

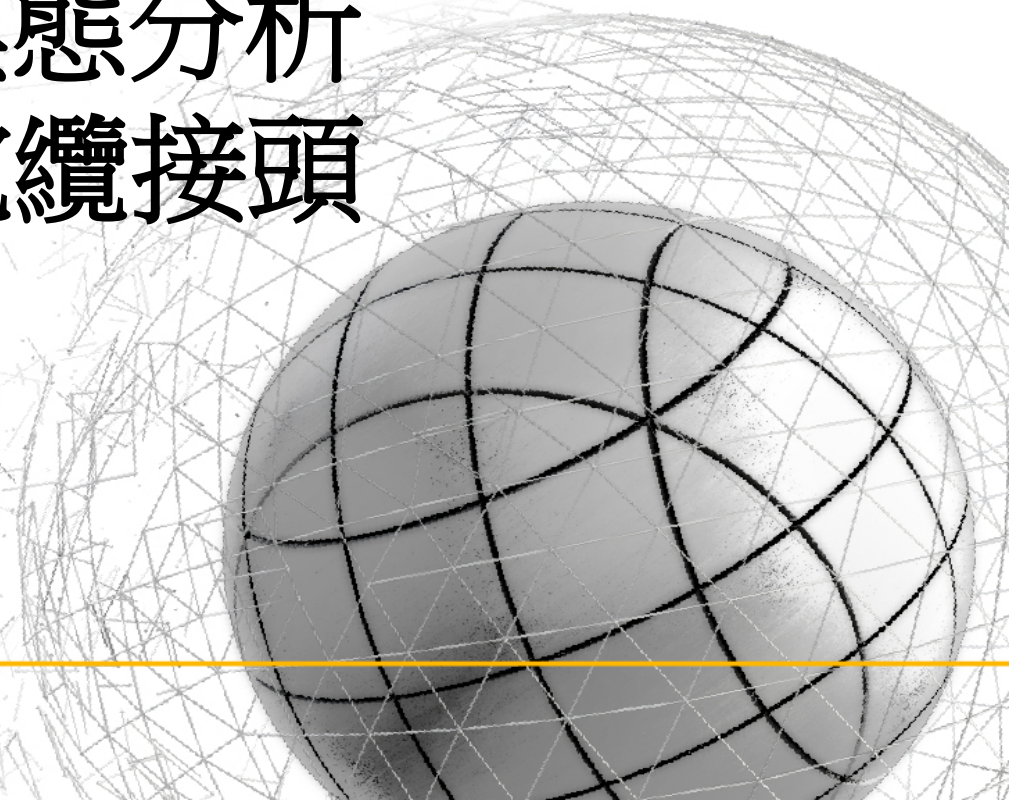


MIDAS

MESH FREE

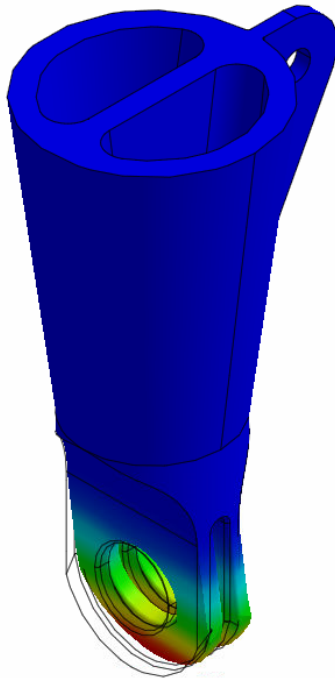
預力模態分析 EX3.電纜接頭

Simple, but Everything.



未施加载荷 模態1: $7.6841 \times 10^2 \text{ Hz}$

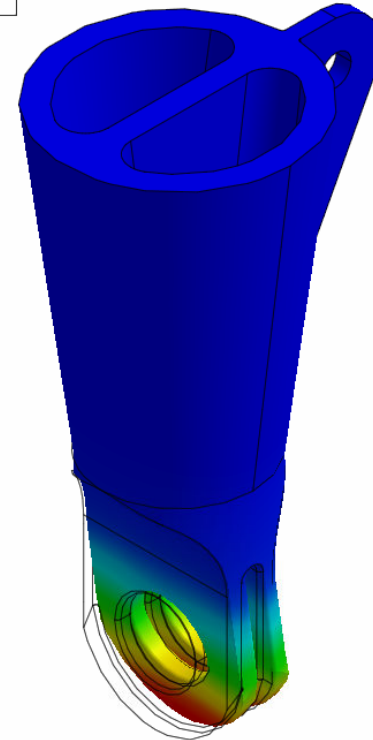
分析類型 模態分析-1
Step MODE 1 (FREQ=7.6841e+002)
結果 位移-XYZ



變形
Displacement-XYZ
+6.47440e+001
0.4%
+5.93487e+001
0.5%
+5.39533e+001
0.6%
+4.85580e+001
0.7%
+4.31627e+001
0.7%
+3.77673e+001
0.6%
+3.23720e+001
0.5%
+2.69767e+001
0.6%
+2.15813e+001
0.7%
+1.61860e+001
1.1%
+1.07907e+001
2.0%
+5.39534e+000
91.5%
+3.44994e-006
模態分析-1
Normal Mode
MODE 1 (FREQ=7.6841e+002)
Unit : mm

施加载荷 模態1: $1.0431 \times 10^3 \text{ Hz}$

分析類型 熱應力模態分析-1
子工况 Prestressed Normal Mode
Step MODE 1 (FREQ=1.0431e+003)
結果 位移-XYZ

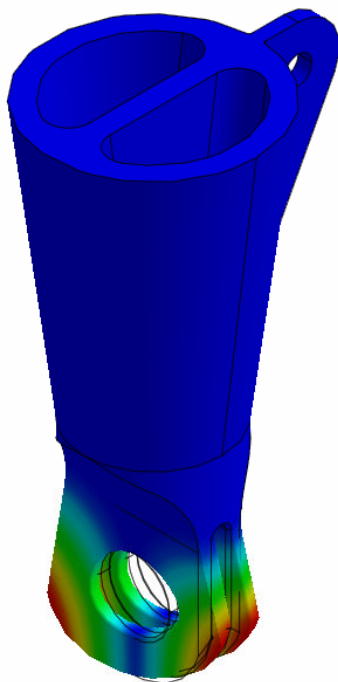


變形
Displacement-XYZ
+5.69227e+001
0.6%
+5.21792e+001
0.8%
+4.74356e+001
0.8%
+4.26921e+001
0.8%
+3.79485e+001
0.7%
+3.32049e+001
0.6%
+2.84614e+001
0.5%
+2.37178e+001
0.7%
+1.89743e+001
1.0%
+1.42307e+001
1.5%
+9.48713e+000
2.5%
+4.74357e+000
89.5%
+7.14461e-006
熱應力模態分析-1
Prestressed Normal Mode
MODE 1 (FREQ=1.0431e+003)
Unit : mm

振型相似但頻率差異很大

未施加载荷 模態5: $1.9643 \times 10^3 \text{ Hz}$

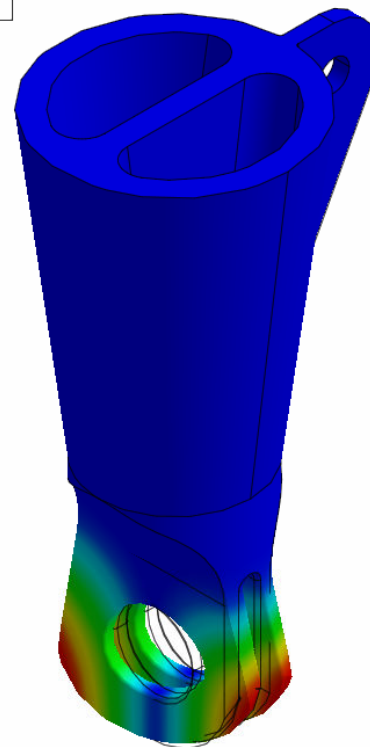
分析類型 模態分析-1
Step MODE 5 (FREQ=1.9642e+003)
結果 位移-XYZ



變形
Displacement-XYZ
+6.76593e+001
0.5%
+6.20210e+001
0.4%
+5.63828e+001
0.5%
+5.07445e+001
0.5%
+4.51062e+001
0.7%
+3.94679e+001
0.7%
+3.38297e+001
0.9%
+2.81914e+001
0.9%
+2.25531e+001
0.9%
+1.69148e+001
1.1%
+1.12766e+001
1.4%
+5.63828e+000
91.6%
+9.85348e-006
模態分析-1
Normal Mode
MODE 5 (FREQ=1.9642e+003)
Unit : mm

施加载荷 模態5: $2.5131 \times 10^3 \text{ Hz}$

分析類型 熱應力模態分析-1
子工况 Prestressed Normal Mode
Step MODE 5 (FREQ=2.5131e+003)
結果 位移-XYZ



變形
Displacement-XYZ
+6.45956e+001
0.5%
+5.92126e+001
0.4%
+5.38296e+001
0.6%
+4.84467e+001
0.6%
+4.30637e+001
0.7%
+3.76807e+001
0.8%
+3.22978e+001
0.9%
+2.69148e+001
0.8%
+2.15319e+001
0.9%
+1.61489e+001
1.1%
+1.07659e+001
1.4%
+5.38298e+000
91.2%
+1.44505e-005
熱應力模態分析-1
Prestressed Normal Mode
MODE 5 (FREQ=2.5131e+003)
Unit : mm

振型相似但頻率差異很大



初始溫度:25 °C

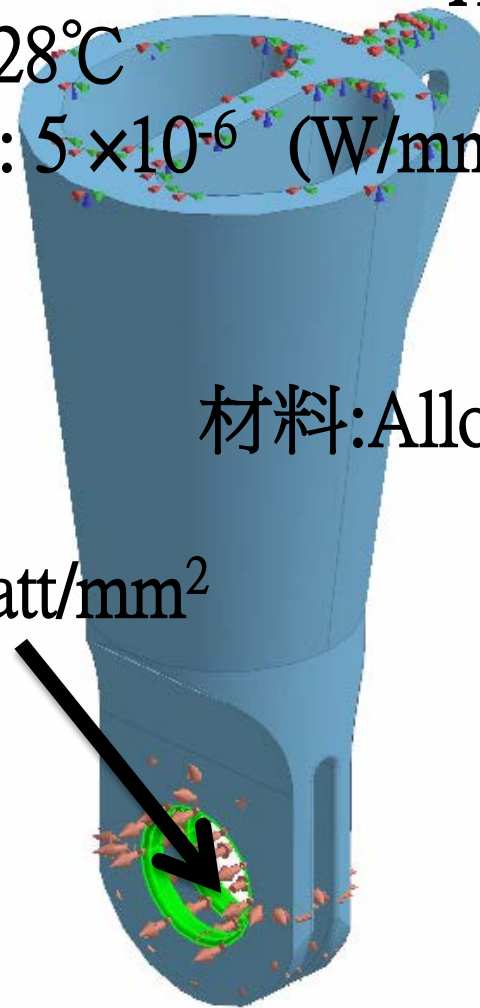
環境(工作)溫度:28°C

空氣熱對流係數: 5×10^{-6} (W/mm² °C)

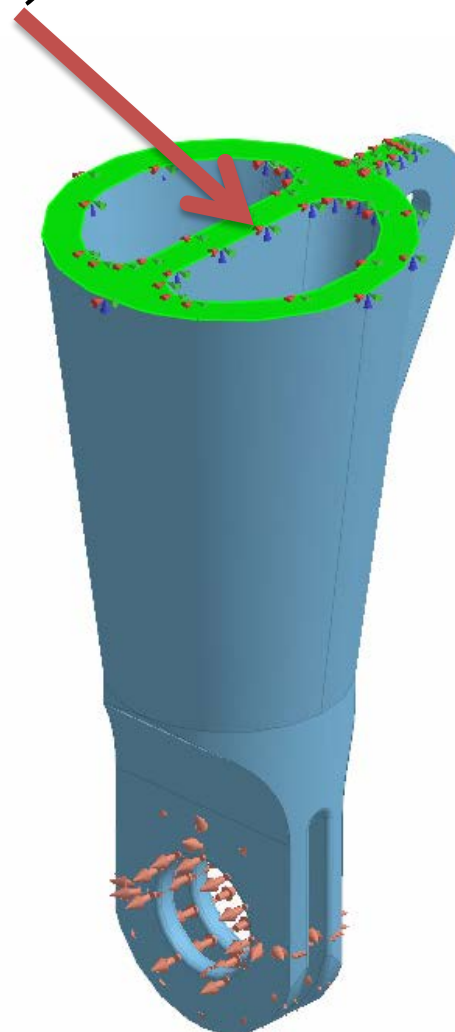
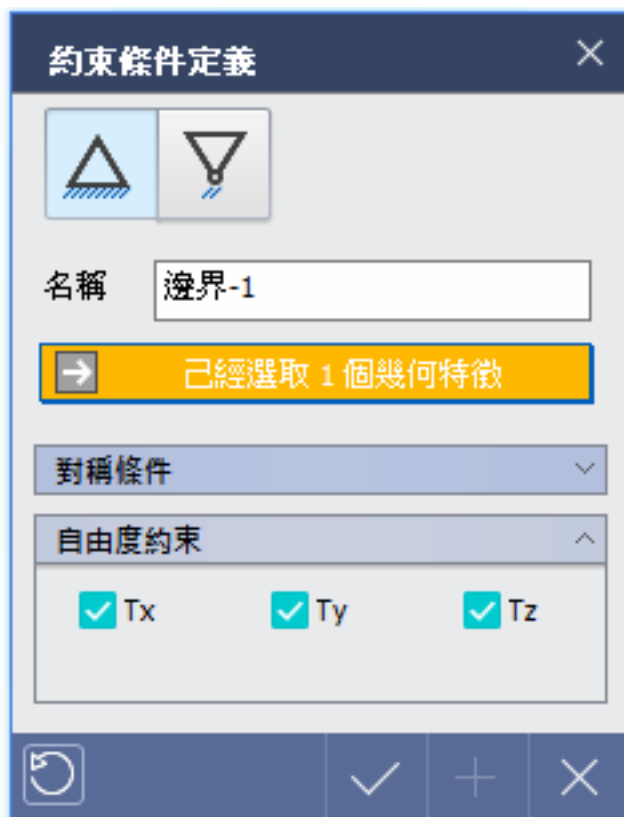
X,Y,Z拘束

材料:Alloy Steel

熱通量:0.01Watt/mm²



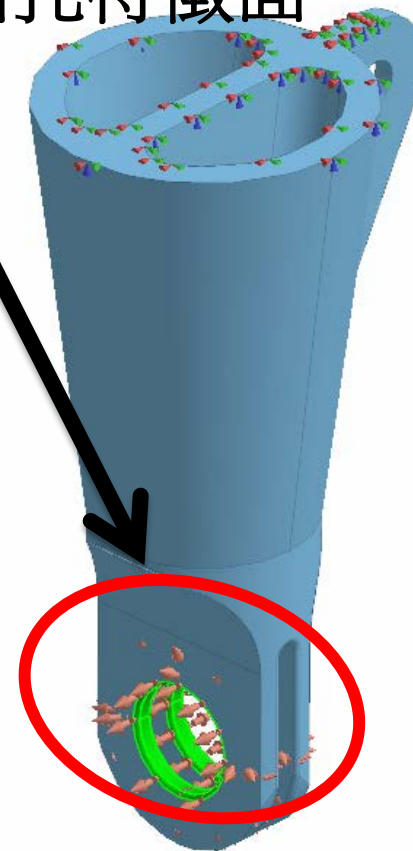
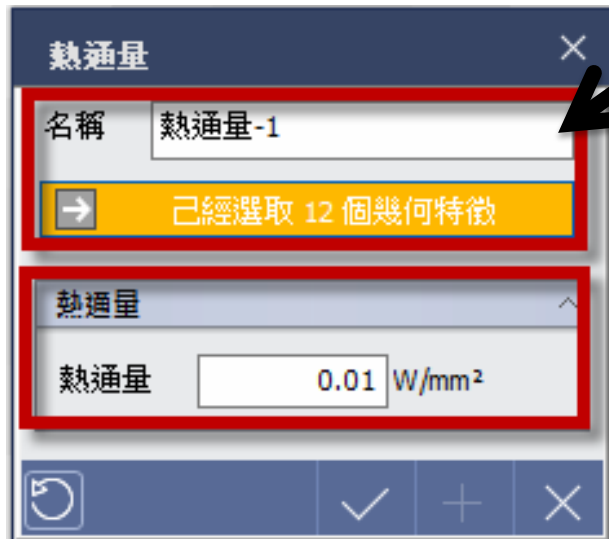
拘束(X,Y,Z)





載荷

Step1. 選擇2個圓孔特徵面

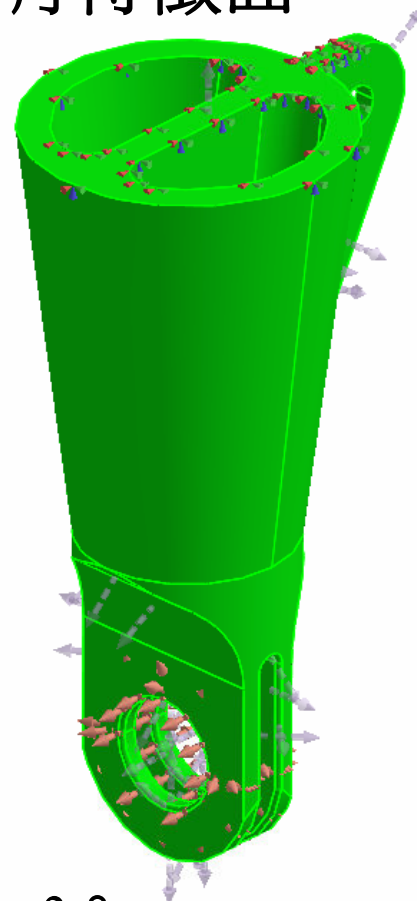
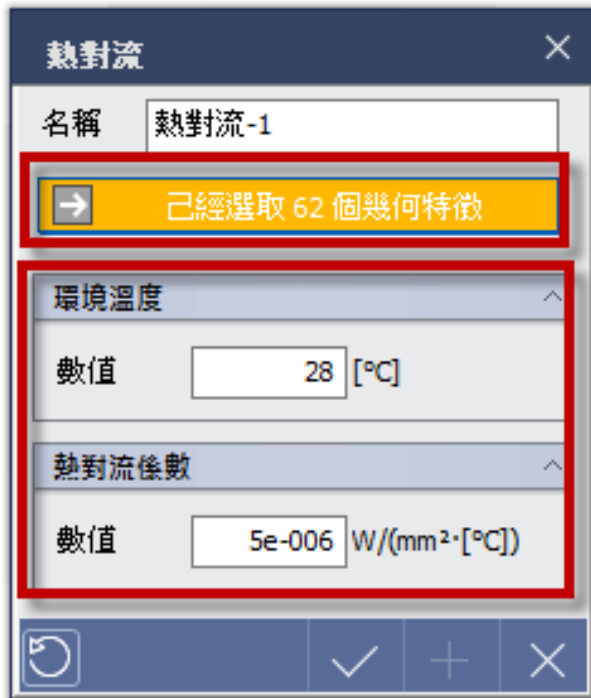


Step2. 熱通量 0.01 W/mm^2



載荷

Step1. 選擇所有特徵面

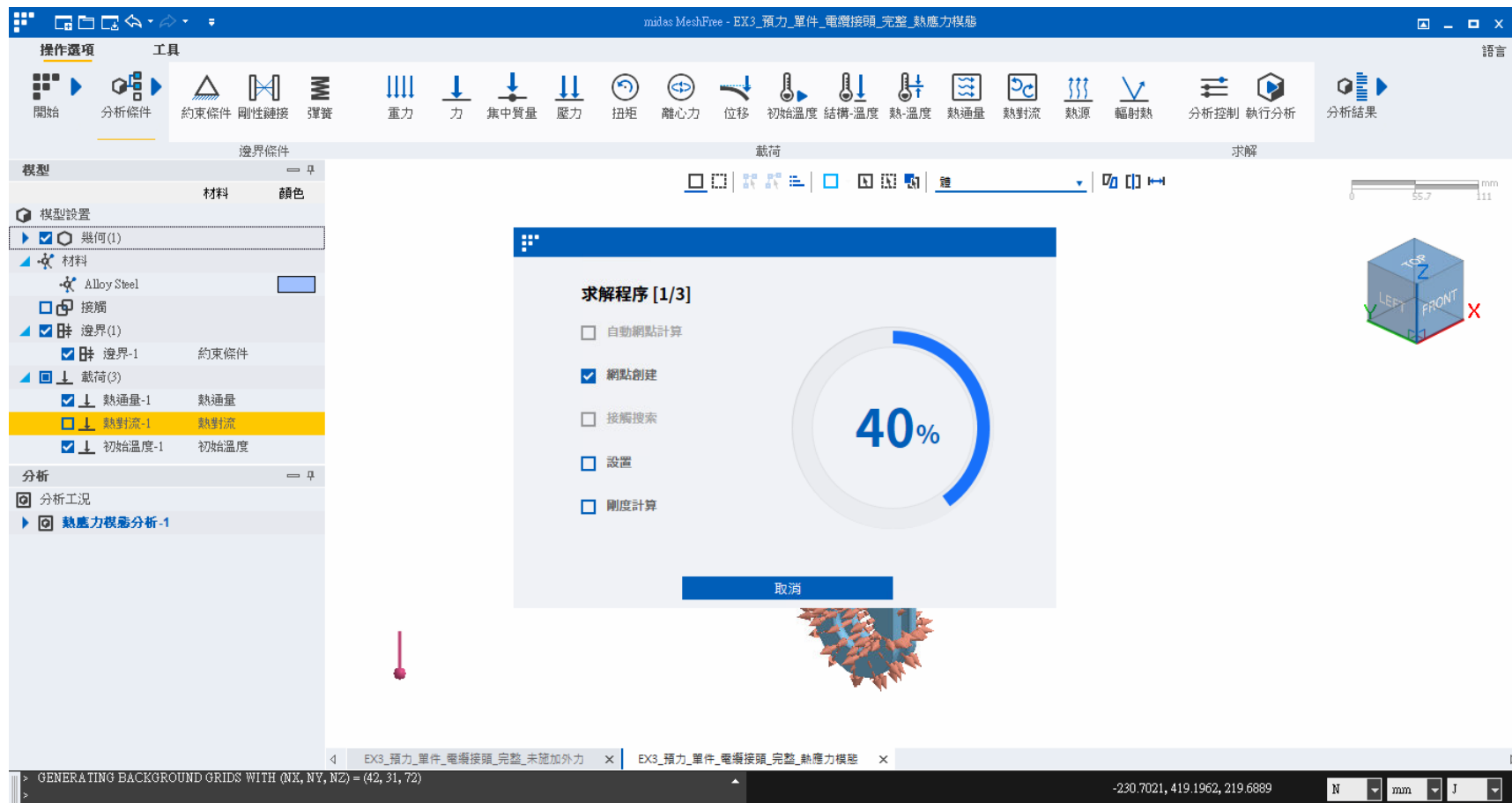


Step2.

環境(工作)溫度: 28°C

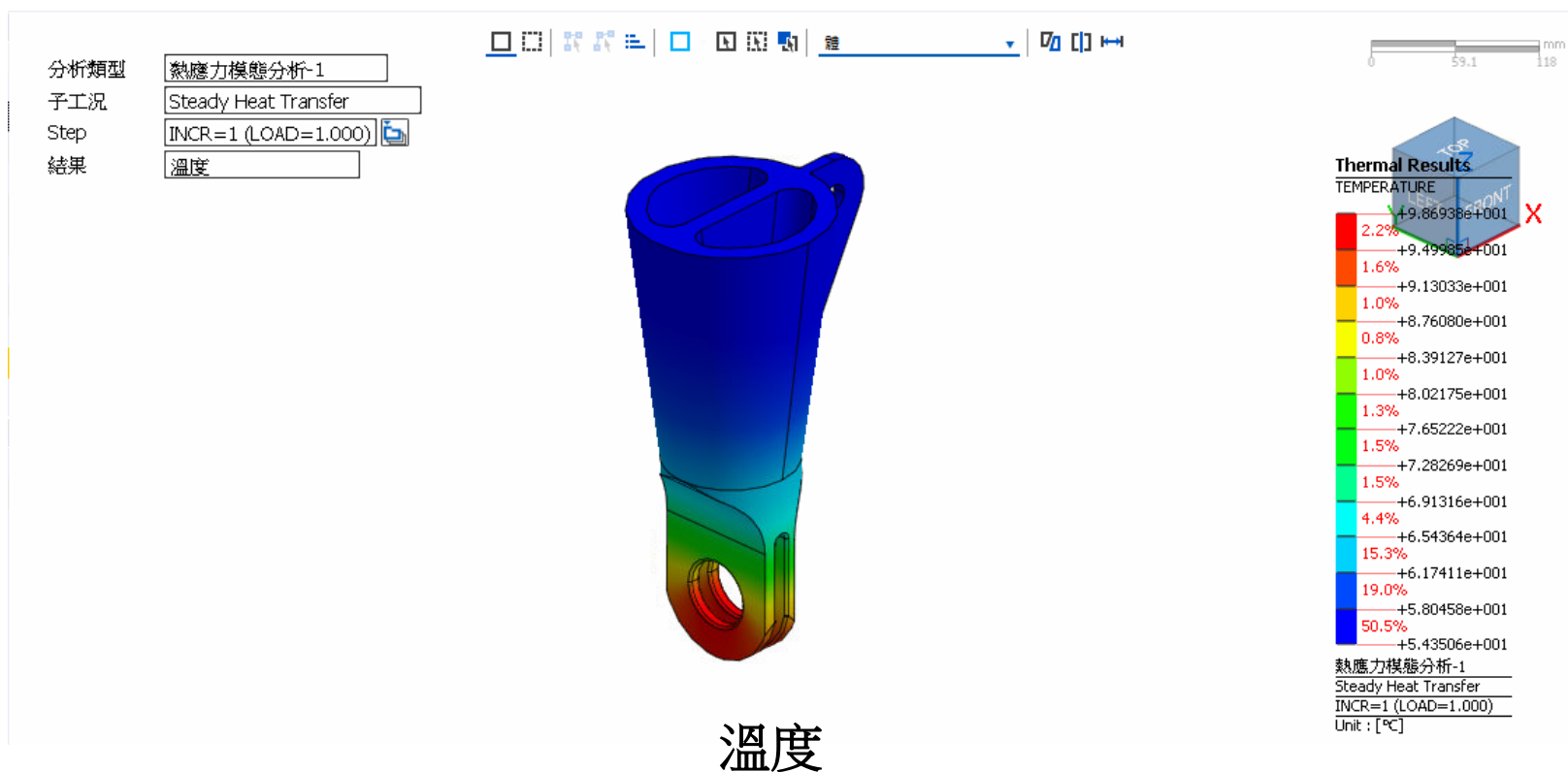
空氣熱對流係數: 5×10^{-6} (W/mm² °C)

執行分析



分析類型	熱應力模擬分析-1
子工況	Steady Heat Transfer
Step	INCR=1 (LOAD=1.000)
結果	溫度

子工況: 選取Steady Heat Transfer



分析類型 熱應力模態分析-1

子工況 Linear Static

Step Linear Static

結果 位移-XYZ

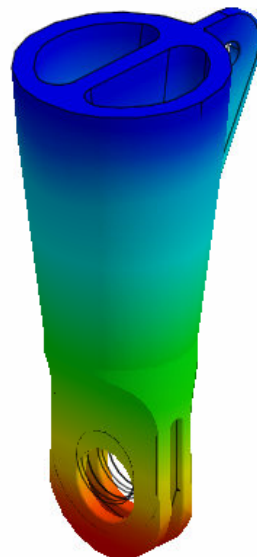
子工況:選取Linear Static

分析類型 熱應力模態分析-1

子工況 Linear Static

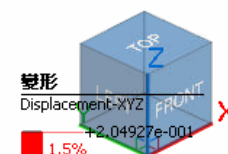
Step Linear Static

結果 位移-XYZ



變形(mm)

mm
0 59.1 118



變形

Displacement-XYZ

+2.04927e-001

1.5%

+1.87852e-001

2.0%

+1.70777e-001

1.4%

+1.53703e-001

2.3%

+1.36628e-001

3.1%

+1.19553e-001

5.7%

+1.02479e-001

10.9%

+8.54038e-002

12.9%

+6.83291e-002

15.4%

+5.12544e-002

19.5%

+3.41797e-002

14.5%

+1.71050e-002

10.6%

+3.02295e-005

熱應力模態分析-1

Linear Static

Unit : mm

分析類型	熱應力模態分析-1
子工況	Prestressed Normal Mode
Step	MODE 10 (FREQ=4.2965e+003)
結果	位移-XYZ

子工況:選取Pre-stressed Normal Model

Step:選擇各模態

分析類型	熱應力模態分析-1
子工況	Prestressed Normal Mode
Step	MODE 10 (FREQ=4.2965e+003)
結果	位移-XYZ

