

Problem info

Problem type: Transient Heat Transfer (integration time: 50 s.)

Geometry model class: Plane-Parallel

Problem database file names:

- Problem: *Heat_Diff_1.pbm*
- Geometry: *Heat_diff_1.mod*
- Material Data: *Heat_diff_1.dht*
- Material Data 2 (library): *none*
- Electric circuit: *none*

Results taken from other problems:

- *none*

Geometry model

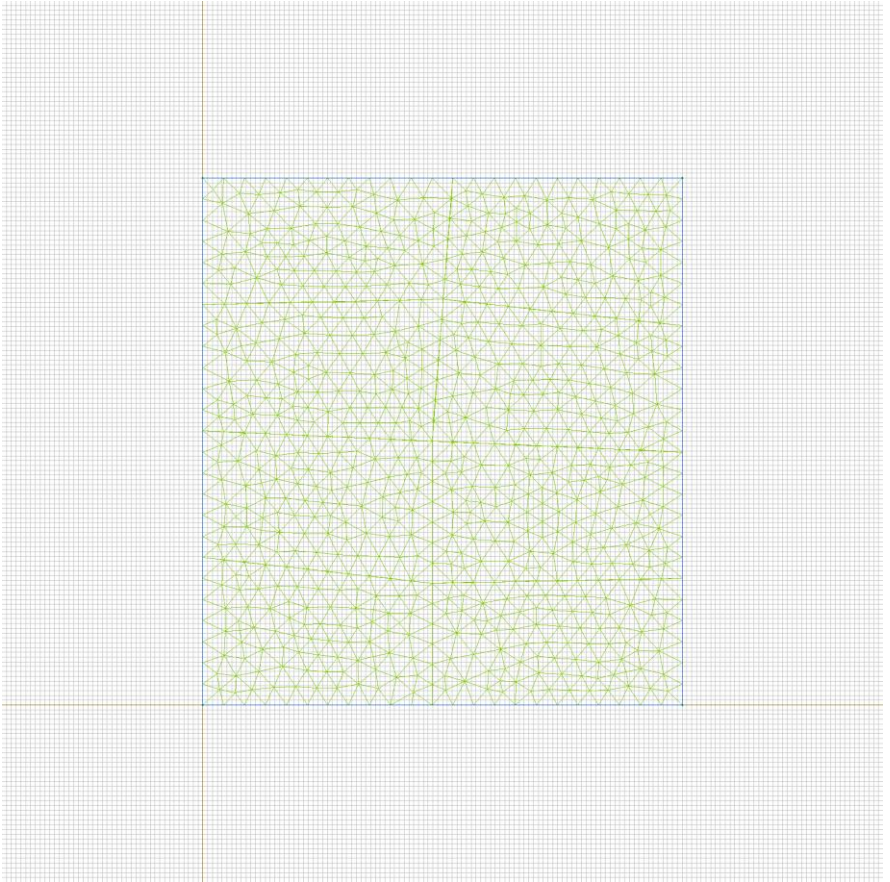


Table 1. Geometry model statistics

	With Label	Total
Blocks	1	1
Edges	4	4
Vertices	0	4

Number of nodes: 789.

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:

- [body](#)
-

Edges:

- [b1](#)
- [a1](#)
- [b2](#)
- [a2](#)
-

Vertices:

Detailed information about each label is listed below.

Labelled objects: block "body"

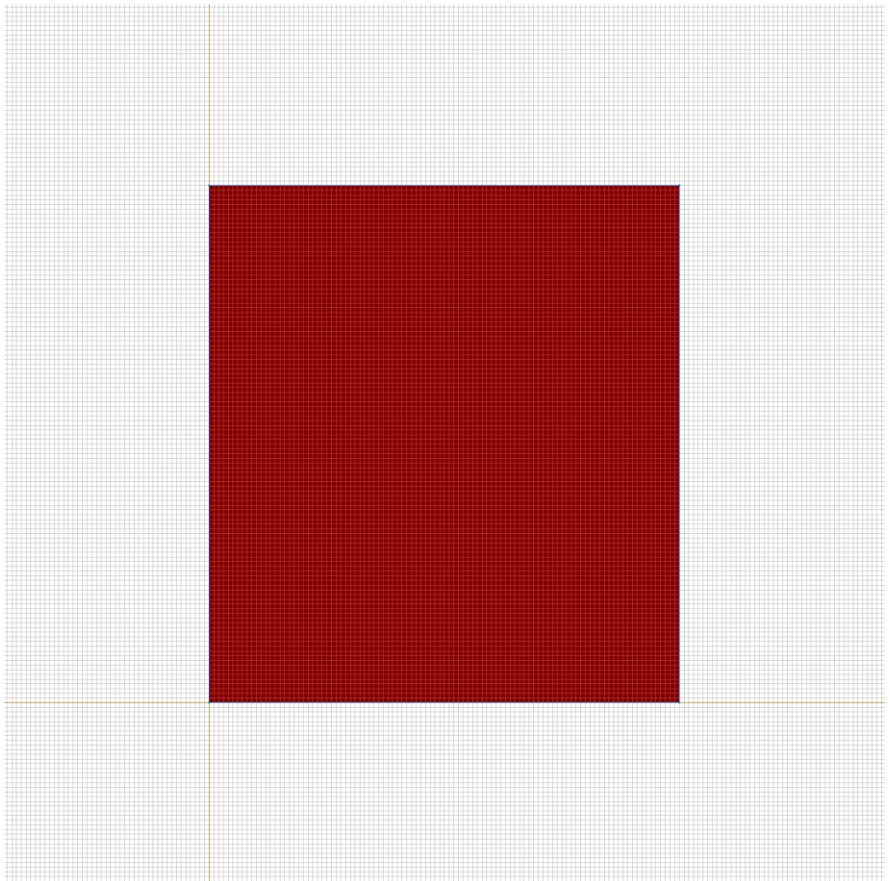
There are (1) objects with this label

Thermal conductivity: $\lambda_x=600$ [W/(K*m)],

$\lambda_y=600$ [W/(K*m)]

Specific heat: $C=600$ [J/(kg*K)]

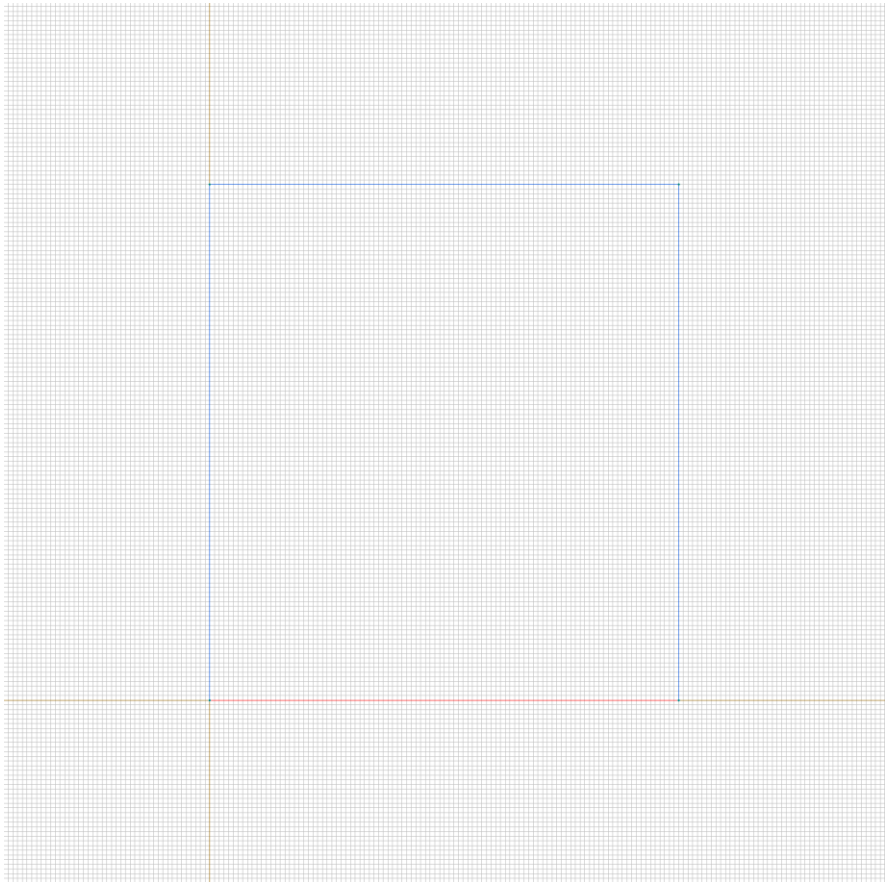
Mass density: $\rho=2000$ [kg/m³]



Labelled objects: edge "b1"

There are (1) objects with this label

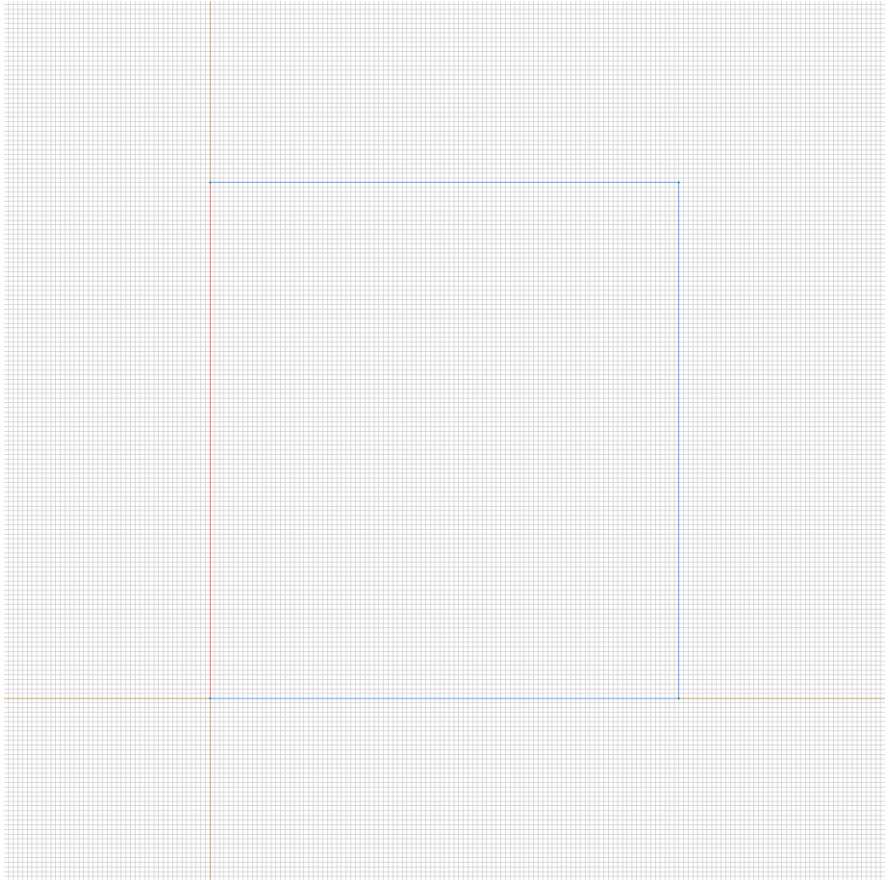
Heat flux: $F=0$ [W/m²]



Labelled objects: edge "a1"

There are (1) objects with this label

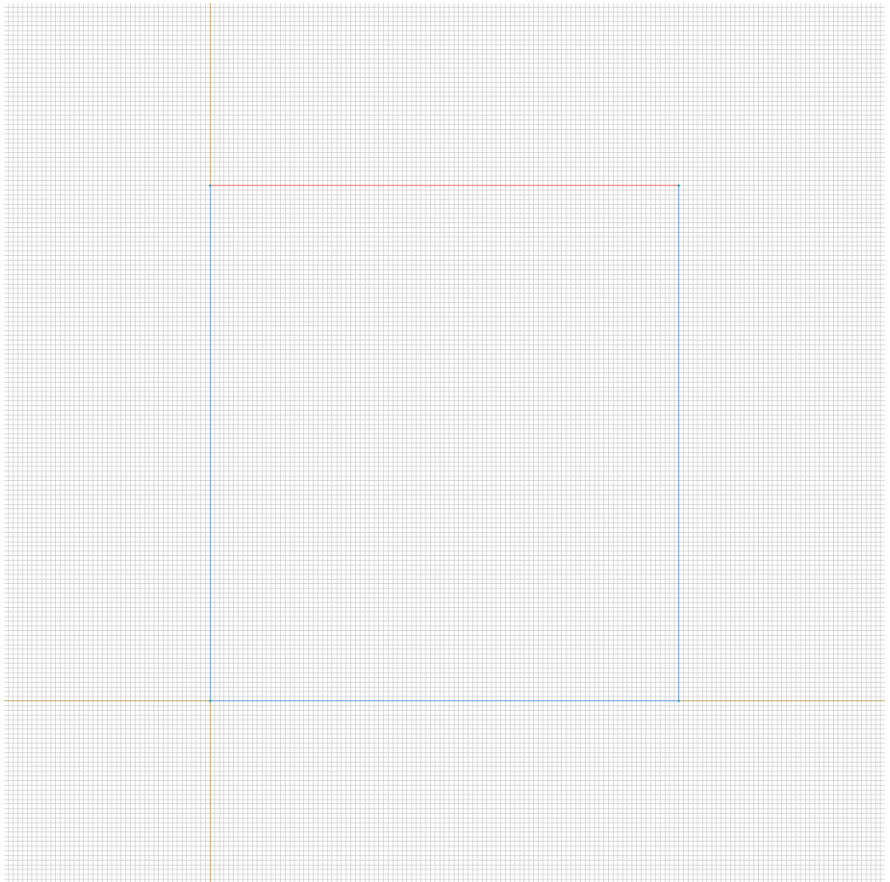
Temperature: $T = -193.15$ [K]



Labelled objects: edge "b2"

There are (1) objects with this label

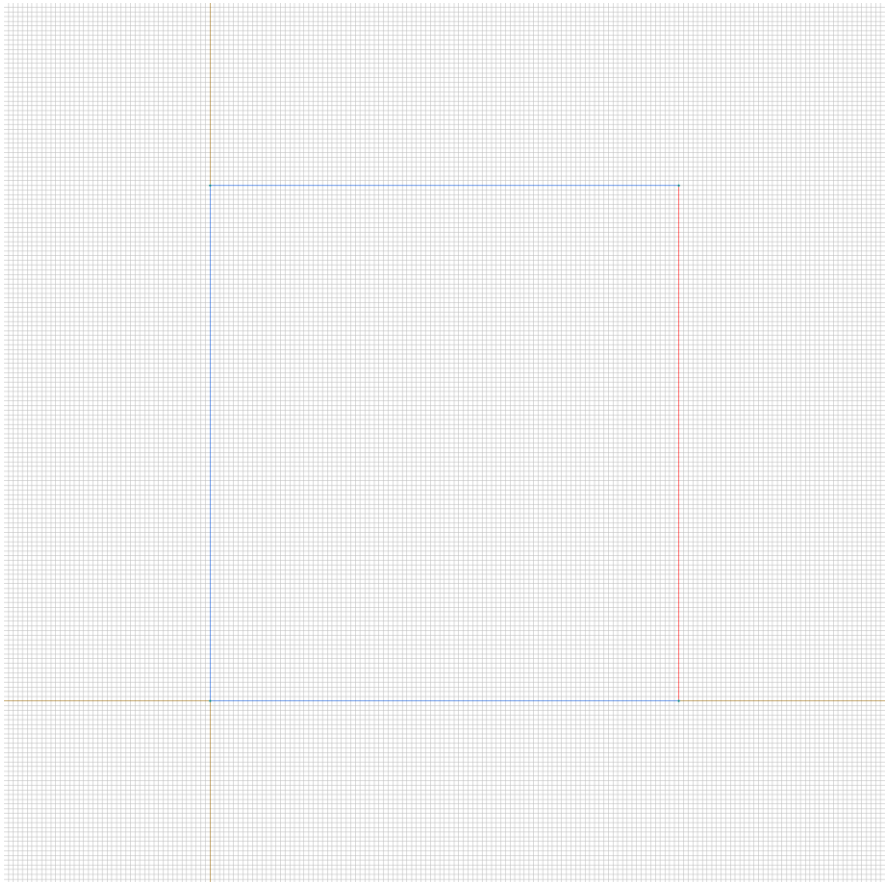
Heat flux: $F=0$ [W/m²]



Labelled objects: edge "a2"

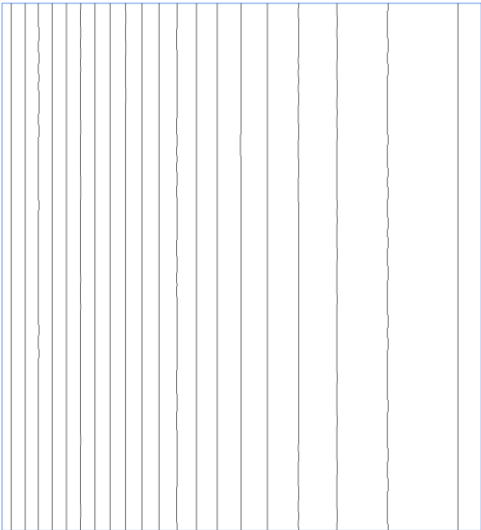
There are (1) objects with this label

Temperature: $T=-273.15$ [K]



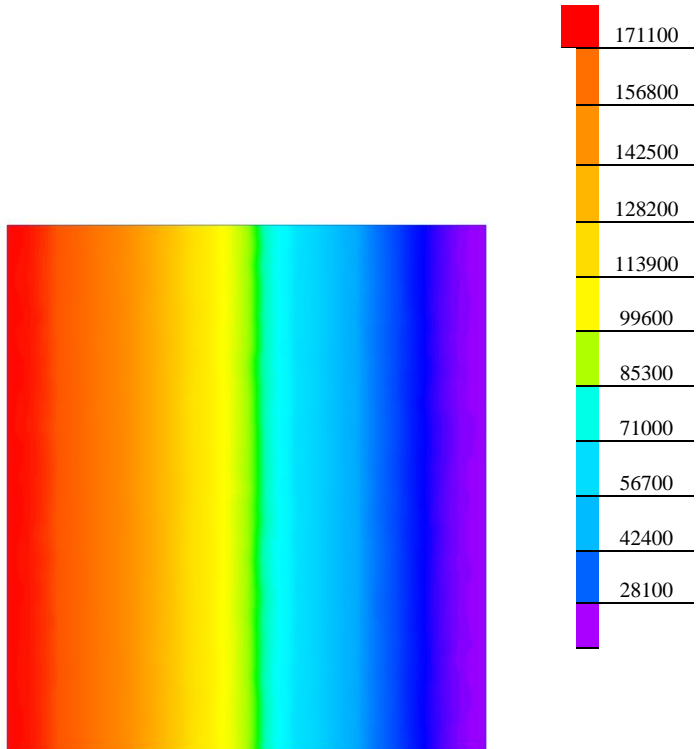
Results

Field lines



Results

Color map of Heat flux $|F|$ [W/m²]



Nonlinear dependencies

No non-linear dependencies are used in this problem data