Problem info

Problem type: Stress Analysis
Geometry model class: Axisymmetric
Problem database file names:

- Problem: *Coupl1SA.pbm*
- Geometry: *Coupl1.mod*
- Material Data: *Coupl1sa.dsa*
- Material Data 2 (library): *none*
- Electric circuit: *none*

Results taken from other problems:

- *Magnetic Forces: Coupl1ms.pbm*

Geometry model

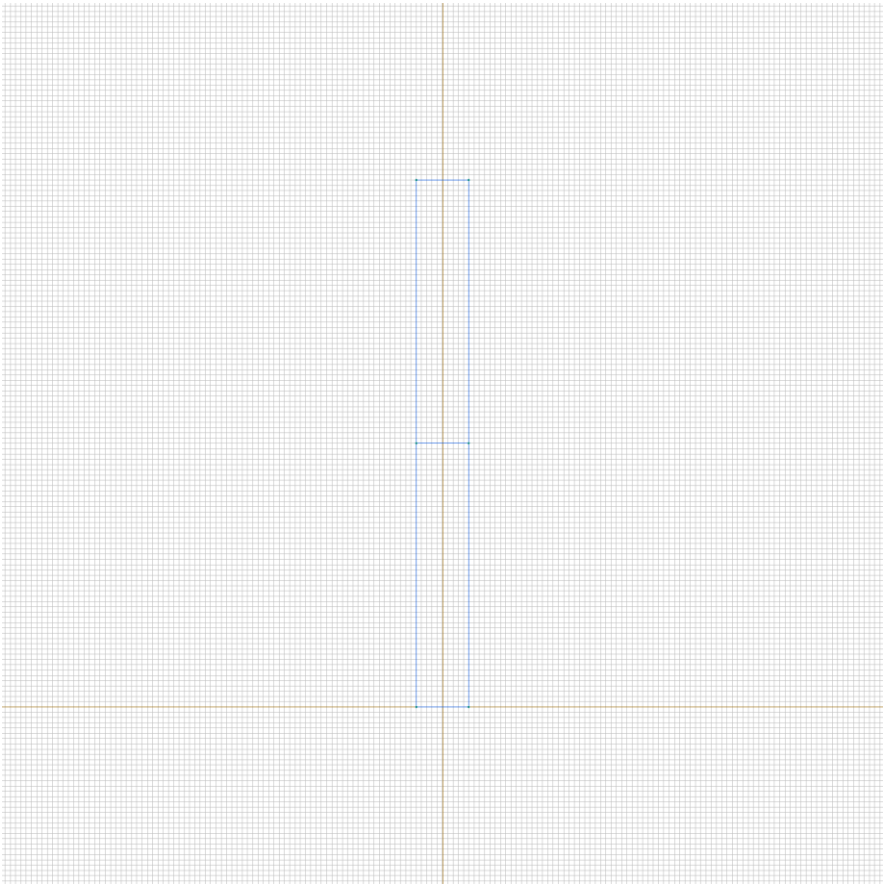


Table 1. Geometry model statistics

	With Label	Total
Blocks	2	2
Edges	2	7
Vertices	0	6

Number of nodes: 5833.

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)

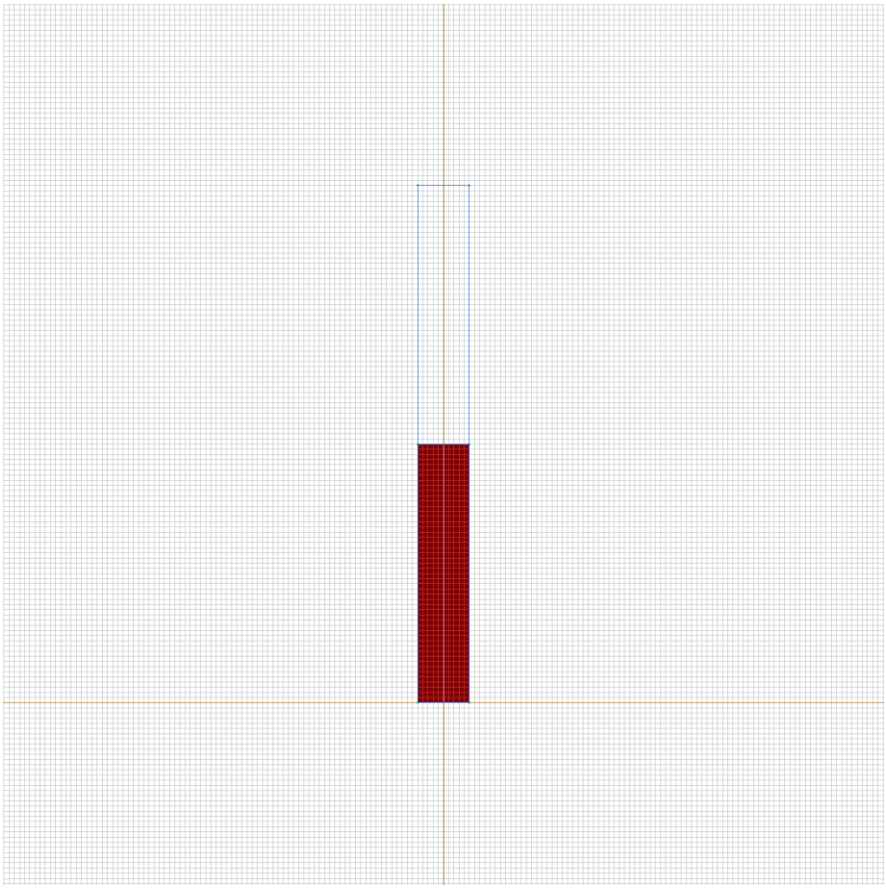
Blocks:	Edges:	Vertices:
• air • coil •	• no axial displ. • outer •	

Detailed information about each label is listed below.

Labelled objects: block "air"

There are (1) objects with this label

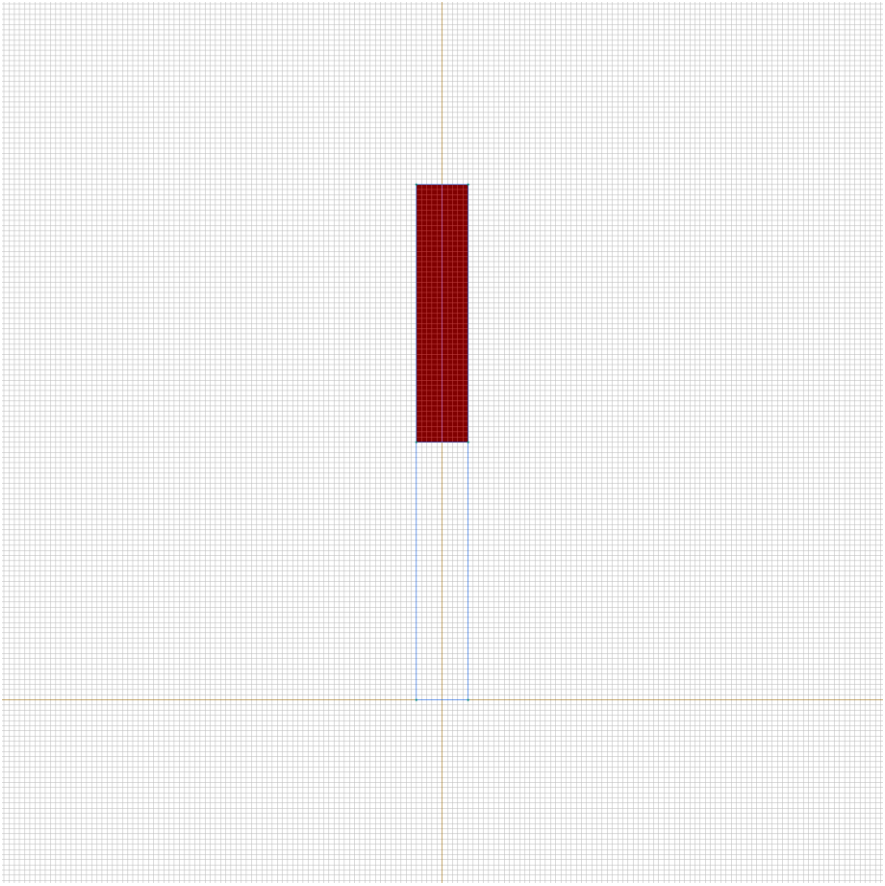
Young's moduli: Ex=0 [N/m2], Ey=0 [N/m2], Ez=0 [N/m2]
Poisson's ratios: v_yx=0, v_zx=0, v_zy=0
Shear modulus: G_xy=0 [N/m2]
Allowable tension: sigma_x=0 [N/m2], sigma_y=0 [N/m2]
Allowable compression: sigma_x=0 [N/m2], sigma_y=0 [N/m2]
Allowable shear: tau_xy(+)=0 [N/m2], tau_xy(-)=0 [N/m2]



Labelled objects: block "coil"

There are (1) objects with this label

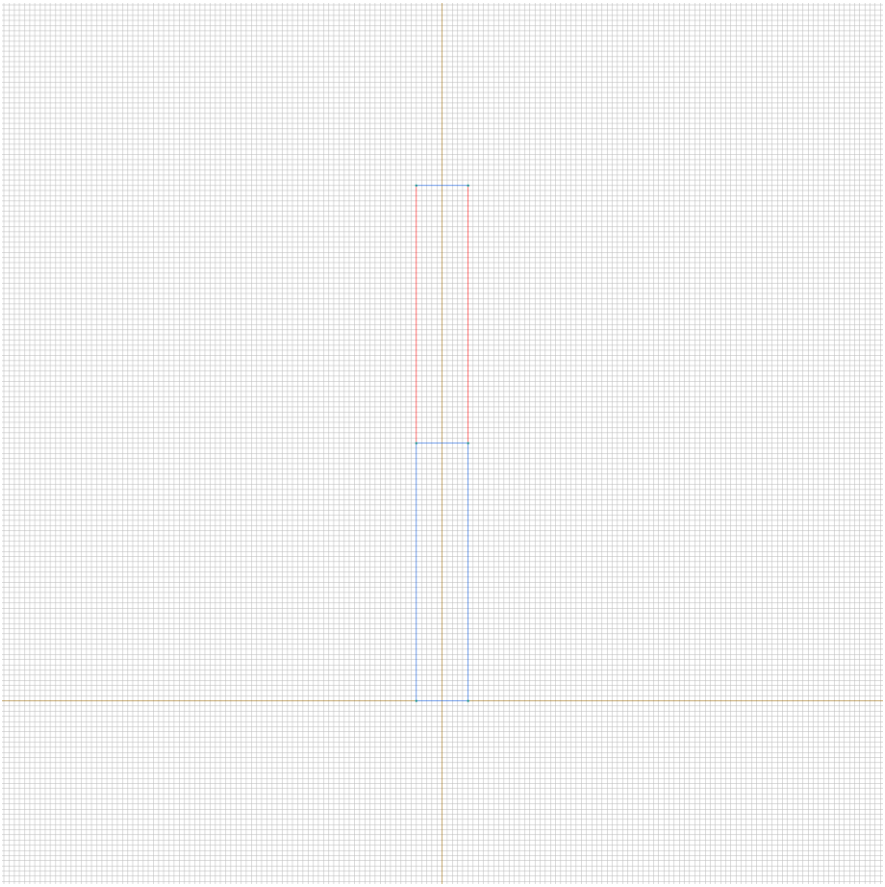
Young's moduli: Ex=107500000000 [N/m2], Ey=107500000000 [N/m2], Ez=107500000000 [N/m2]
Poisson's ratios: v_yx=0.33, v_zx=0.33, v_zy=0.33
Shear modulus: G_xy=40410000000 [N/m2]
Allowable tension: sigma_x=0 [N/m2], sigma_y=0 [N/m2]
Allowable compression: sigma_x=0 [N/m2], sigma_y=0 [N/m2]
Allowable shear: tau_xy(+)=0 [N/m2], tau_xy(-)=0 [N/m2]



Labelled objects: edge "no axial displ."

There are (2) objects with this label

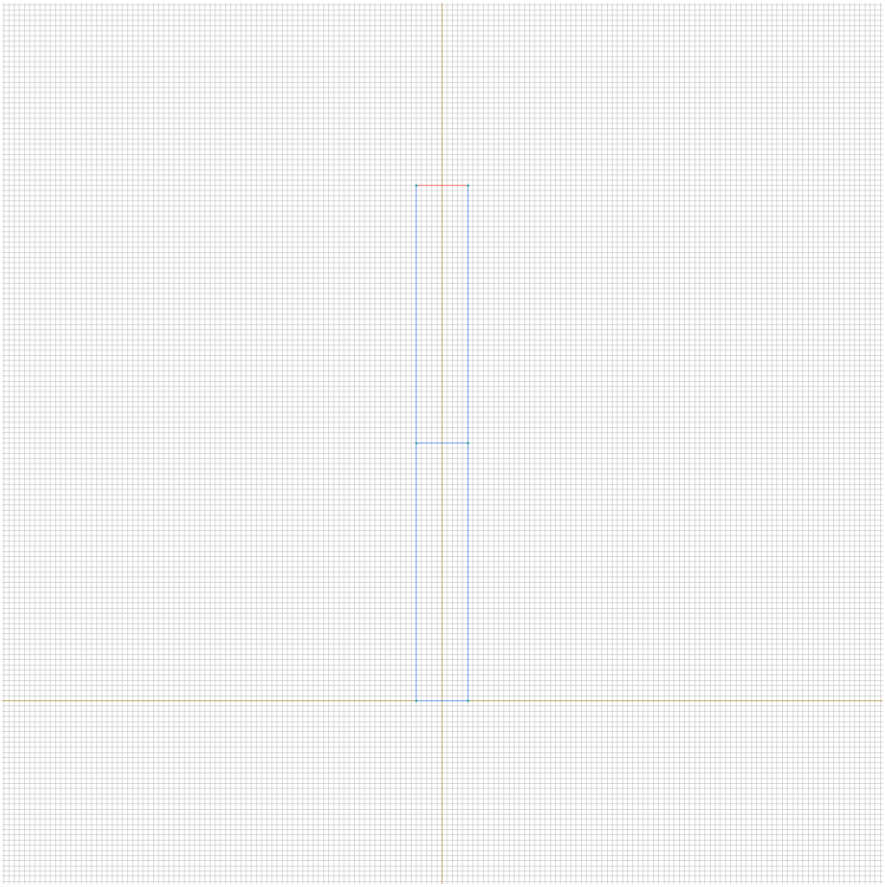
Prescribed displacement: d_x = 0 + 0*x + 0*y [cm]
Surface force: f_y=0 [N/m2]



Labelled objects: edge "outer"

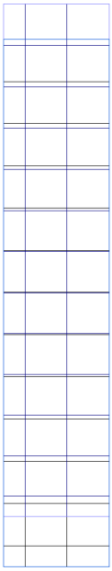
There are (1) objects with this label

Surface force: f_x=0 [N/m2]
Surface force: f_y=0 [N/m2]



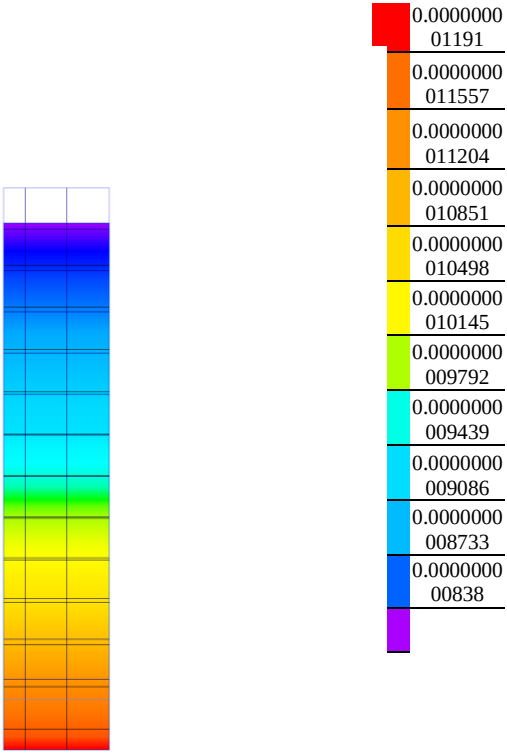
Results

Field lines



Results

Color map of Displacement [cm]



Nonlinear dependencies

No non-linear dependencies are used in this problem data