Thermal Remote Sensing

Drone - DJI Mavic Enterprise 3 Thermal

- https://enterprise.dji.com/de/mavic-3-enterprise
- https://copterpro.de/shop/drohnen-komplettsets/djimavic3enterprise/

Calibration Field Targets

- Prior to + after flight measure targets with handheld thermometer. Or place thermocouples + logger under panels!?
- **High-emissivity**
  - Matte black-painted aluminum
  - ε≈0.97
  - Purpose: Temperature reference
  - **Coatings / Foils:**
    - https://www.nextel-coating.com/de/shop/artikel/nextel-velvet-coating-811-21-9218-schwarz
    - https://de.acktar.com/tiefschwarz-beschichtete-folien-filme-2/
- **Low-emissivity**
  - Polished aluminum sheet
  - ε≈0.04-0.06
  - Purpose: Reflected apparent temperature

IR Termometers

- https://www.conrad.com/en/p/fluke-566-ir-thermometer-display-thermometer-30-1-40-650-c-contact-measurement-122370.html
- **Calibration:**
  - https://www.fluke.com/de-de/mehr-erfahren/blog/kalibrierung/infrared-thermometer-calibration

Lab Temperature Calibration (potential field use?)

- https://www.conrad.de/de/p/voltcraft-irs-350-kalibrator-kalibriert-iso-2236161.html
- https://www.messbar.de/kalibrierstrahler-optris-br400-fuer-waermebildkameras
- https://www.messbar.de/Optris-BR20AR-Referenzstrahler

Research Papers

- WUR  Calibration + Processing
  - https://www.sciencedirect.com/science/article/pii/S1569843224005405

IDEAS

- Use a Sous Vide (keeps temp stable) in a pot for experiment flights
  - Maybe two? one for low temp one high

Must do's for data acquisition:

- https://dl.djicdn.com/downloads/zenmuse_xt/en/sUAS_Radiometry_Technical_Note.pdf