Problem info

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

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

Results taken from other problems:

- *none*

Geometry model

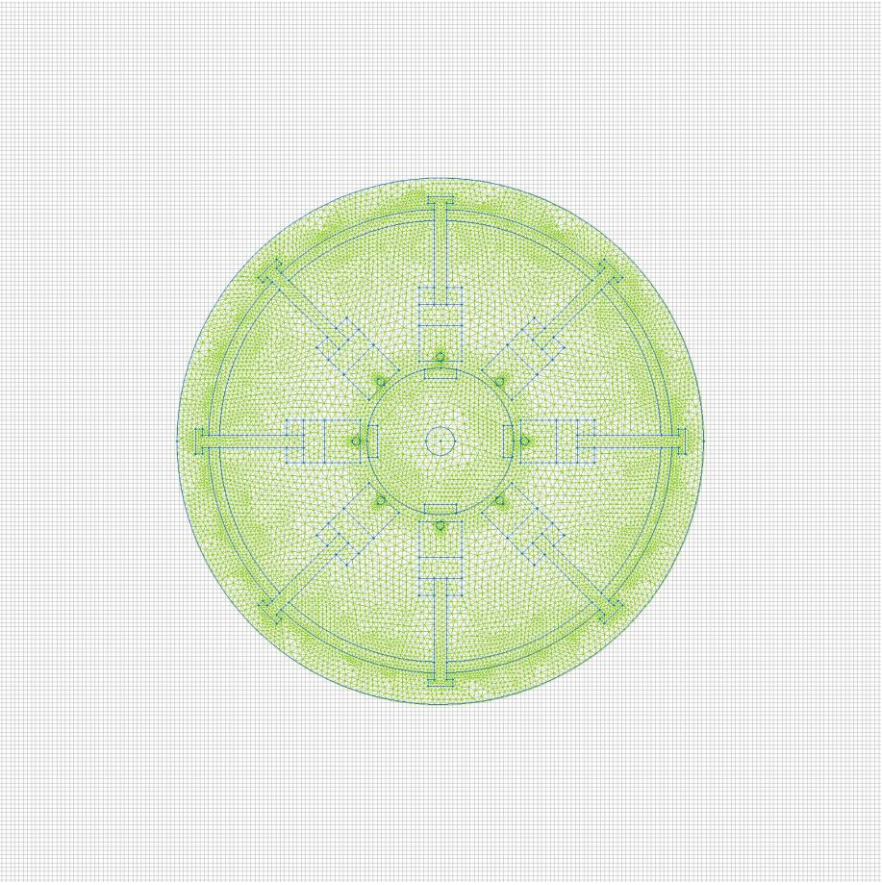


Table 1. Geometry model statistics

	With Label	Total
Blocks	13	64
Edges	1	275
Vertices	0	216

Number of nodes: 10431.

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:

- aluminium
- plexi
- Steel M-19A
- magneski-
- Air
- magnesbe-
- magnesbe
- magneski
- rez
- szupraki
- szupraki-
- szuprabe-
- szuprabe
-

Edges:

- a0
-

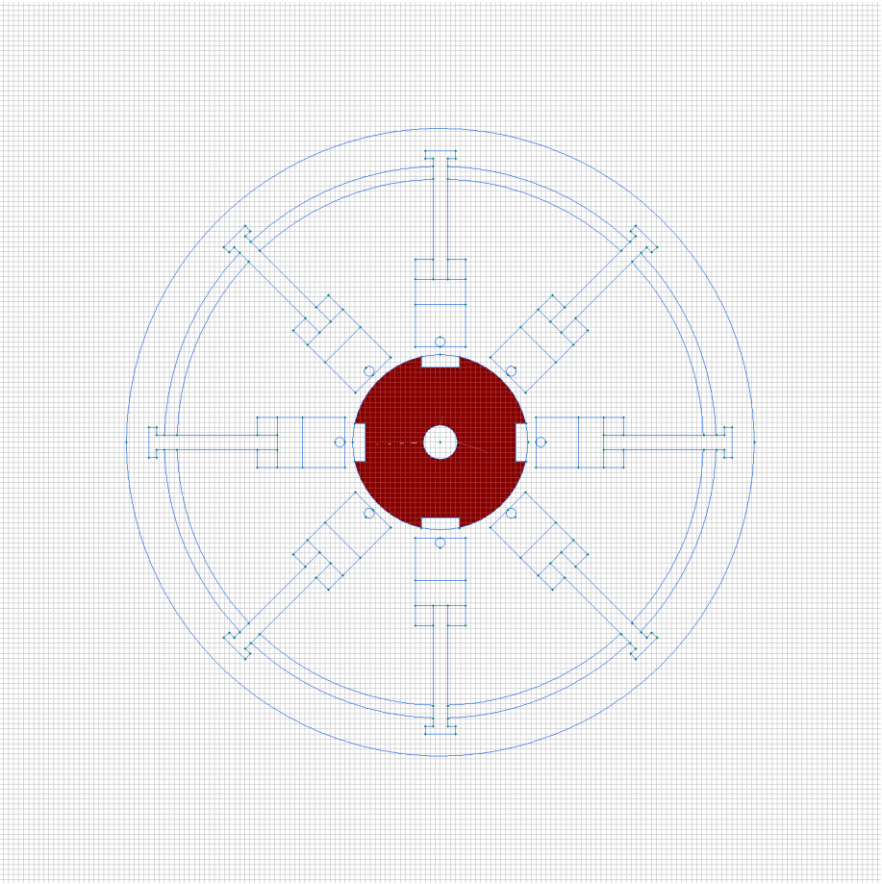
Vertices:

Detailed information about each label is listed below.

Labelled objects: block "aluminium"

There are (1) objects with this label

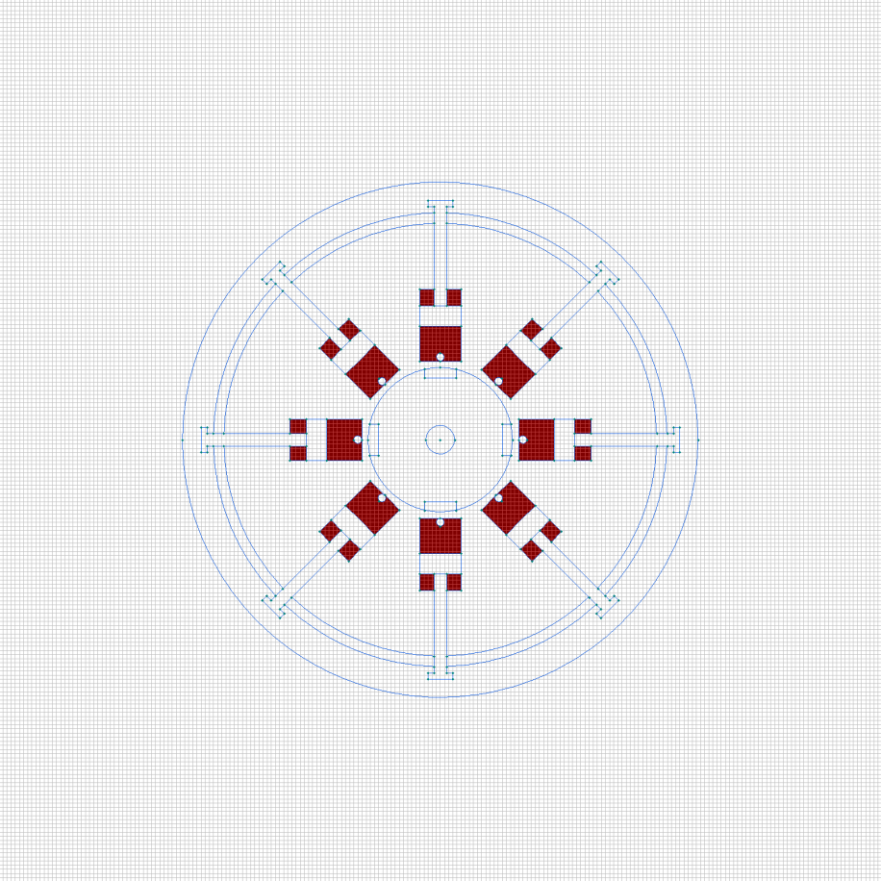
Relative magnetic permeability: mu_x=1, mu_y=1
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "plexi"

There are (24) objects with this label

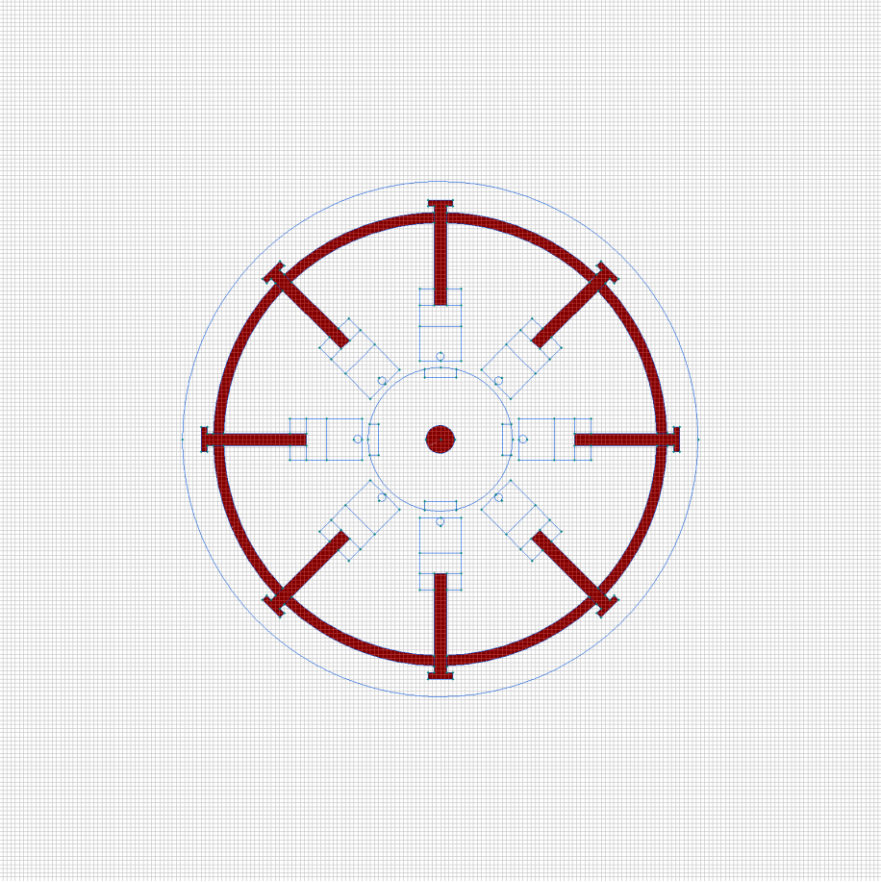
Relative magnetic permeability: mu_x=1, mu_y=1
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "Steel M-19A"

There are (17) objects with this label

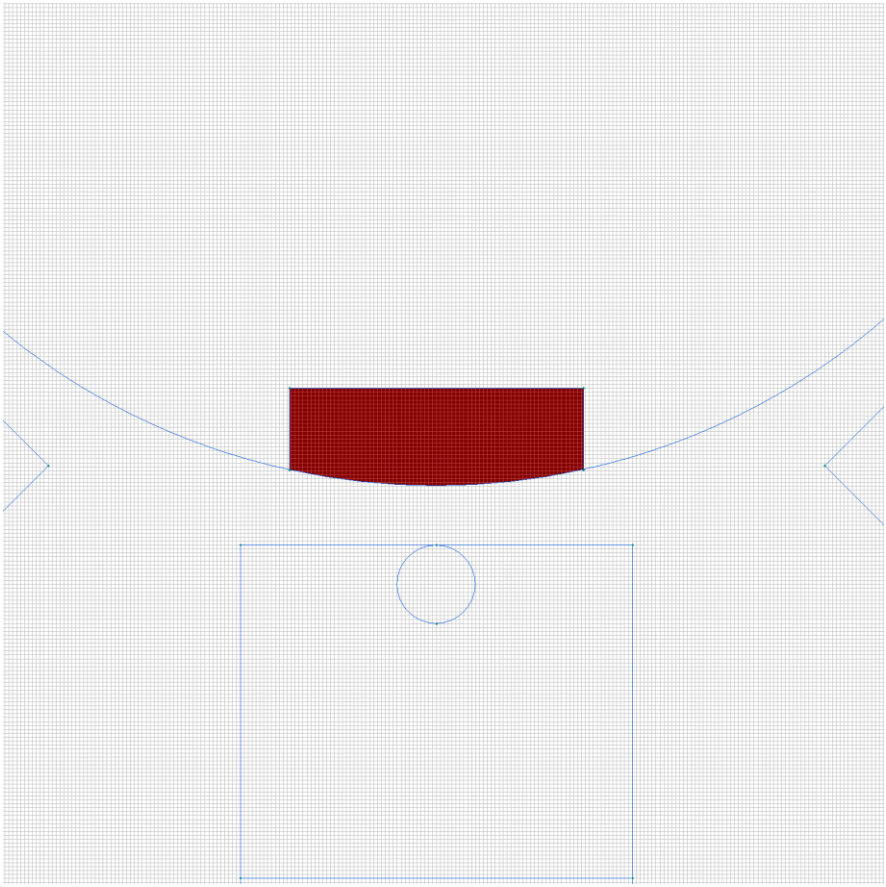
Relative magnetic permeability: mu=nonlinear (see Table 2 in the "Nonlinear dependencies" section)
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "magneski-"

There are (1) objects with this label

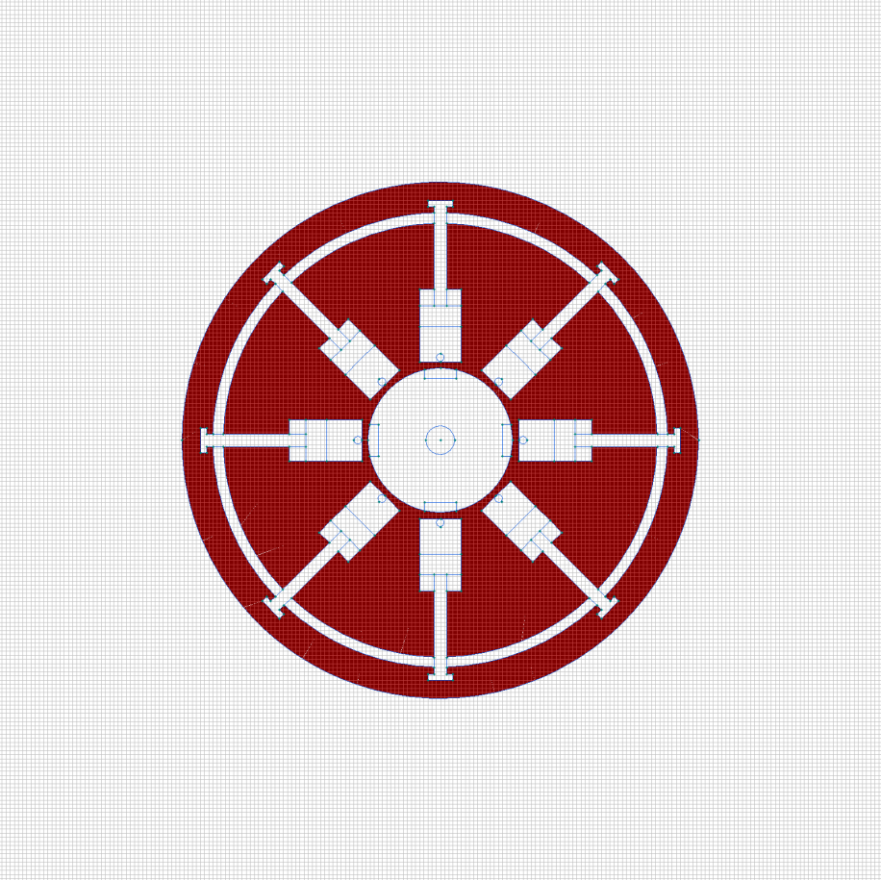
Relative magnetic permeability: mu_x=1, mu_y=1
Coercive force: Hc=875000 [A], direction: -90 [deg]
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "Air"

There are (2) objects with this label

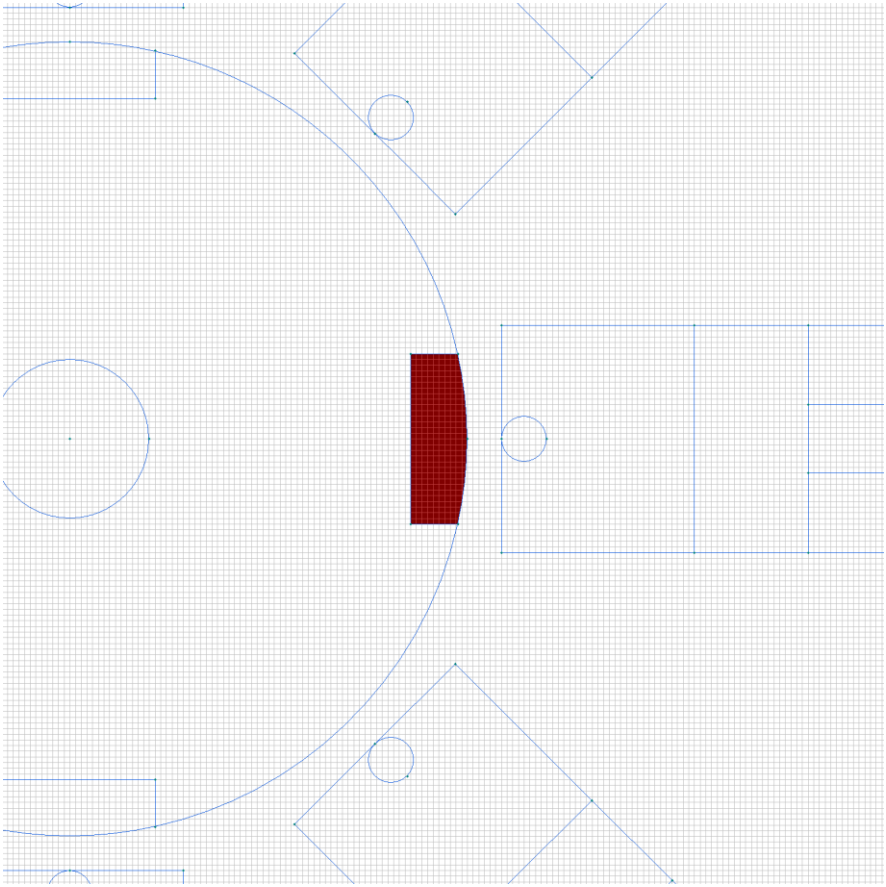
Relative magnetic permeability: mu_x=1, mu_y=1
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "magnesbe-"

There are (1) objects with this label

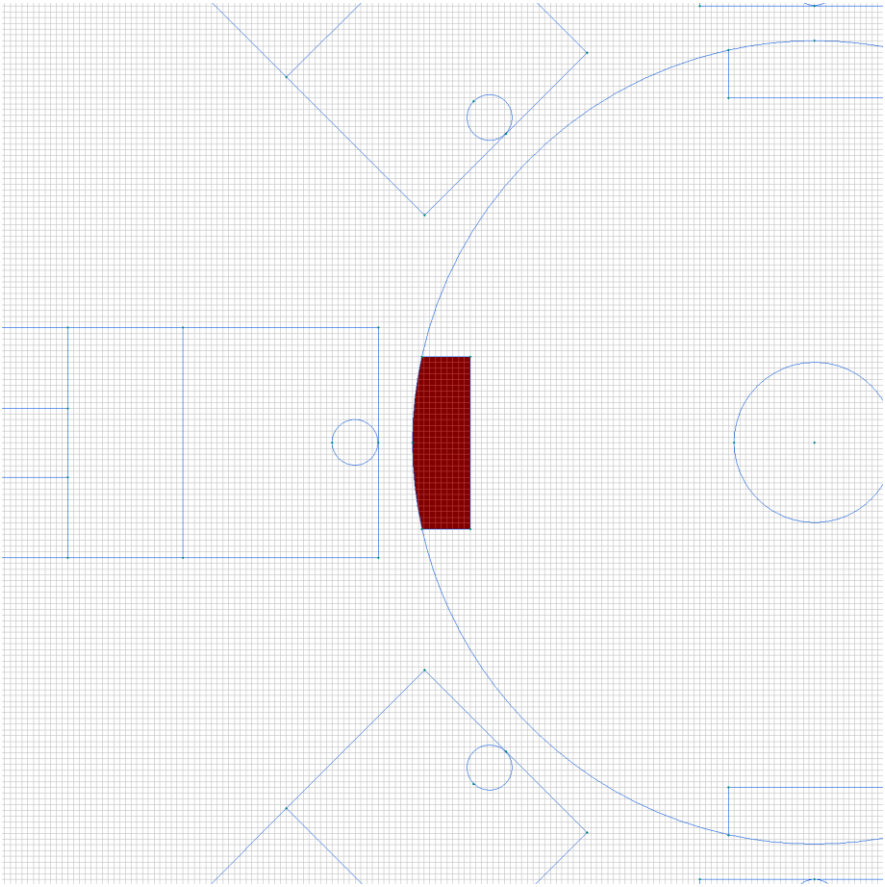
Relative magnetic permeability: mu_x=1, mu_y=1
Coercive force: Hc=875000 [A], direction: 180 [deg]
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "magnesbe"

There are (1) objects with this label

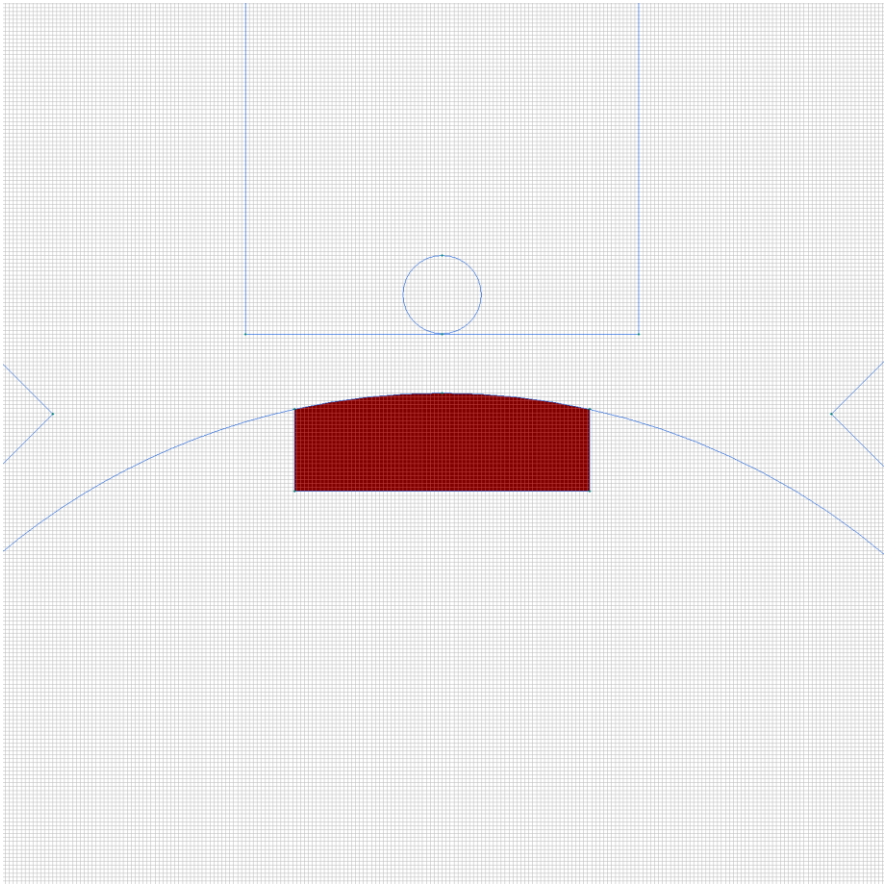
Relative magnetic permeability: mu_x=1, mu_y=1
Coercive force: Hc=875000 [A], direction: 0 [deg]
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "magneski"

There are (1) objects with this label

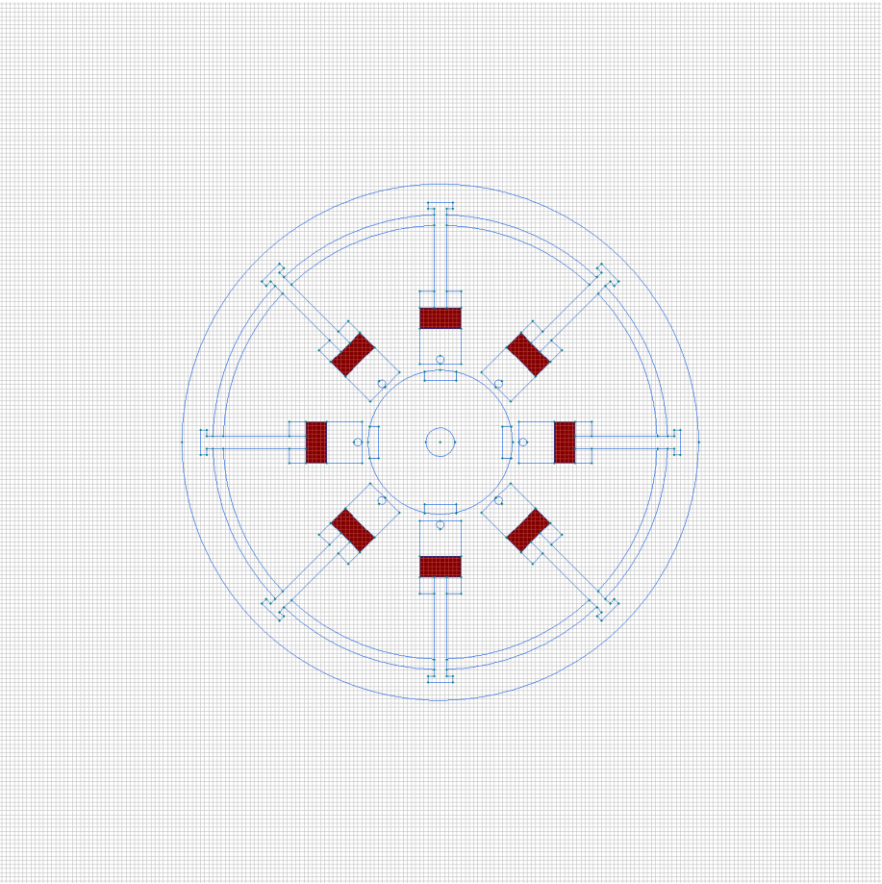
Relative magnetic permeability: mu_x=1, mu_y=1
Coercive force: Hc=875000 [A], direction: 90 [deg]
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "rez"

There are (8) objects with this label

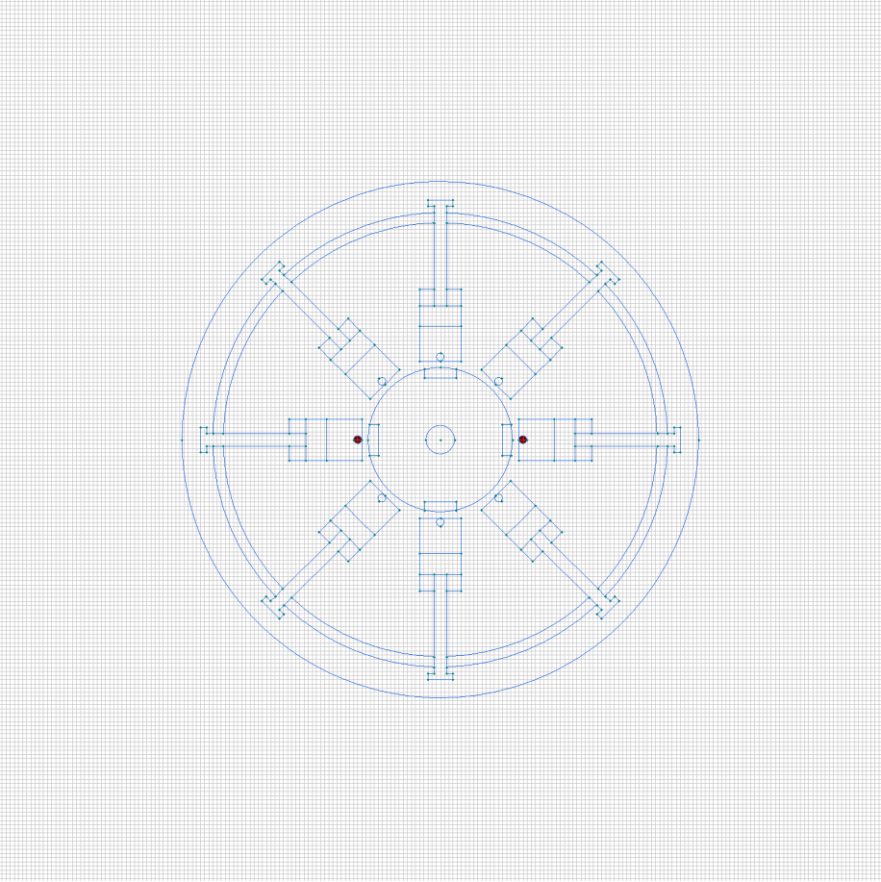
Relative magnetic permeability: mu_x=1, mu_y=1
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "szupraki"

There are (2) objects with this label

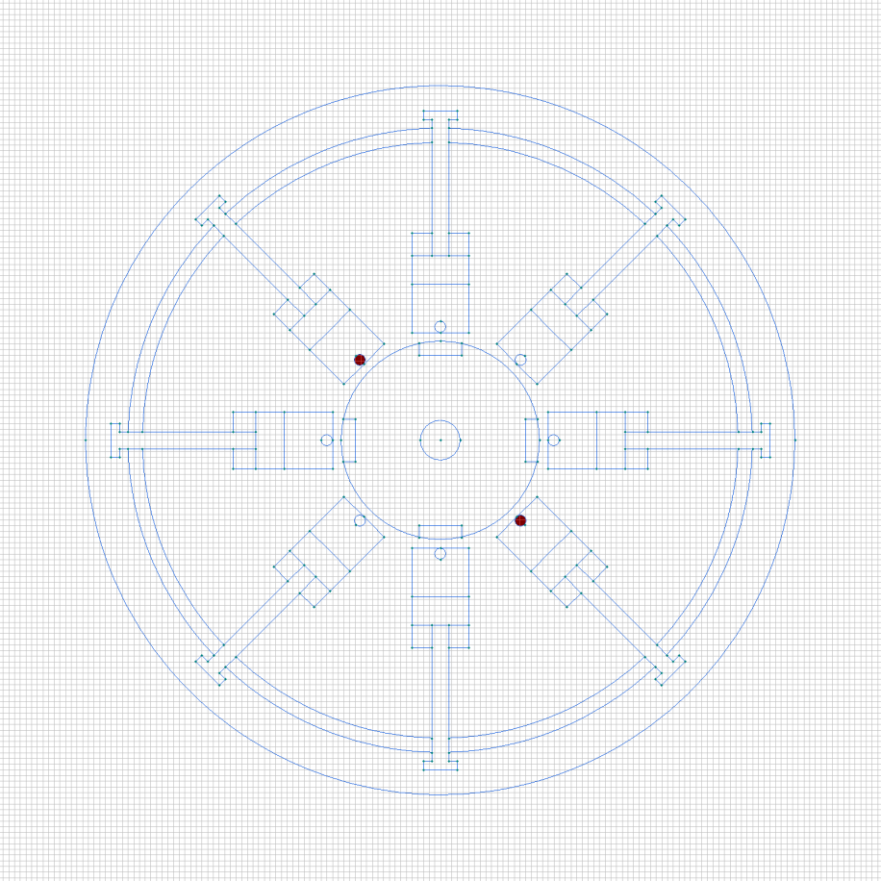
Relative magnetic permeability: mu=nonlinear (see Table 3 in the "Nonlinear dependencies" section)
Current density: j=-90000000 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "szupraki-"

There are (2) objects with this label

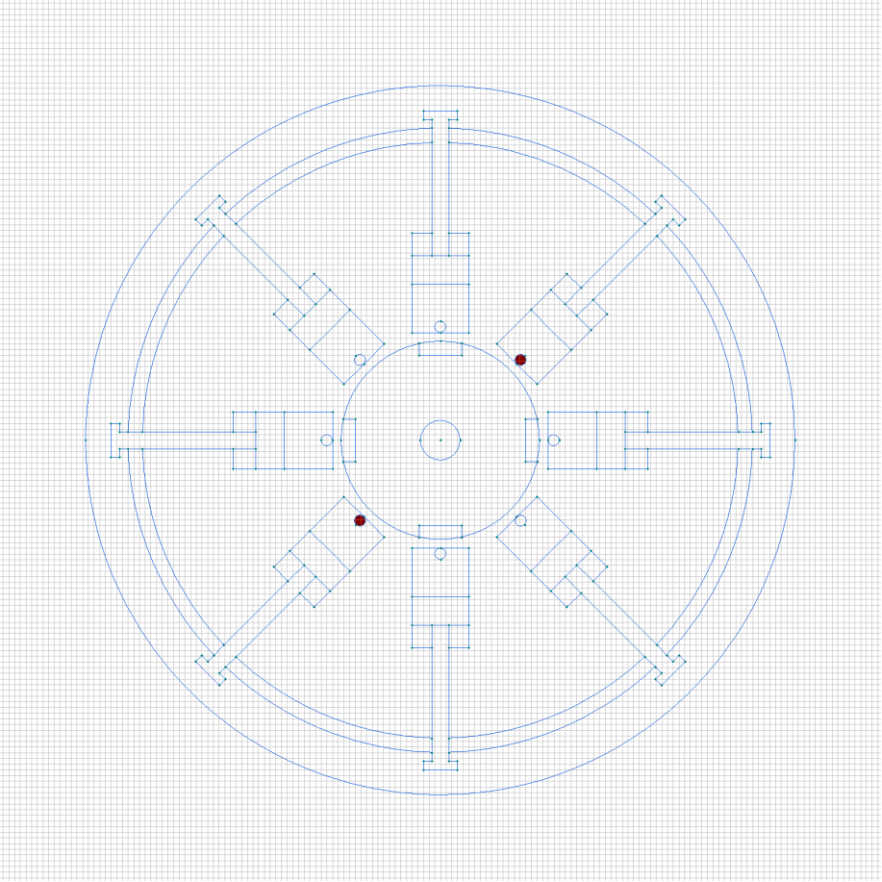
Relative magnetic permeability: mu=nonlinear (see Table 4 in the "Nonlinear dependencies" section)
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "szuprabe-"

There are (2) objects with this label

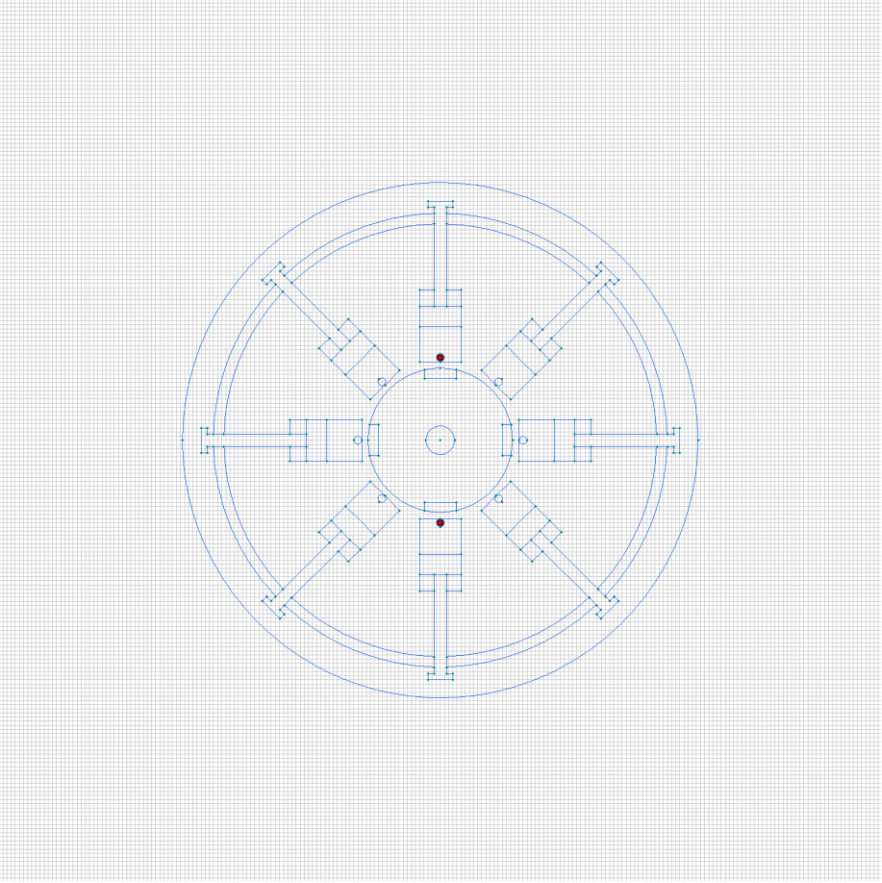
Relative magnetic permeability: mu=nonlinear (see Table 5 in the "Nonlinear dependencies" section)
Current density: j=0 [A/m2]
Conductor's connection: in parallel



Labelled objects: block "szuprabe"

There are (2) objects with this label

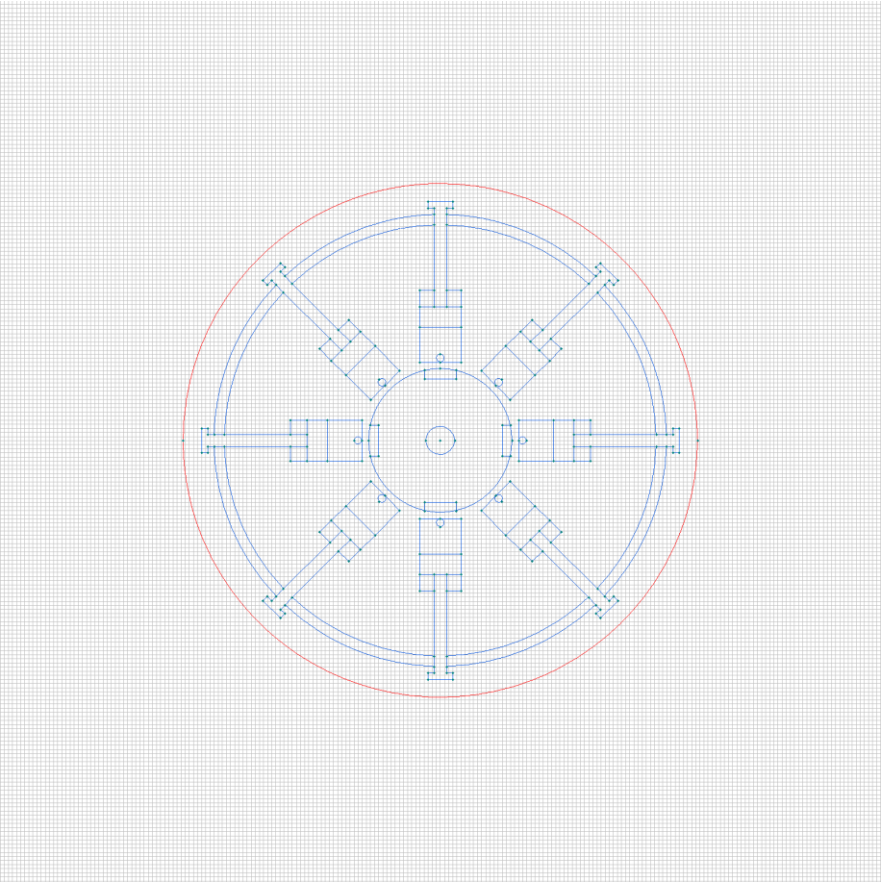
Relative magnetic permeability: mu=nonlinear (see Table 6 in the "Nonlinear dependencies" section)
Current density: j=90000000 [A/m2]
Conductor's connection: in parallel



Labelled objects: edge "a0"

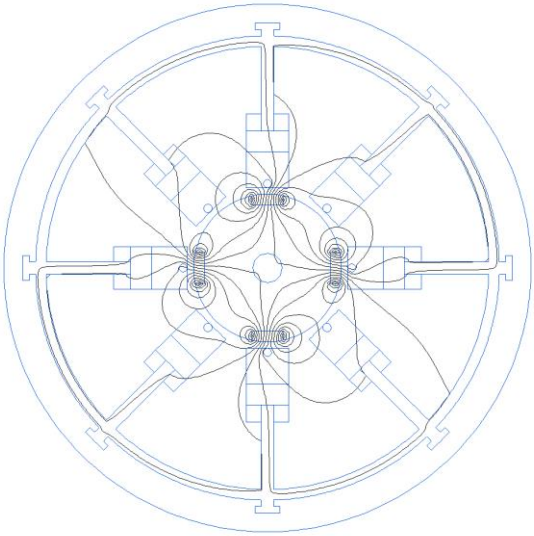
There are (2) objects with this label

Magnetic potential: A=0 [Wb/m]



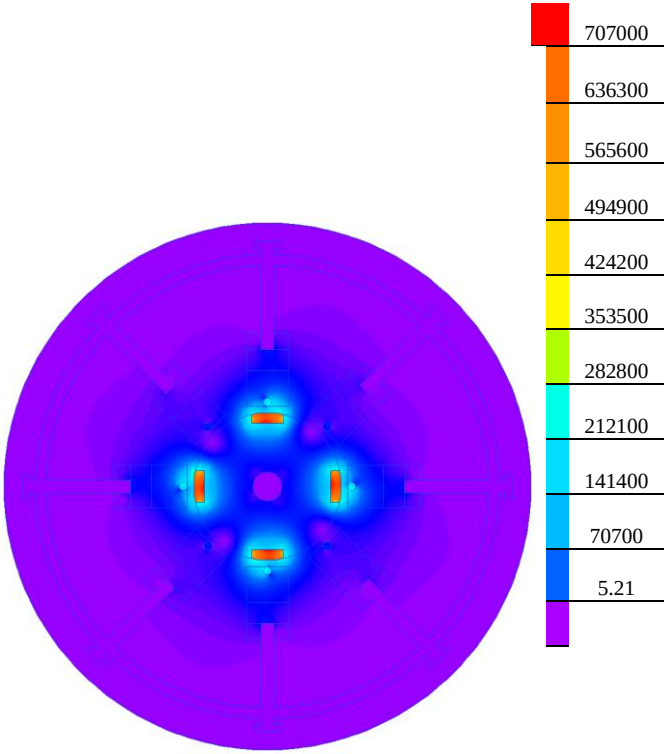
Results

Field lines



Results

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



Nonlinear dependencies

Table 2. BH-curve

B [T]	H [A/m]
0	0
0.65	8299
0.944	15111
0.992	17197
1.056	20558
1.138	26386
1.23	38970
1.306	59240
1.356	82990
1.407	128030
1.475	240880
1.602	598900
1.773	1764100
1.803	2063400
1.846	2696900
1.873	3683000
1.888	4992000

Table 3. BH-curve

B [T]	H [A/m]
0	0
0.01	200000
0.5	500000

Table 4. BH-curve

B [T]	H [A/m]
0	0
0.01	200000
0.5	500000

Table 5. BH-curve

B [T]	H [A/m]
0	0
0.01	200000
0.5	500000

Table 6. BH-curve

B [T]	H [A/m]
0	0
0.01	200000
0.5	500000