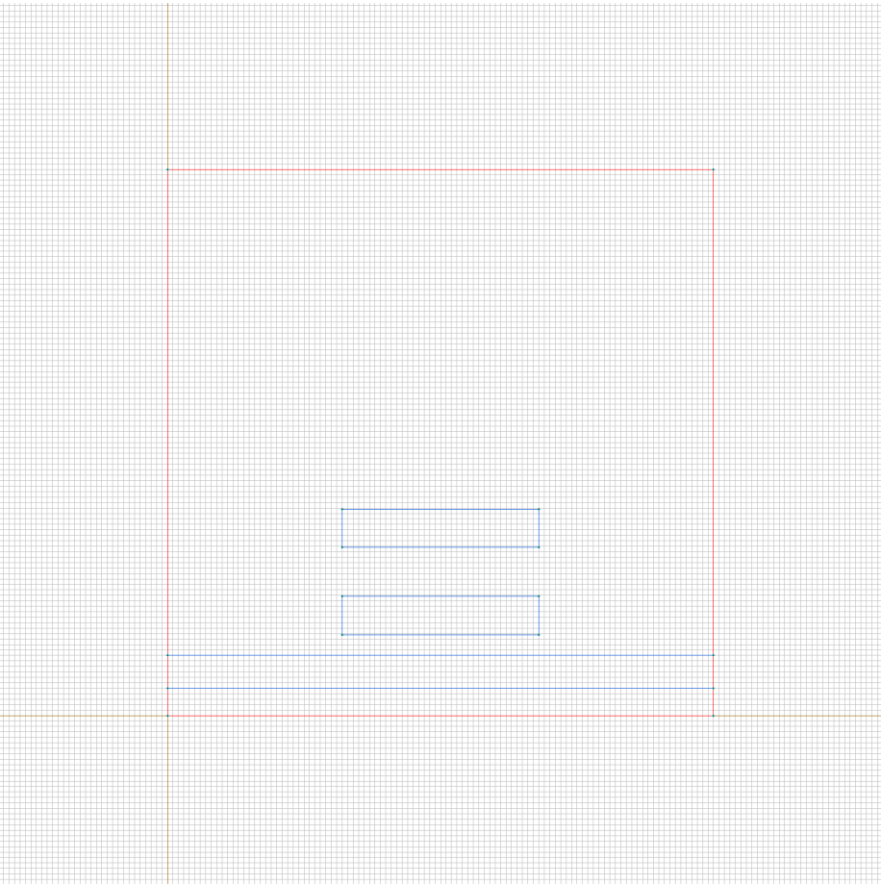
Relative magnetic permeability: mu_x=1, mu_y=1
Current density: j=3000000 [A/m2]
Conductor's connection: in parallel



Labelled objects: edge "edge"

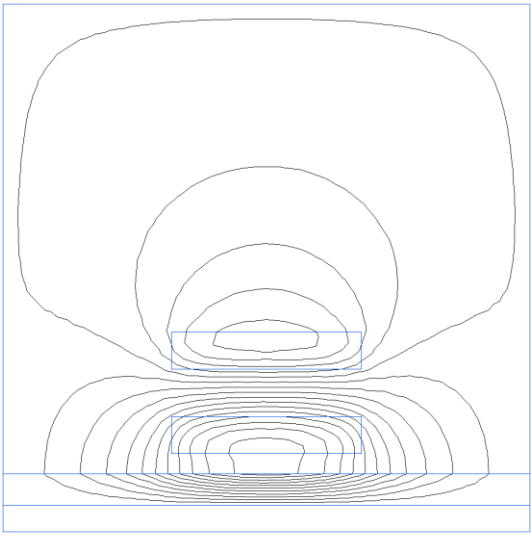
There are (8) objects with this label

Magnetic potential: A=0 [Wb/m]



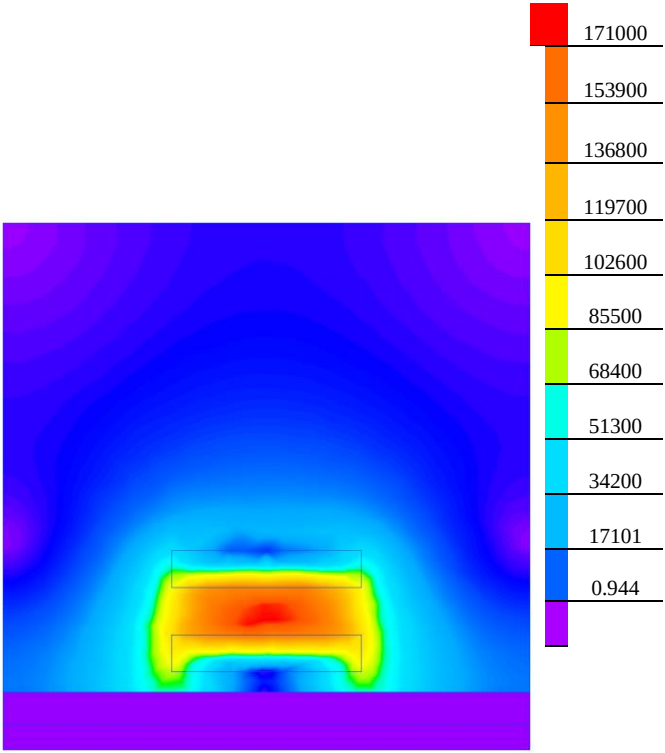
Results

Field lines



Results

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



Nonlinear dependencies

Table 2. BH-curve

B [T]	H [A/m]
0	0
0.3	100
0.4	110
0.5	119
0.6	130
0.7	141
0.8	154
0.9	172
1	195
1.1	229
1.2	284
1.3	386
1.4	545
1.5	883
1.55	1216