Problem info

Problem type: Steady-State Heat Transfer
Geometry model class: Plane-Parallel
Problem database file names:

- Problem: *wall1.pbm*
- Geometry: *Wall1.mod*
- Material Data: *Wall1.dht*
- Material Data 2 (library): *none*
- Electric circuit: *none*

Results taken from other problems:

- *none*

Geometry model

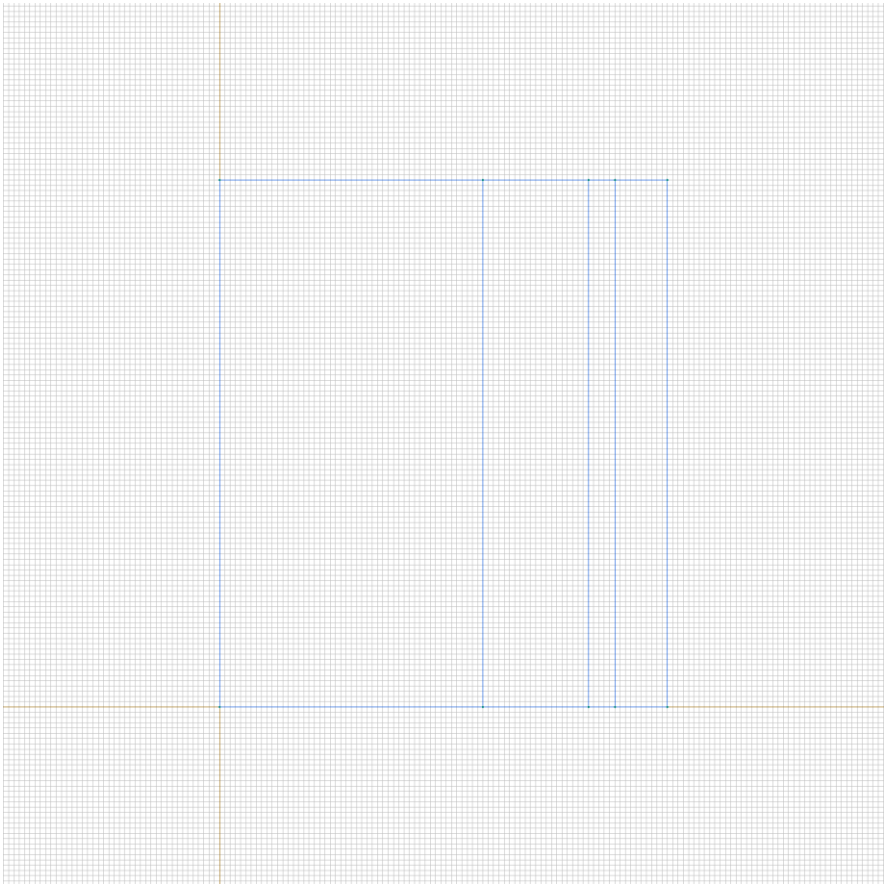


Table 1. Geometry model statistics

	With Label	Total
Blocks	4	4
Edges	2	13
Vertices	0	10

Number of nodes: 144.

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)

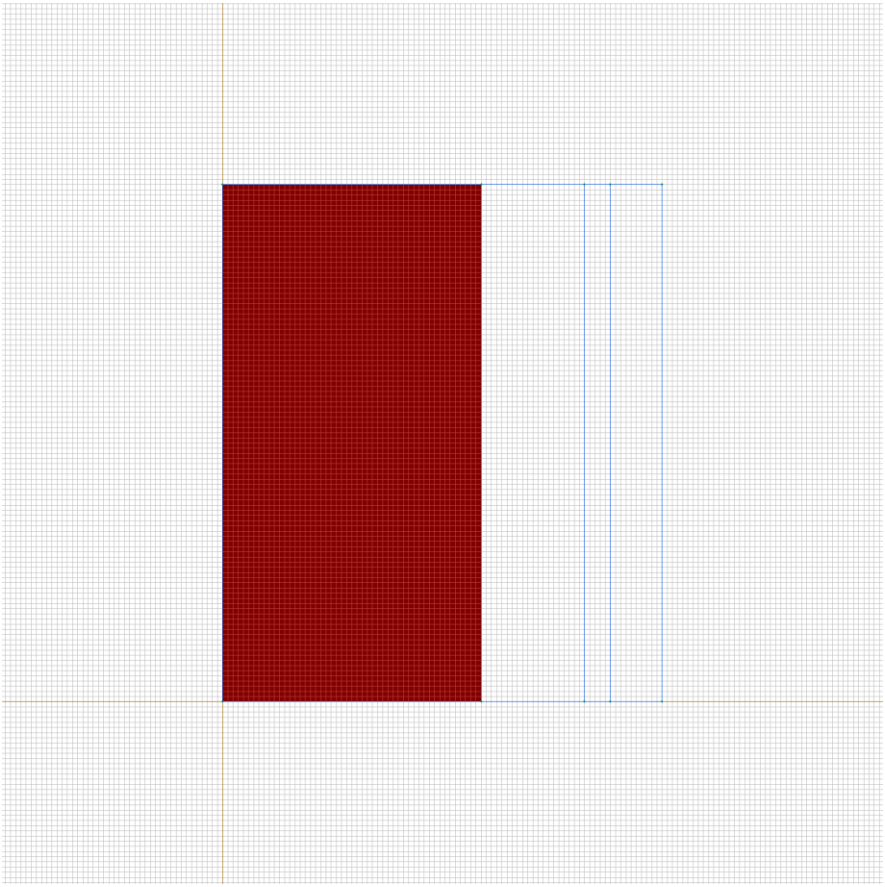
Blocks:	Edges:	Vertices:
• wall • air • insulation • outlook •	• T=0 • T=20 •	

Detailed information about each label is listed below.

Labelled objects: block "wall"

There are (1) objects with this label

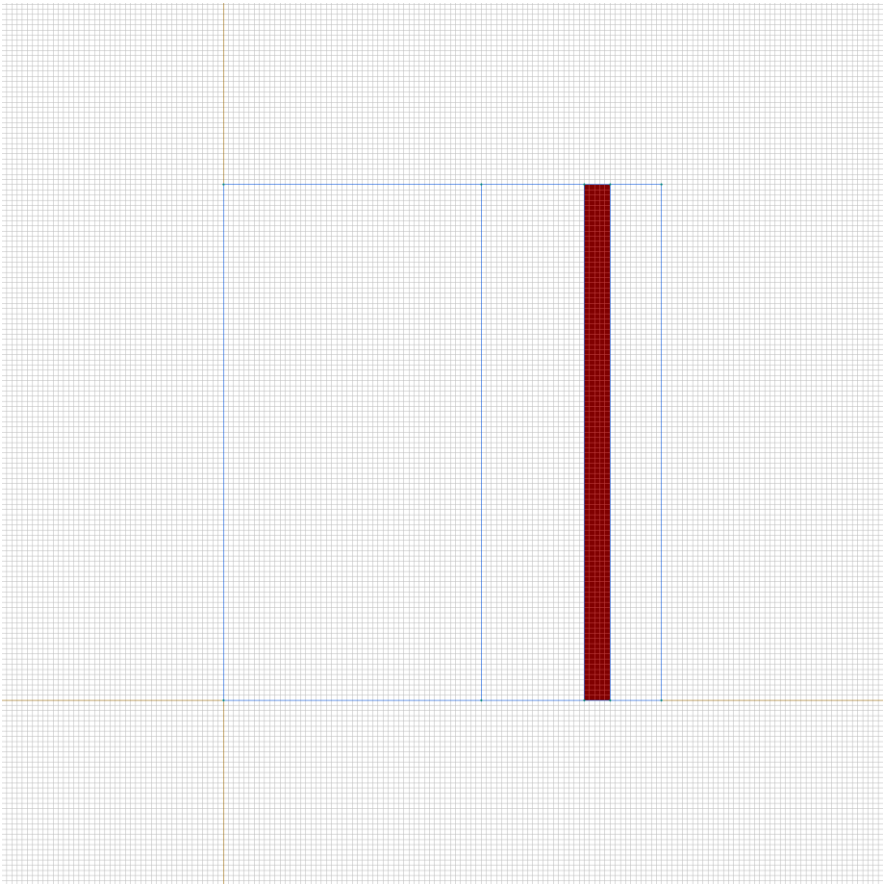
Thermal conductivity: lambda_x=10 [W/(K*m)], lambda_y=10 [W/(K*m)]



Labelled objects: block "air"

There are (1) objects with this label

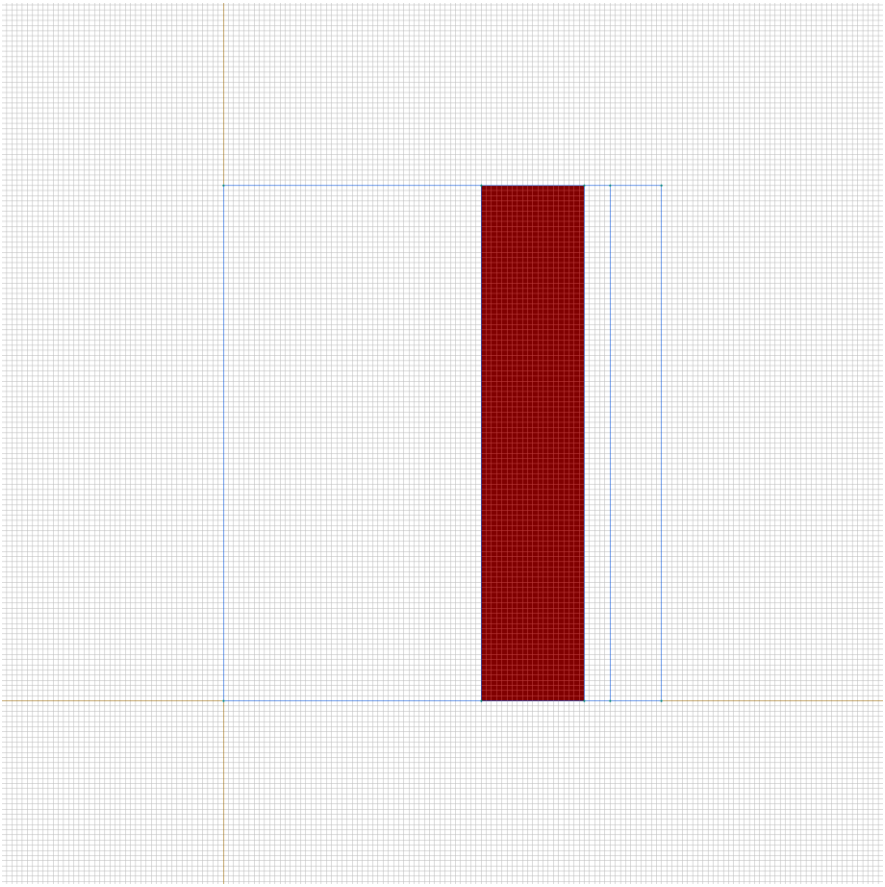
Thermal conductivity: lambda_x=0.1 [W/(K*m)], lambda_y=0.1 [W/(K*m)]



Labelled objects: block "insulation"

There are (1) objects with this label

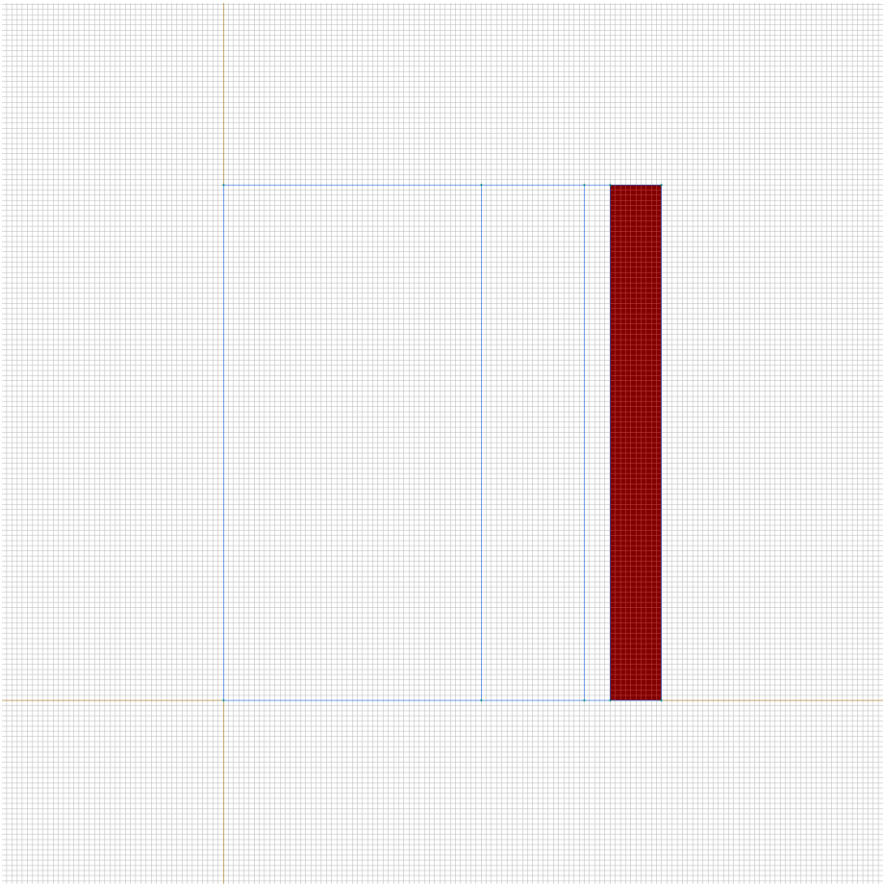
Thermal conductivity: lambda_x=0.5 [W/(K*m)], lambda_y=0.5 [W/(K*m)]



Labelled objects: block "outlook"

There are (1) objects with this label

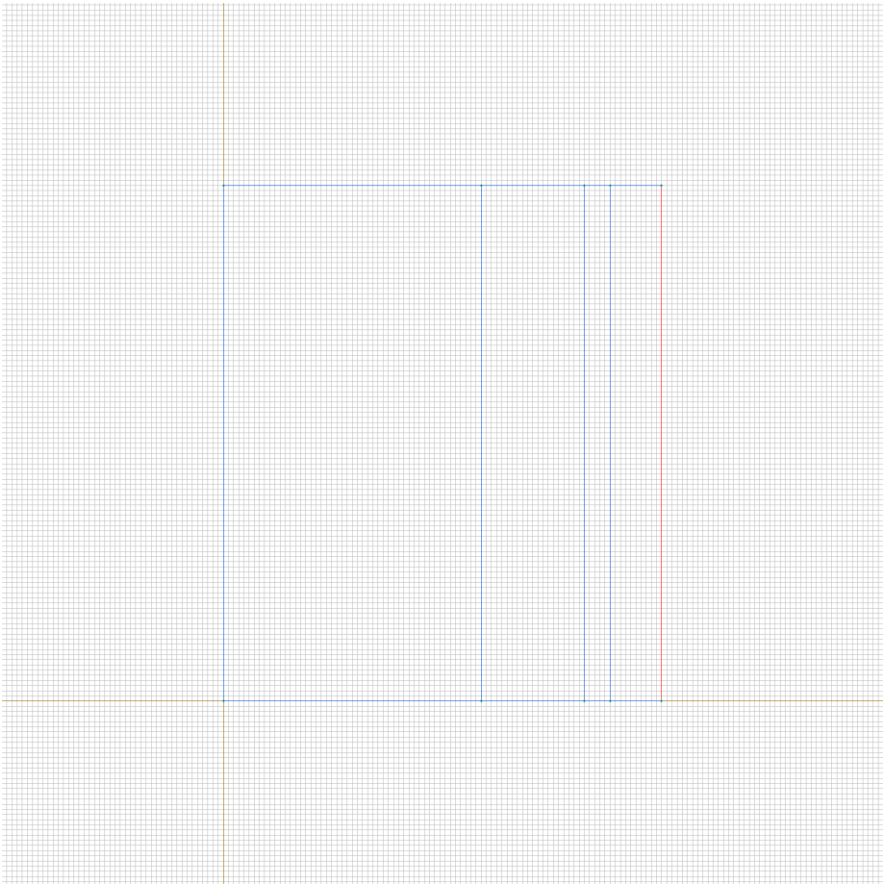
Thermal conductivity: lambda_x=10 [W/(K*m)], lambda_y=10 [W/(K*m)]



Labelled objects: edge "T=0"

There are (1) objects with this label

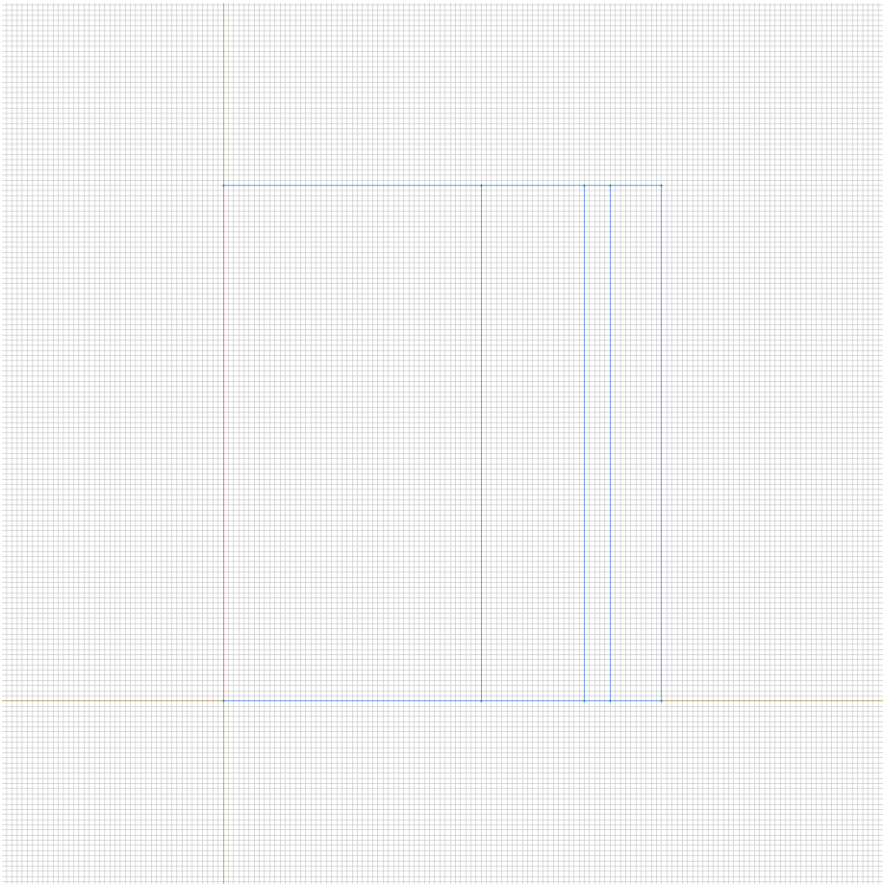
Temperature: T=-273.15 [K]



Labelled objects: edge "T=20"

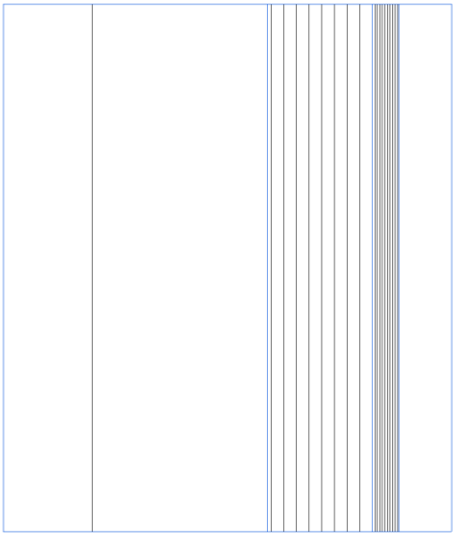
There are (1) objects with this label

Temperature: T=-253.15 [K]



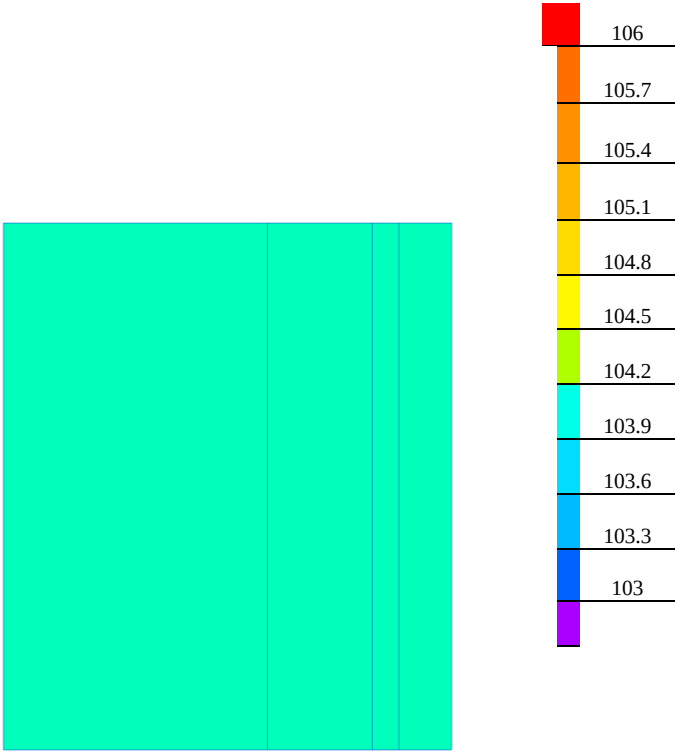
Results

Field lines



Results

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



Nonlinear dependencies

No non-linear dependencies are used in this problem data