Problem info

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

- Problem: *Srm300.pbm*
- Geometry: *Srm300.mod*
- Material Data: *Srm300.dms*
- Material Data 2 (library): *none*
- Electric circuit: *none*

Results taken from other problems:

- *none*

Geometry model

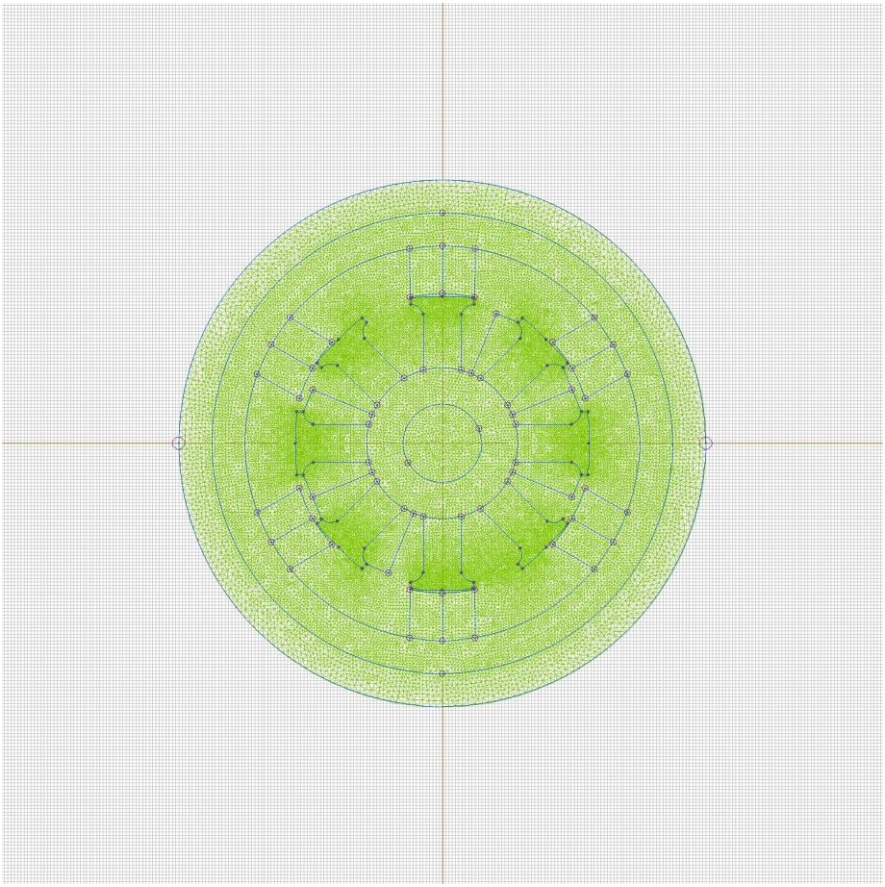


Table 1. Geometry model statistics

	With Label	Total
Blocks	6	33
Edges	1	154
Vertices	0	126

Number of nodes: 29294.

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)

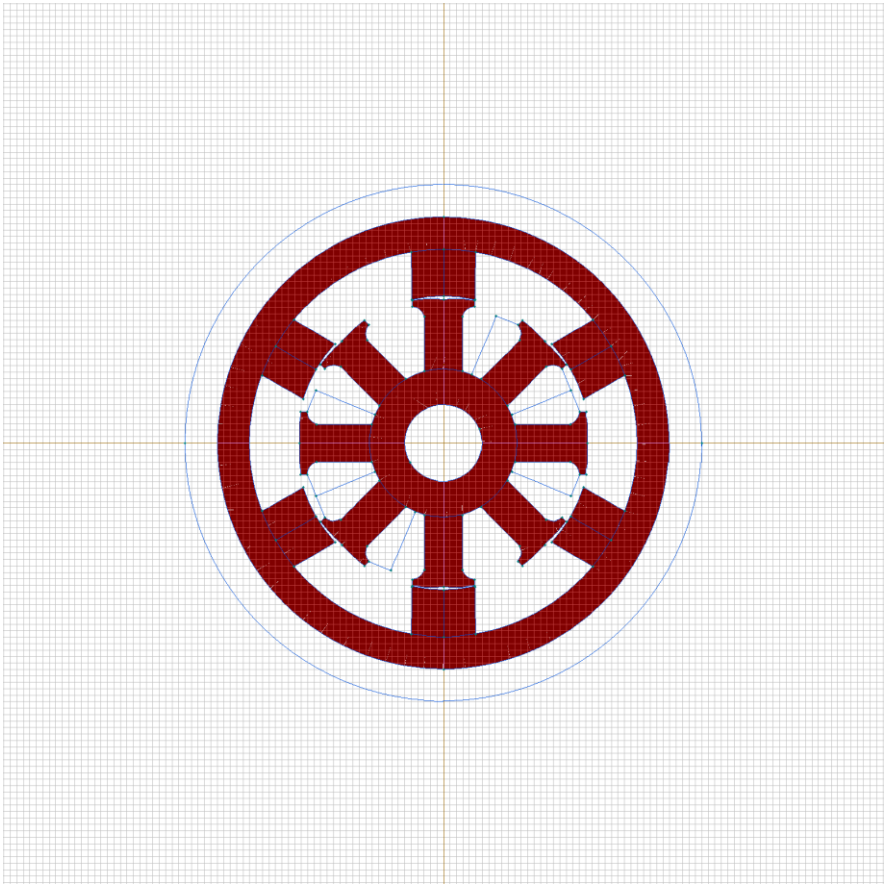
Blocks:	Edges:	Vertices:
• steel • air • coil r+ • coil r- • coil s- • coil s+ •	• 0 •	

Detailed information about each label is listed below.

Labelled objects: block "steel"

There are (22) objects with this label

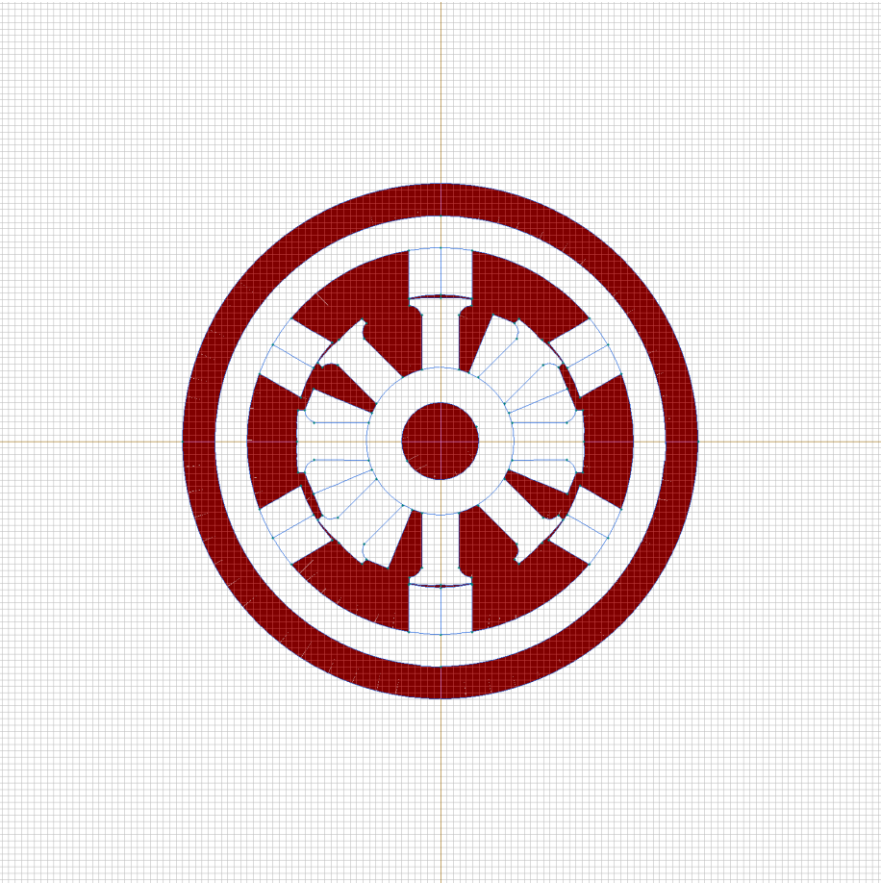
Relative magnetic permeability: mu=nonlinear (see Table 2 in the "Nonlinear dependencies" section)
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "air"

There are (3) objects with this label

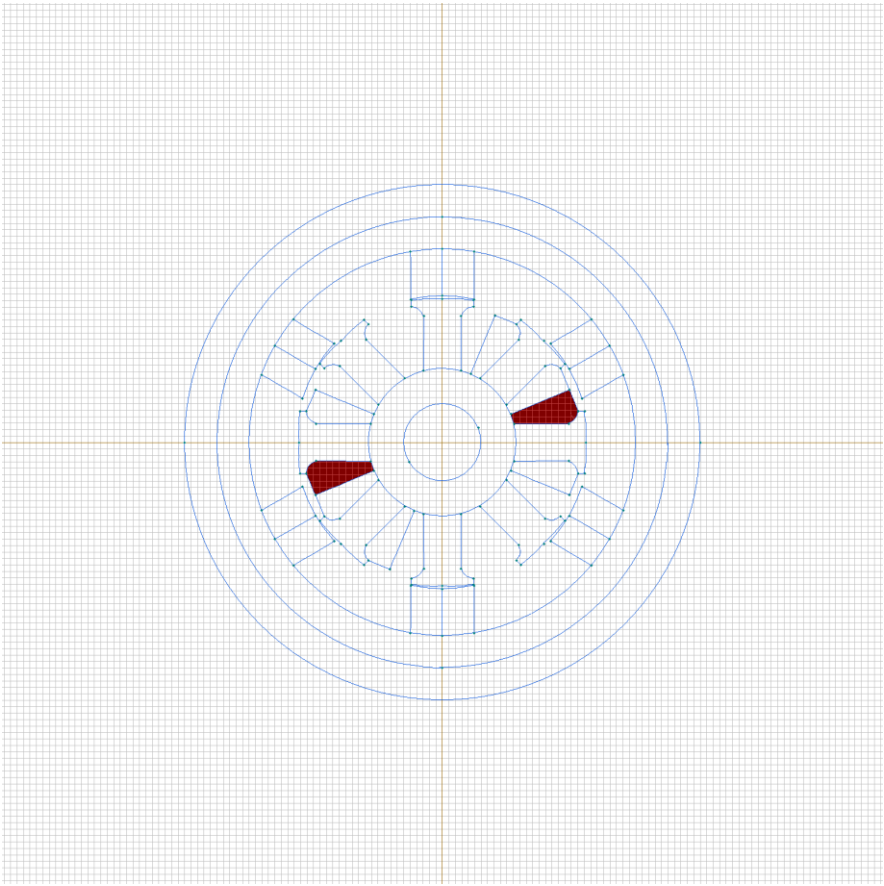
Relative magnetic permeability: mu_x=1, mu_y=1
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "coil r+"

There are (2) objects with this label

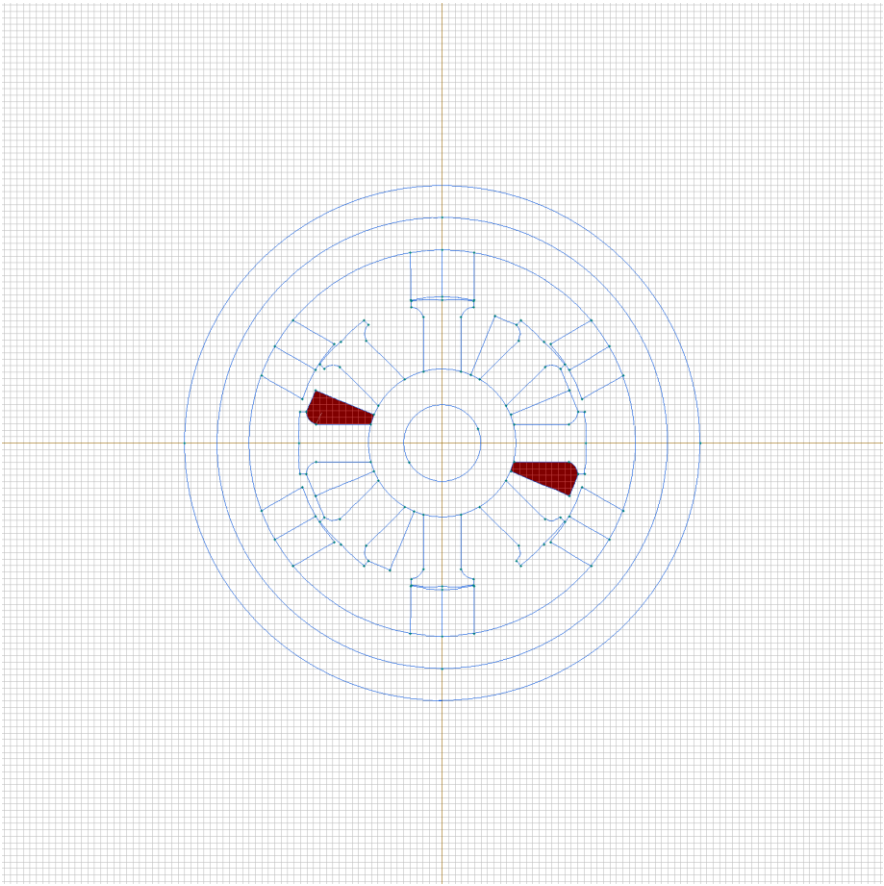
Relative magnetic permeability: mu_x=1, mu_y=1
Coercive force: Hc=5 [A], direction: 0 [deg]
Current density: j=3200000 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "coil r-"

There are (2) objects with this label

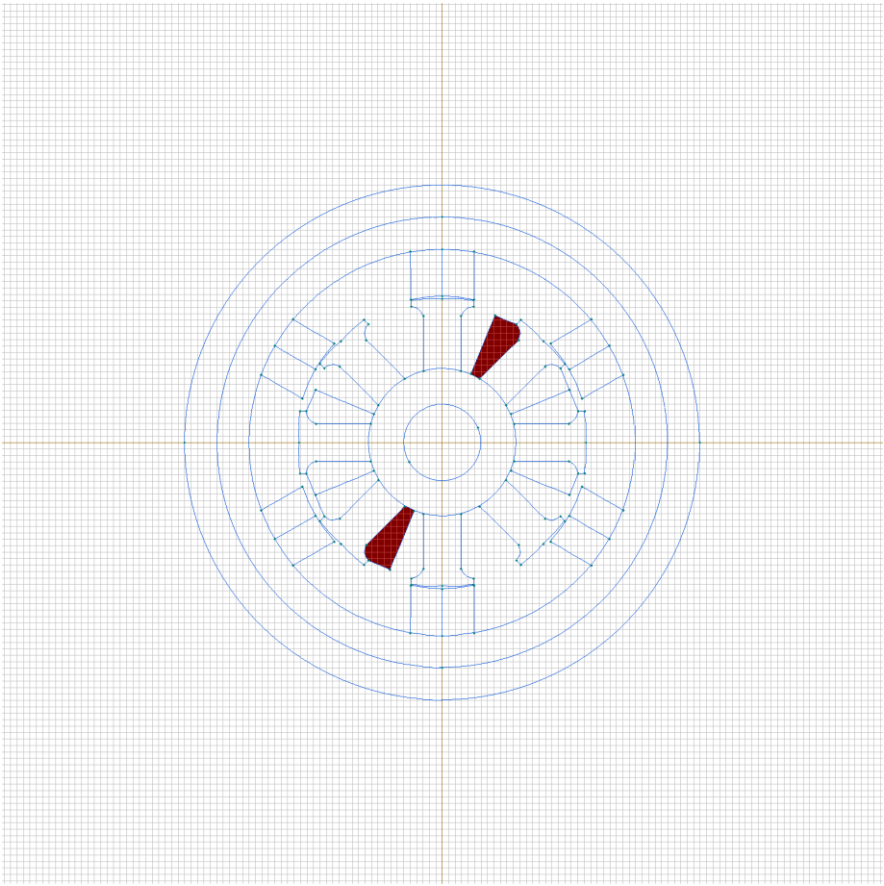
Relative magnetic permeability: mu_x=1, mu_y=1
Coercive force: Hc=5 [A], direction: 0 [deg]
Current density: j=-3200000 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "coil s-"

There are (2) objects with this label

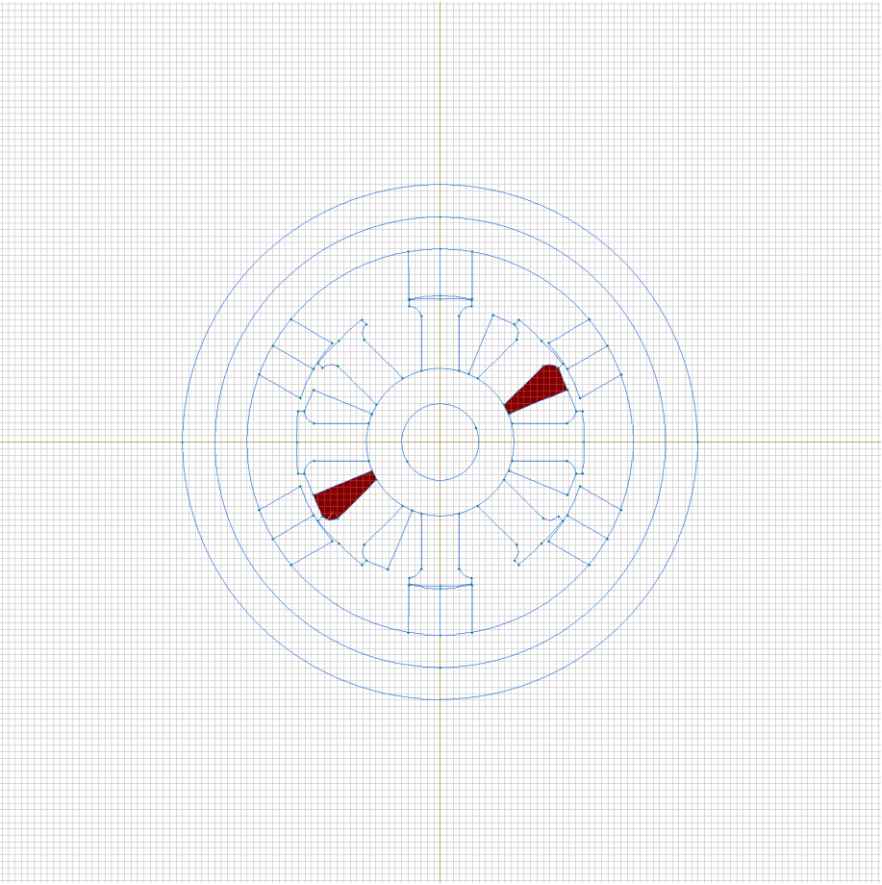
Relative magnetic permeability: mu_x=1, mu_y=1
Coercive force: Hc=5 [A], direction: 0 [deg]
Current density: j=-3200000 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "coil s+"

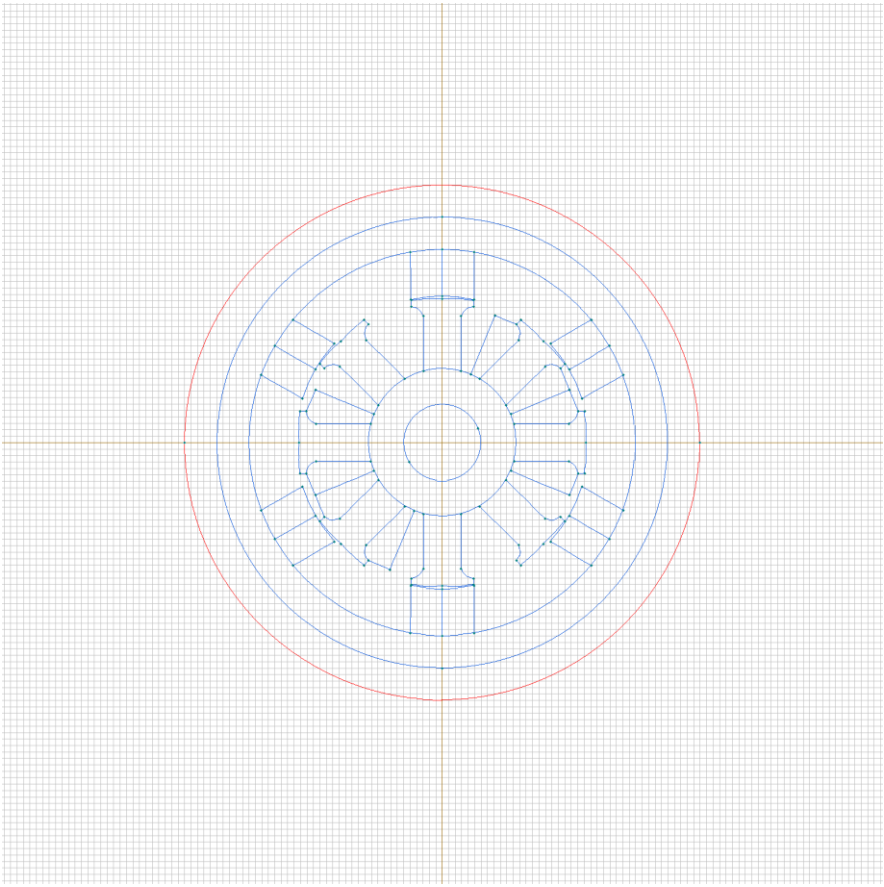
There are (2) objects with this label

Relative magnetic permeability: mu_x=1, mu_y=1
Coercive force: Hc=5 [A], direction: 0 [deg]
Current density: j=3200000 [A/m2]
Conductor's connection: in parallel



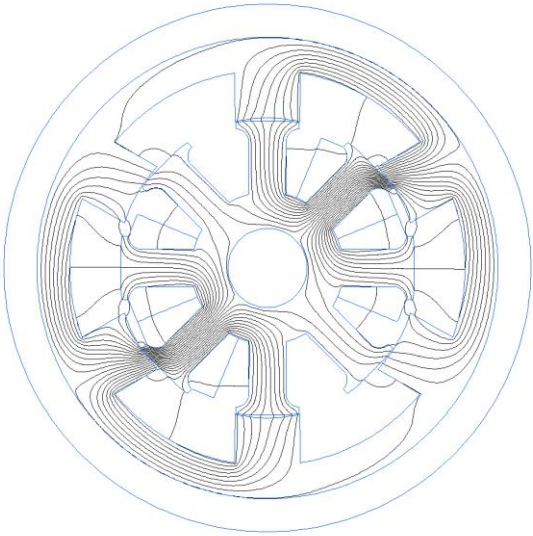
Labelled objects: edge "0"

There are (2) objects with this label



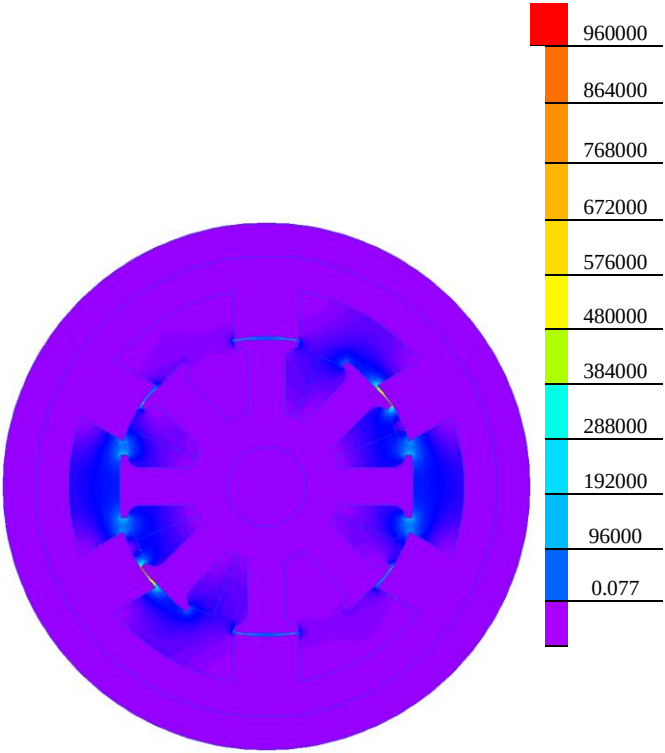
Results

Field lines



Results

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



Nonlinear dependencies

Table 2. BH-curve

B [T]	H [A/m]
0	0
0.73	400
0.92	600
1.05	800
1.15	1000
1.42	2000
1.52	3000
1.58	4000
1.6	6000