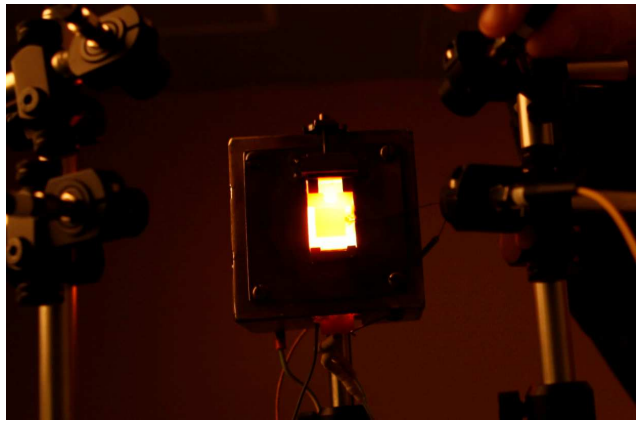
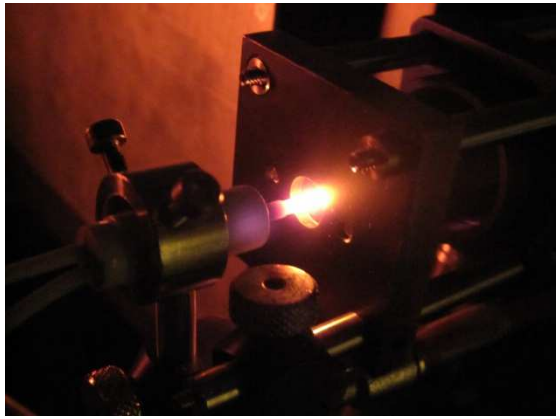
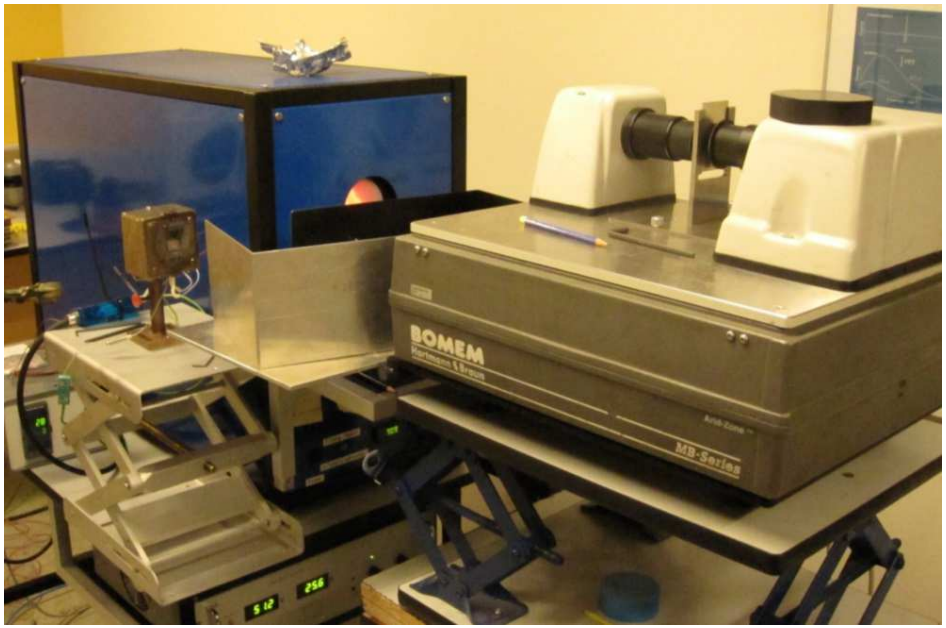
Spectral emissivity measurement



Laser heated sample

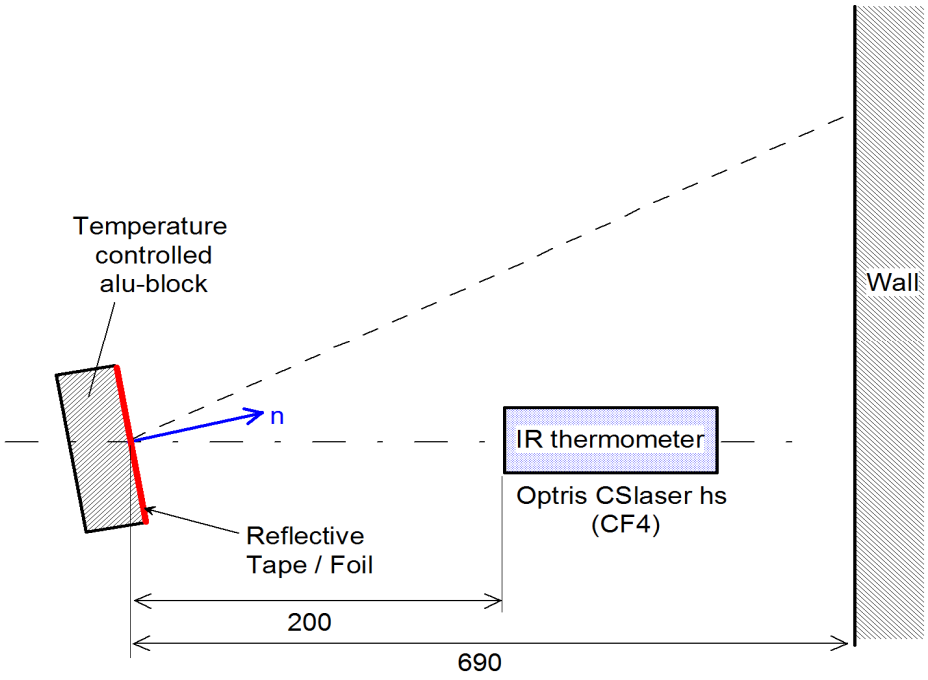


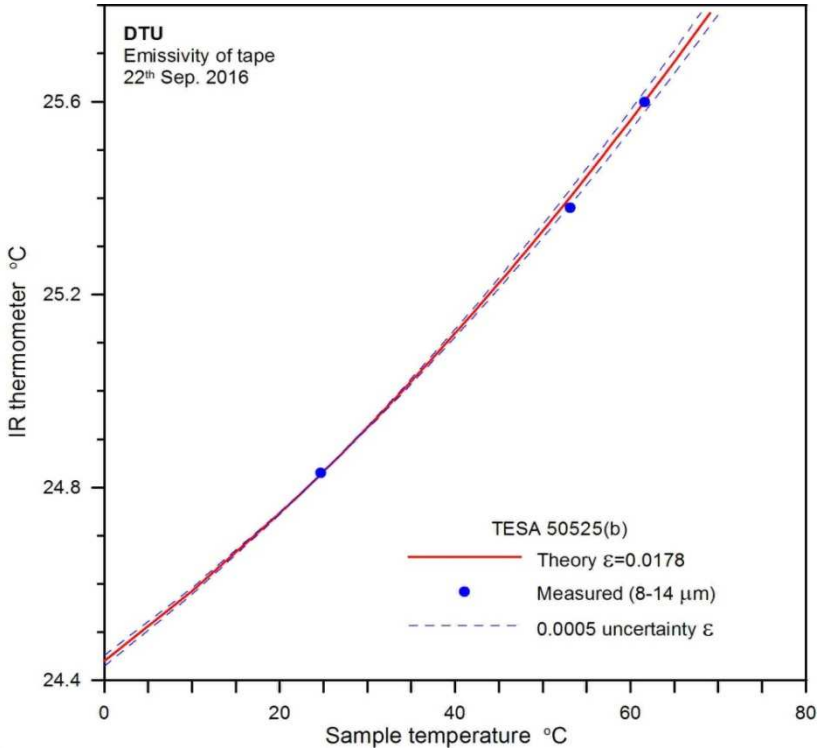
Small IR sources



Spectral range: 200nm – 20 µm
Temperature: -80 - 1600°C

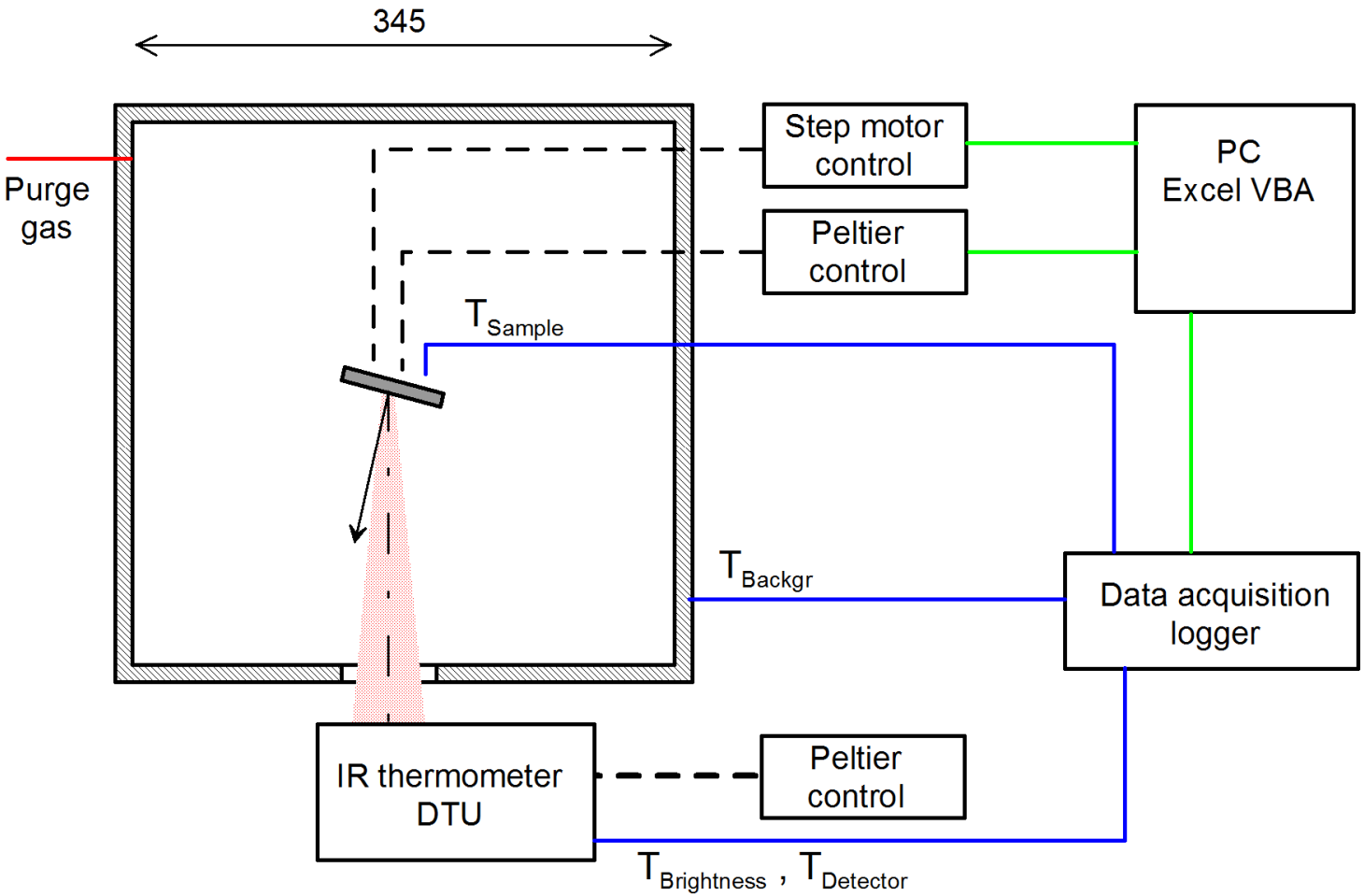
Dynamic sample heating



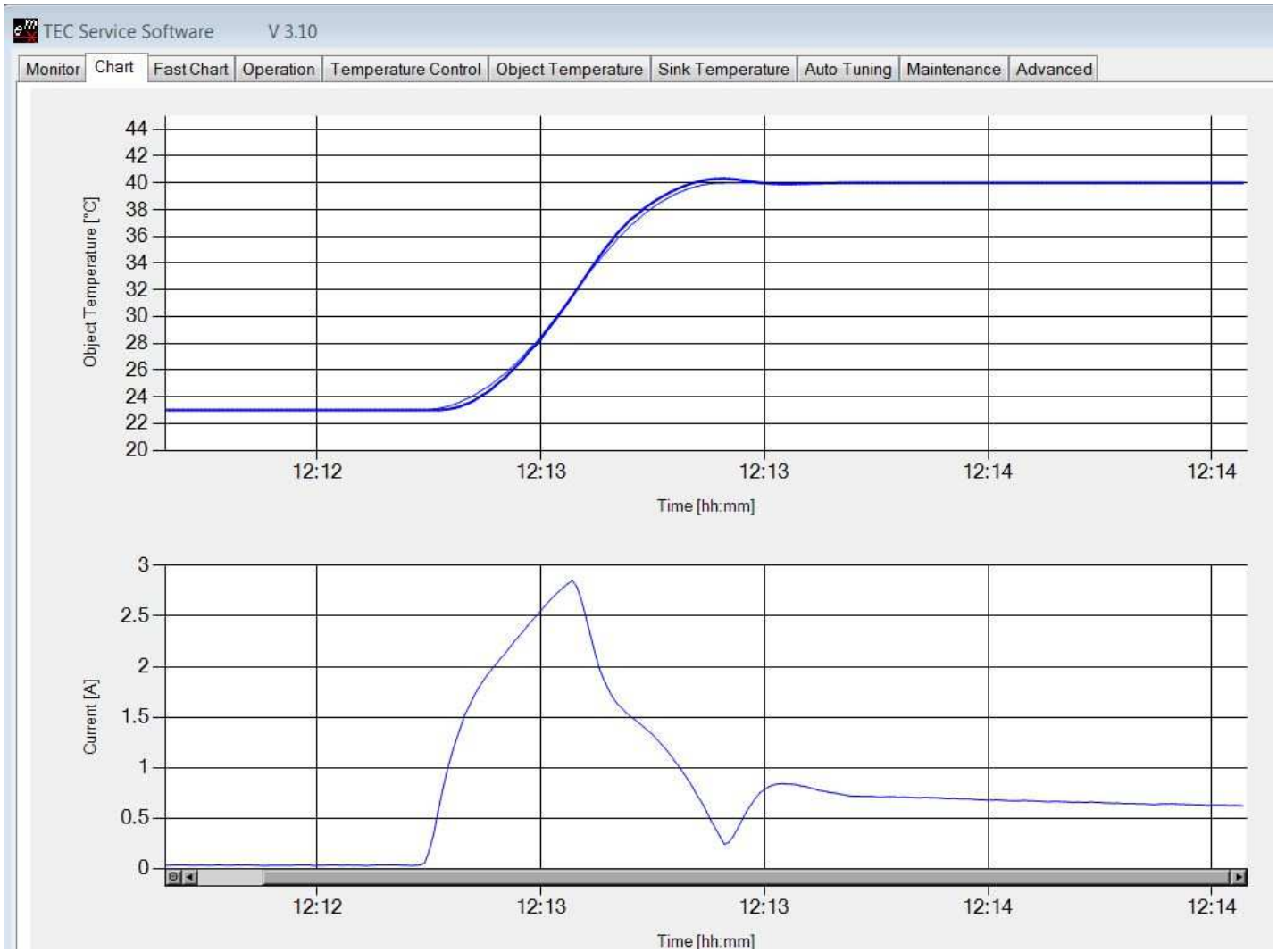


Actions: IR thermometer replaced by custom made IR sensor (TP with KRS-5 window), sample holder, ”wall” for rotated sample

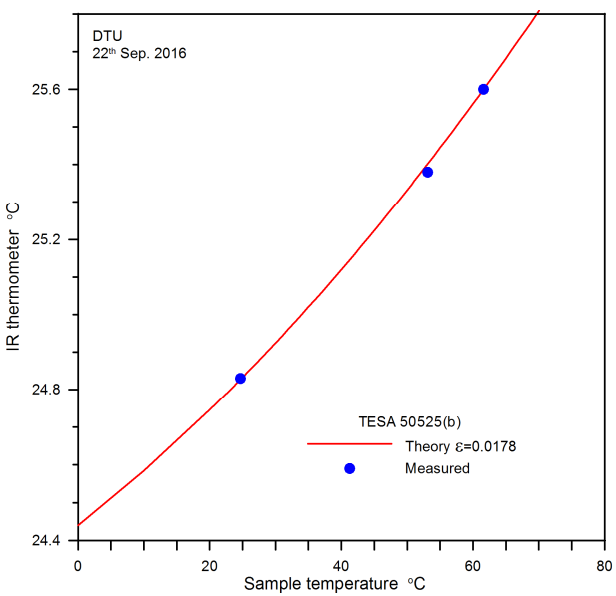
New EMIRIM DTU SETUP

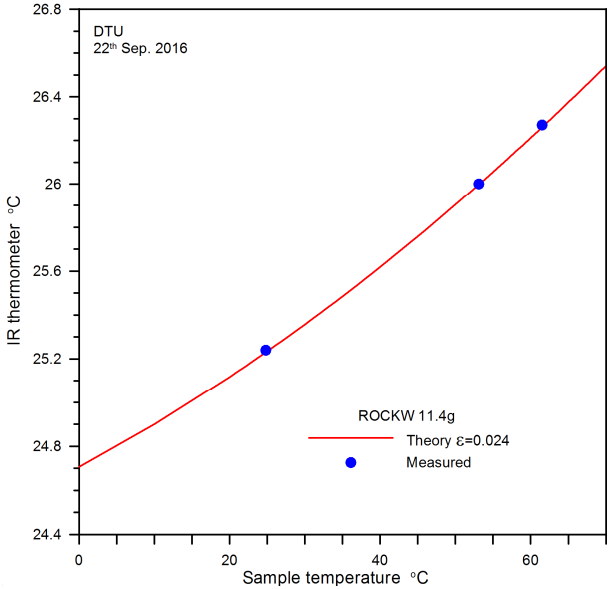


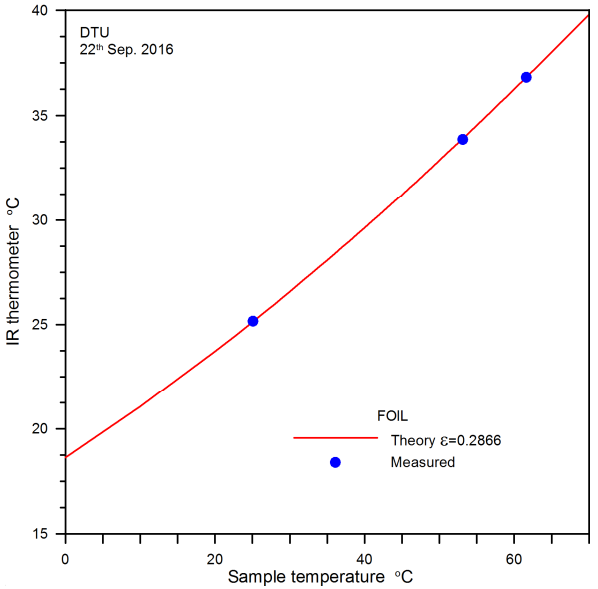
Time slope - ΔT



DTU temperature ramp method

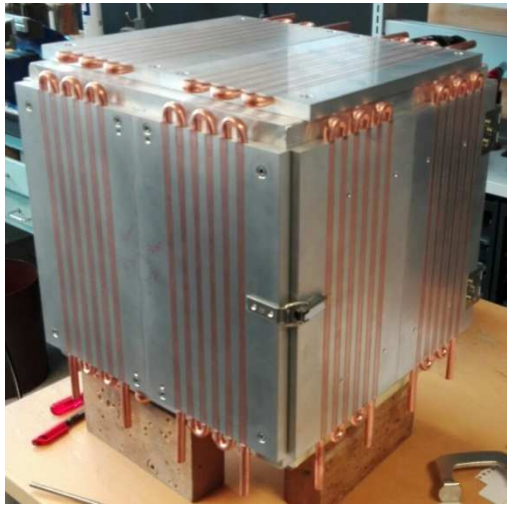


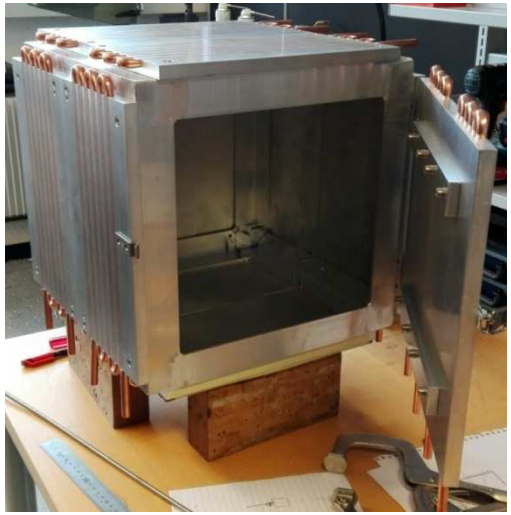




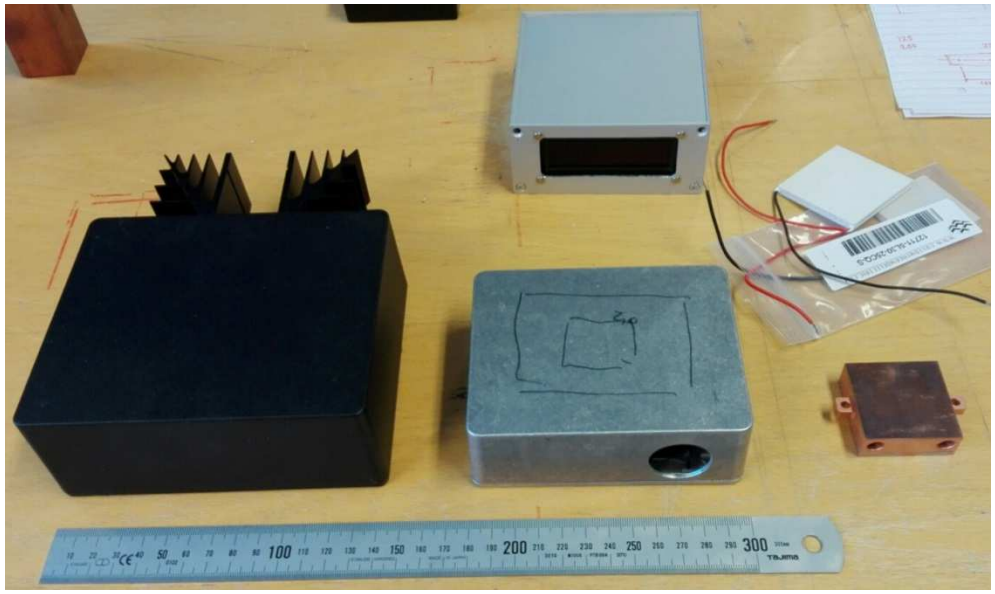
Results for 3 samples. Emissivity of Tesa 50525 is found to 0.0178, Foil (no identification, Mylar type coated film) ε=0.2866, Rockw 11.4g ε=0.024. Uncertainty of measurements can be improved by replacing thermocouple with a calibrated pt100 temperature sensor and better temperature control of the instrumentation and room. Results for 8-14µm band.

Enclosure & IR-sensor





- 345x345x345 mm^3 cube
- 1.8° step angle sample
- Peltier cooling/heating of sample…
- 1 mK Peltier stabilized IR-sensor KRS-window
- Low cost using commerciual parts



DTU setup