

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
 - $\epsilon \approx 0.97$
 - 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
 - $\epsilon \approx 0.04-0.06$
 - 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-waermebildkamas>
- <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

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