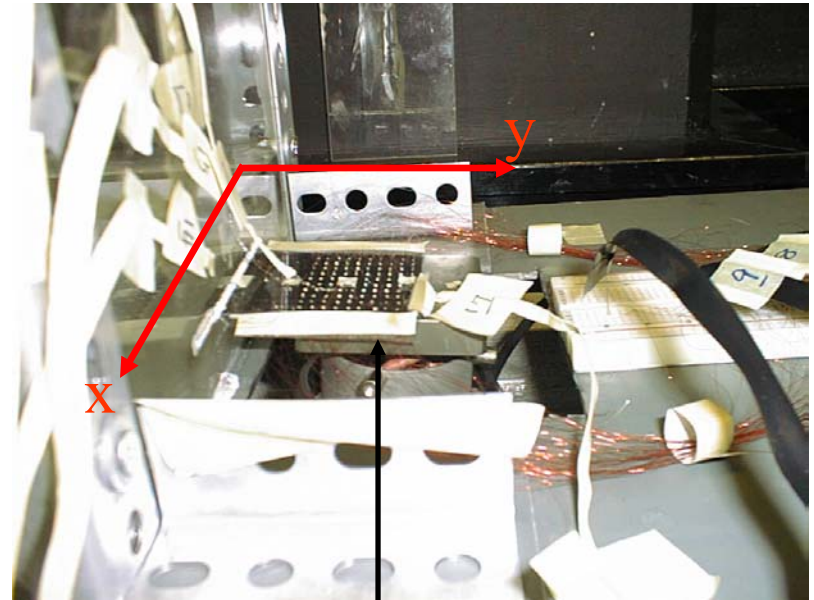
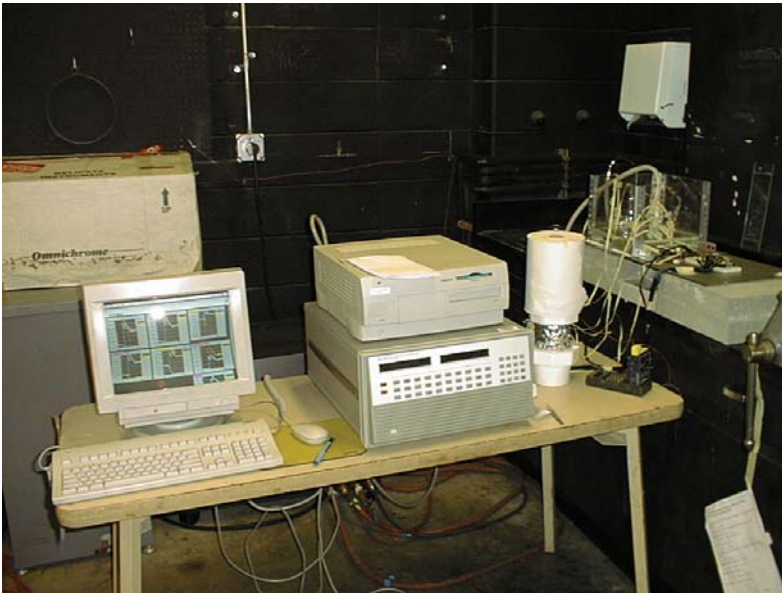


1-D Heat Flow Measurement

1-D Heat Flow :

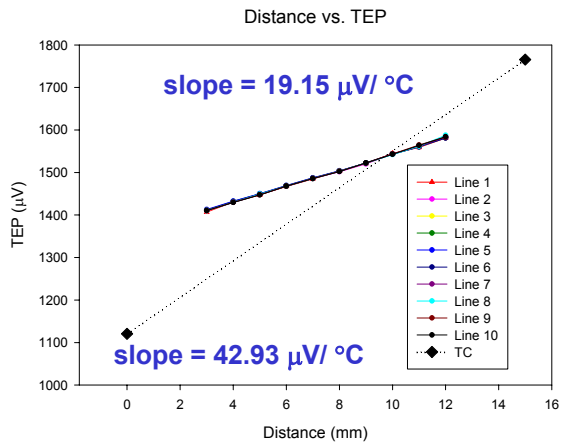
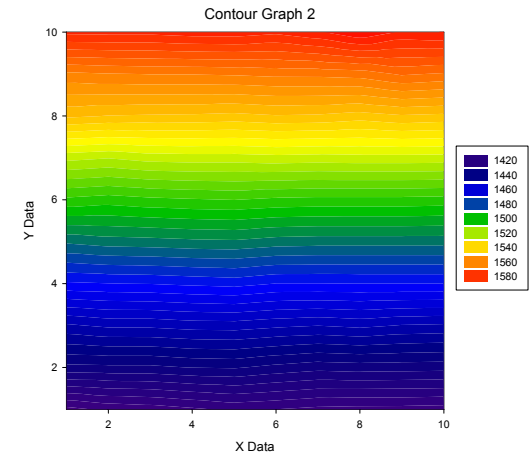
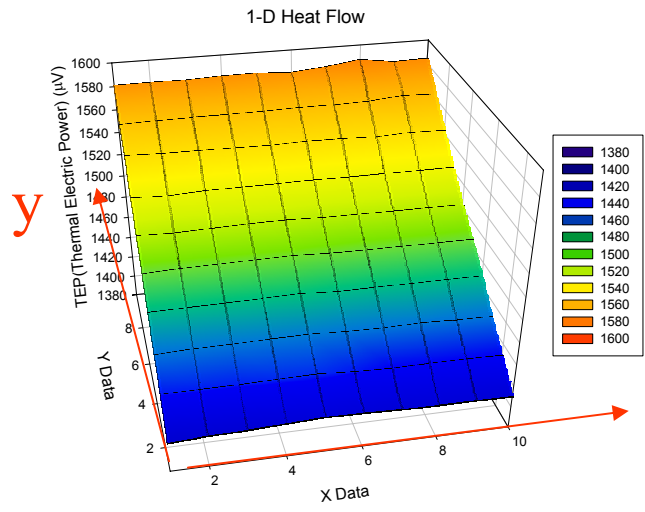
Calibrate Seebeck Coefficient for TFTC(Thin Film Thermocouples)

Water (19°C)

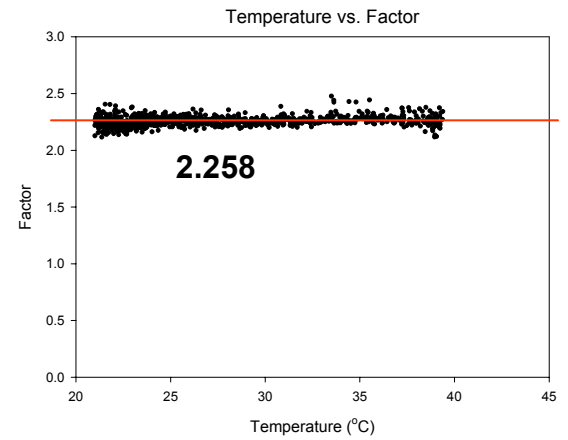


Heater (70°C)

1-D Heat Flow Measurement



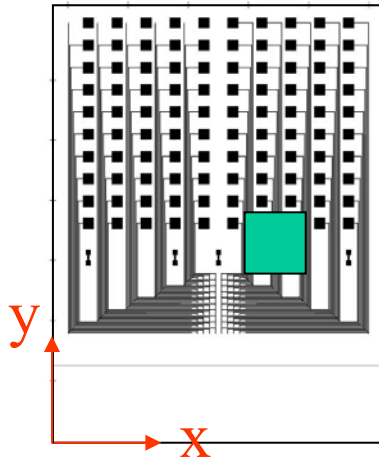
Factor = $42.93/19.15=2.242$



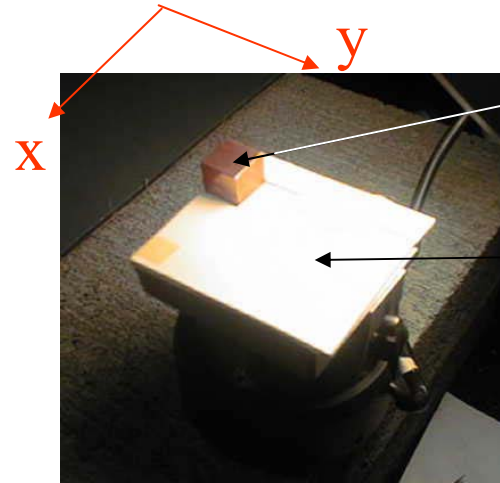
Temperature vs. Factor



2-D Heat Flow Measurement



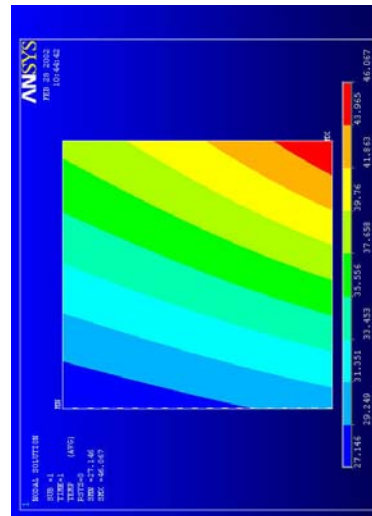
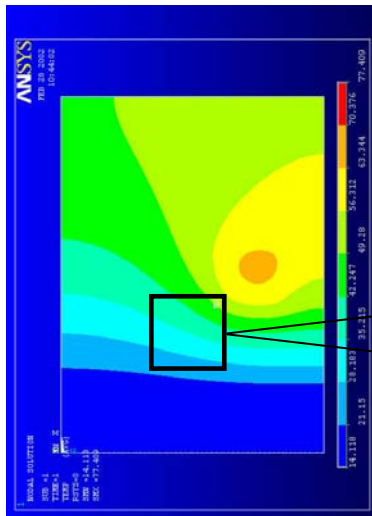
Heater Location



Heater Dimension :
12.75mm × 12.75mm

Several thick paper :
Reducing the radiation effects

ANSYS Simulation



Used Data

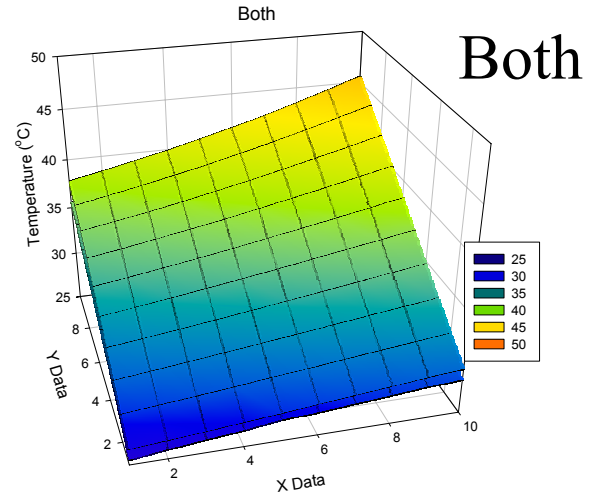
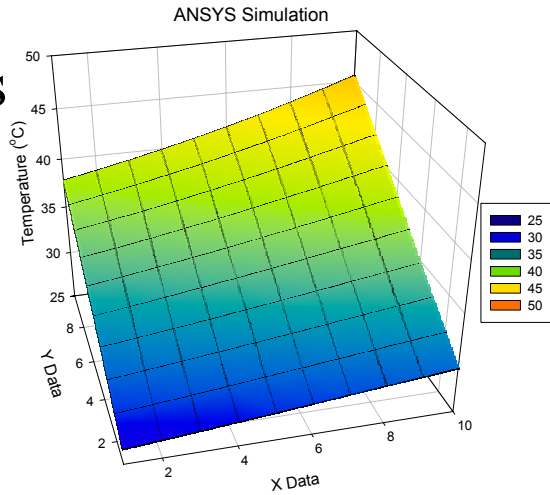
Water Temp.
2 Measured Temp.
(Channel 14, 15)
Heater size

Assumption

no radiation
neglect convection (air)
neglect conduction due to lead wires
Top surface of heater is really parallel to the silicon surface.

2-D Measurement

Analysis



Measurement

