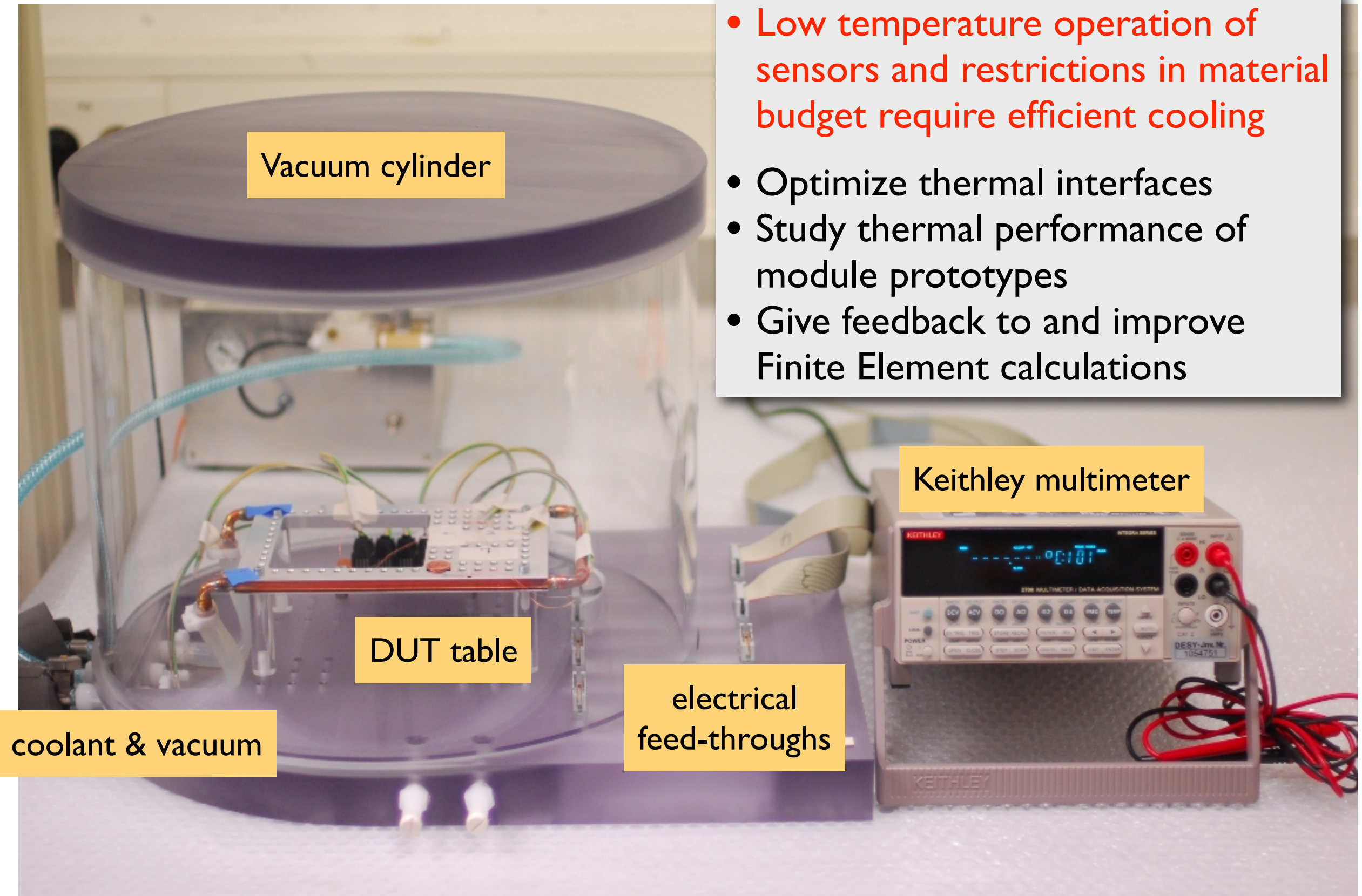
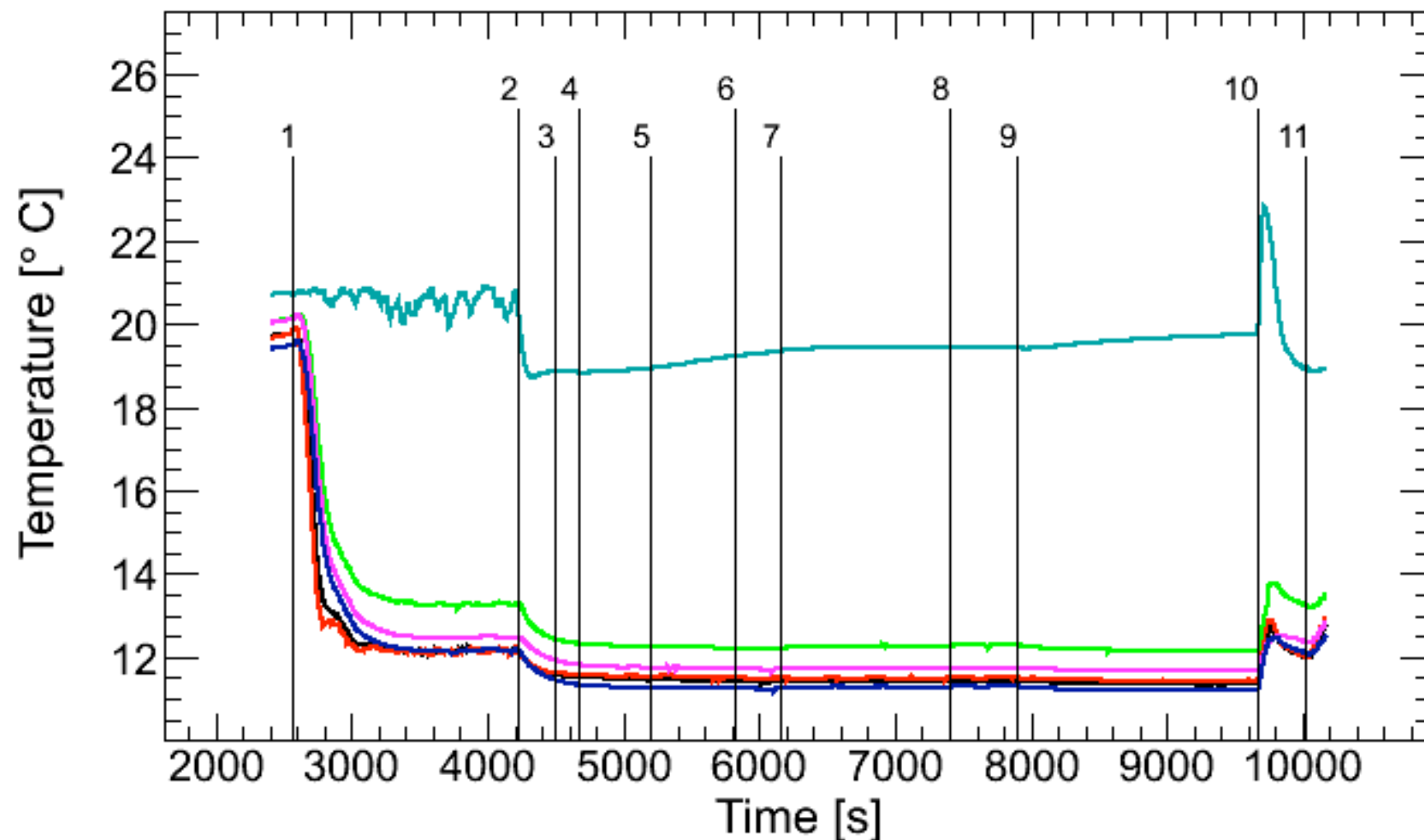


Cooling efficiency measurements at DESY



Mid-term measurement plans

- Commissioning
 - Calibration of temperature sensors ✓
 - Optimization of chiller parameters ✓
 - Measurement of thermal conductivities of reference materials
- Study material junctions & gluings
 - Weak point of FE calculations
- Investigate Composites and „novel“ materials (e.g.TPG)

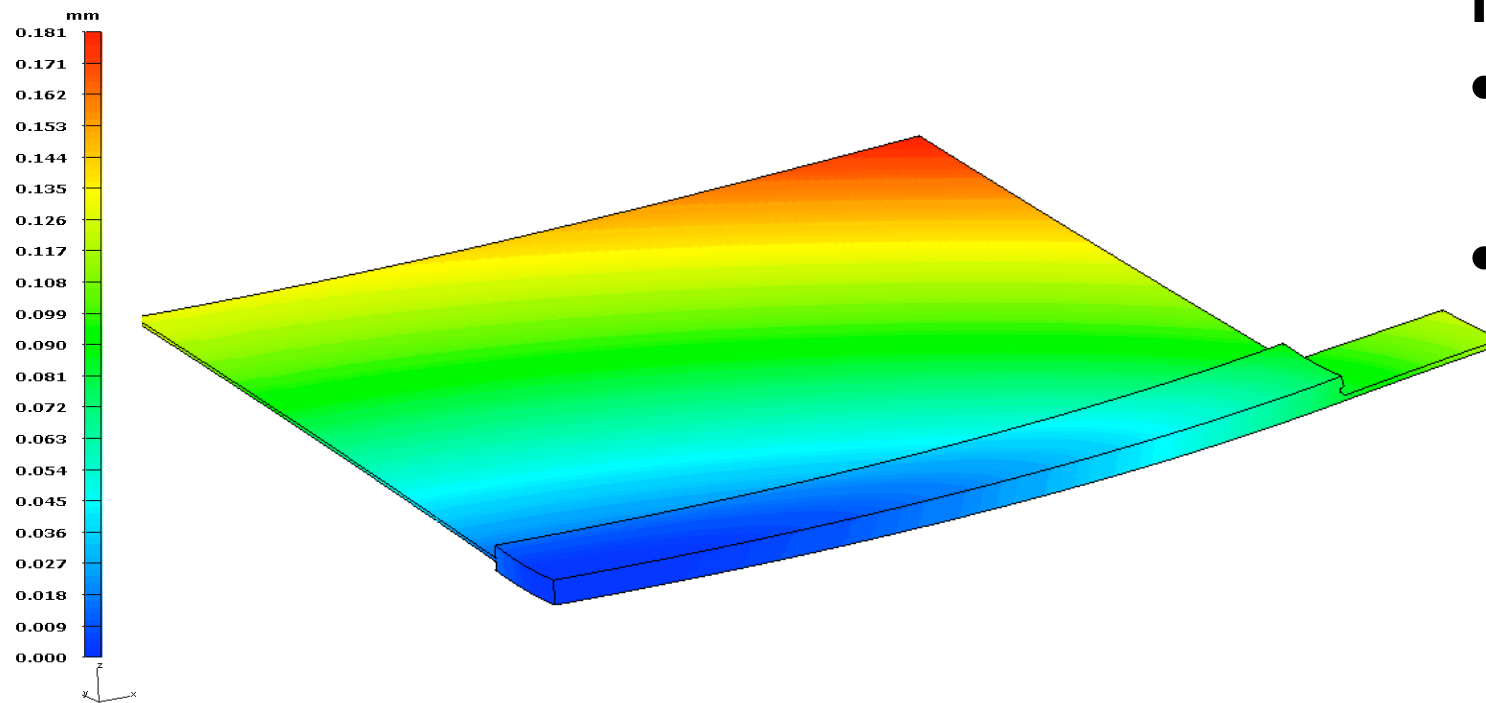
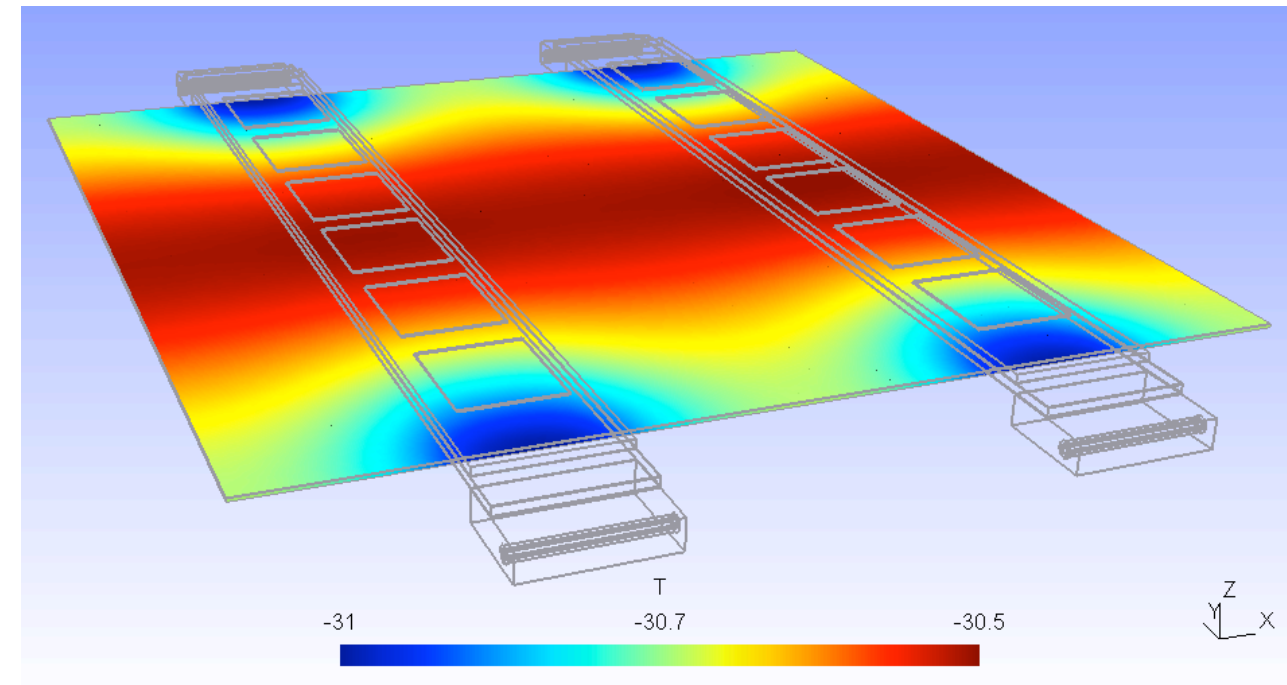


All 10 temperature sensors calibrated and operational

Finite Element calculations

Thermal

- Sensitive to thermal run-away (sensor power calculated from fluence and temperature)
- Two platforms: I-DEAS & getDP
- Calculations cross-checked with UCSB



Mechanical

- Study deformation and stress due to operation at low temperature
- Optimize mechanical module design

Optical measurement setup for deformations being developed