Problem info

Problem type: Transient Heat Transfer (integration time: 10 s.)
Geometry model class: Plane-Parallel
Problem database file names:

- Problem: *fuse.pbm*
- Geometry: *Fuse.mod*
- Material Data: *Fuse.dht*
- Material Data 2 (library): *none*
- Electric circuit: *none*

Results taken from other problems:

- *none*

Geometry model

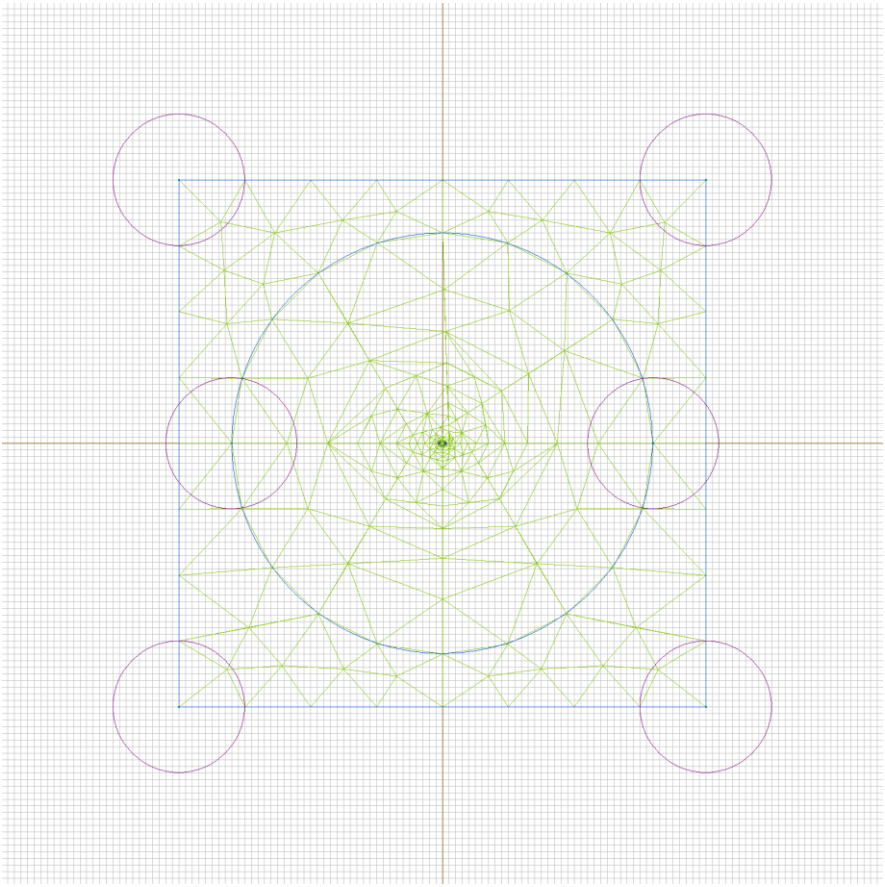


Table 1. Geometry model statistics

	With Label	Total
Blocks	3	3
Edges	1	8
Vertices	0	8

Number of nodes: 218.

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)

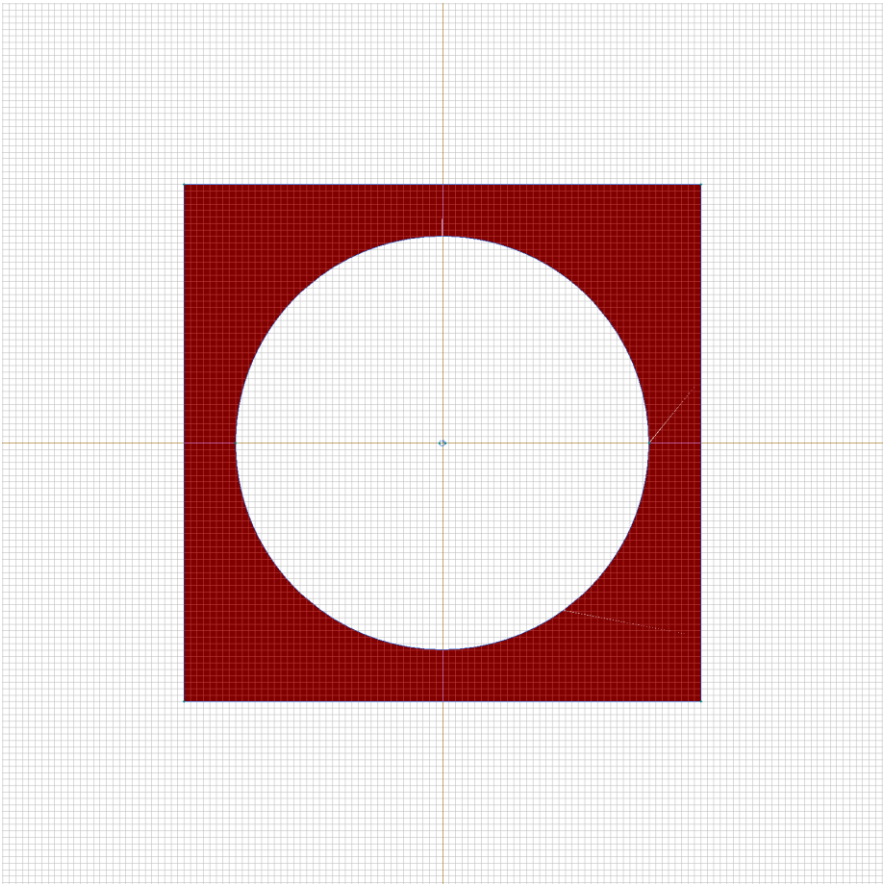
Blocks:	Edges:	Vertices:
• porcelain • sand • conductor •	• outer surface •	

Detailed information about each label is listed below.

Labelled objects: block "porcelain"

There are (1) objects with this label

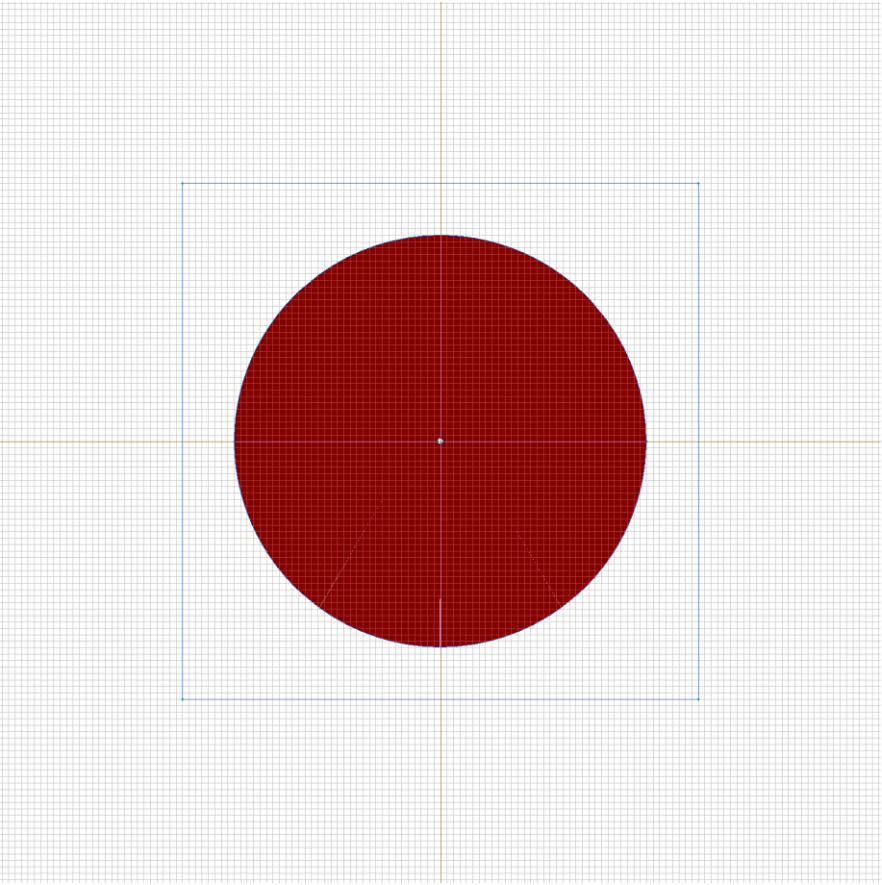
Thermal conductivity: lambda_x=0.5 [W/(K*m)], lambda_y=0.5 [W/(K*m)]
Specific heat: C=2000 [J/(kg*K)]
Mass density: rho=2400 [kg/m3]



Labelled objects: block "sand"

There are (1) objects with this label

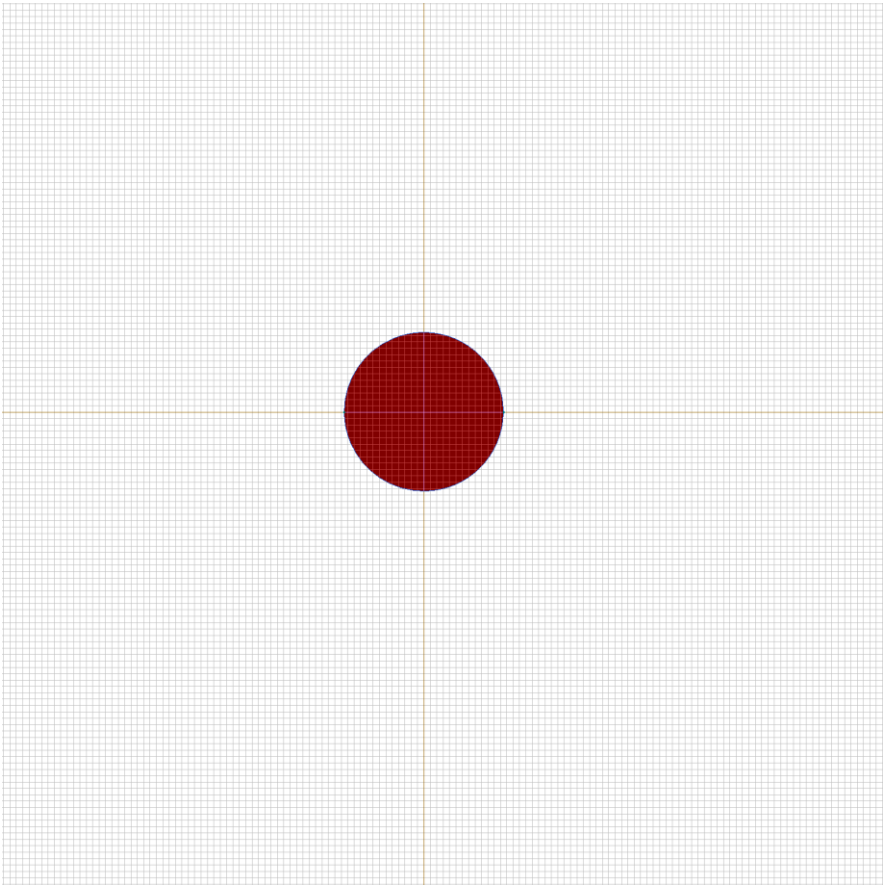
Thermal conductivity: lambda_x=0.1 [W/(K*m)], lambda_y=0.1 [W/(K*m)]
Specific heat: C=840 [J/(kg*K)]
Mass density: rho=1800 [kg/m3]



Labelled objects: block "conductor"

There are (1) objects with this label

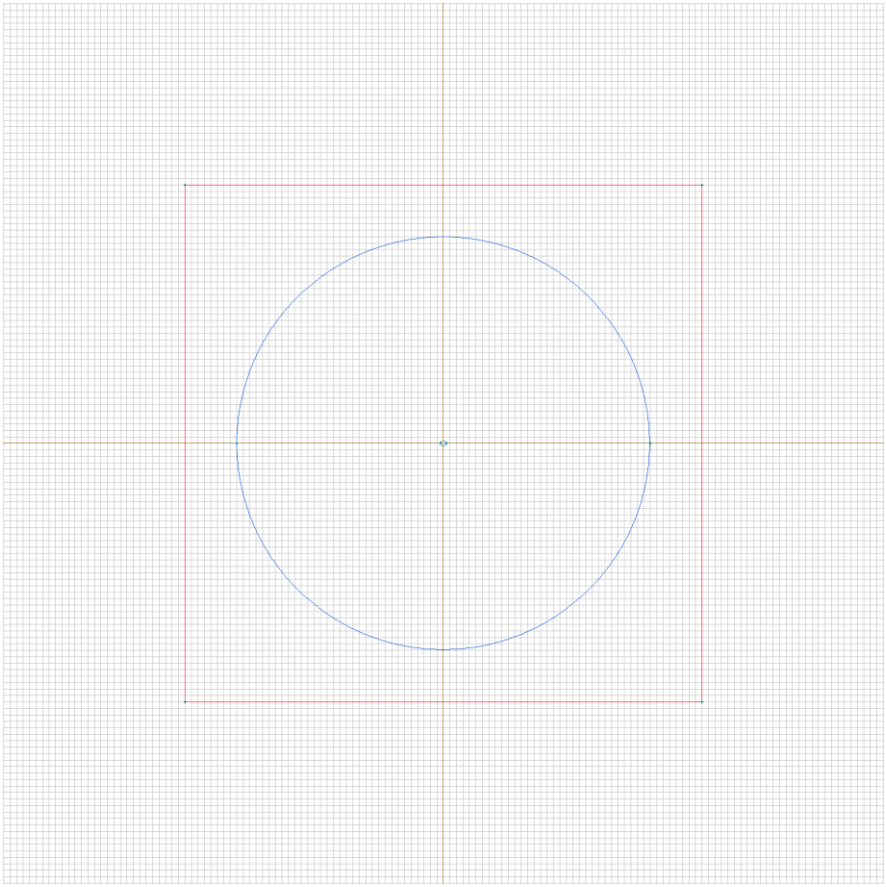
Thermal conductivity: lambda_x=380 [W/(K*m)], lambda_y=380 [W/(K*m)]
Volume heat: Q=nonlinear (see Table 2 in the "Nonlinear dependencies" section)
Specific heat: C=380 [J/(kg*K)]
Mass density: rho=7800 [kg/m3]



Labelled objects: edge "outer surface"

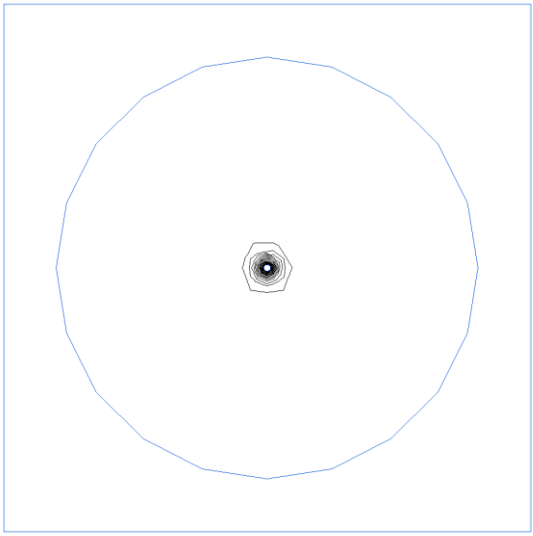
There are (4) objects with this label

Temperature: T=-273.15 [K]



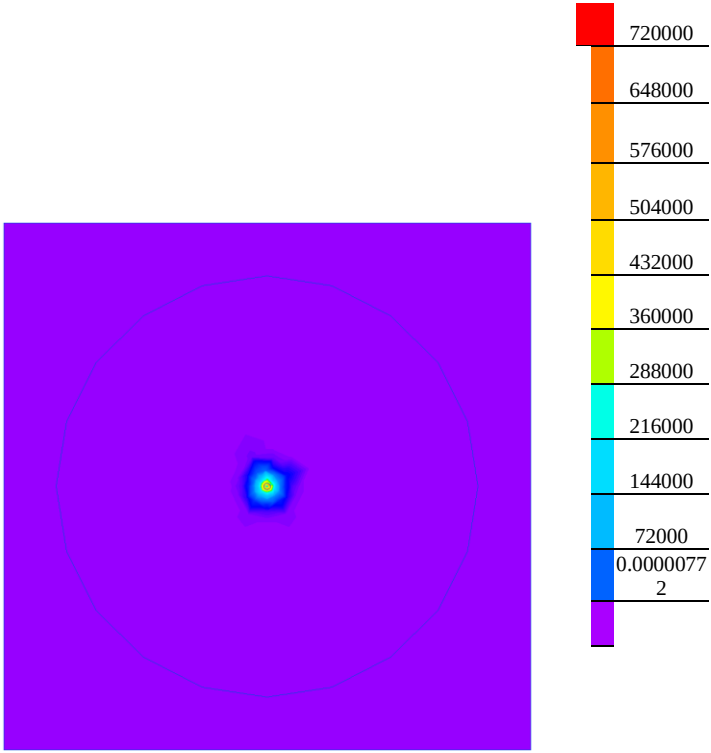
Results

Field lines



Results

Color map of Heat flux |F| [W/m2]



Nonlinear dependencies

Table 2. Volume heat source

T [K]	Q [W/m3]
0	700000000
1000	3700000000