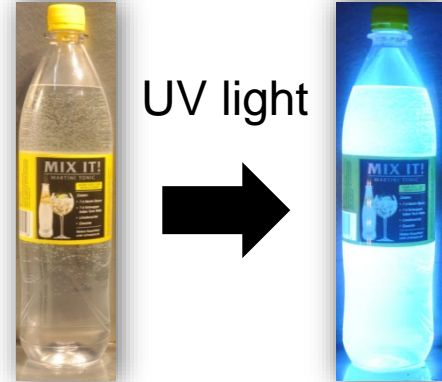


High-speed thermal imaging of quench in HTS tapes using fluorescent films

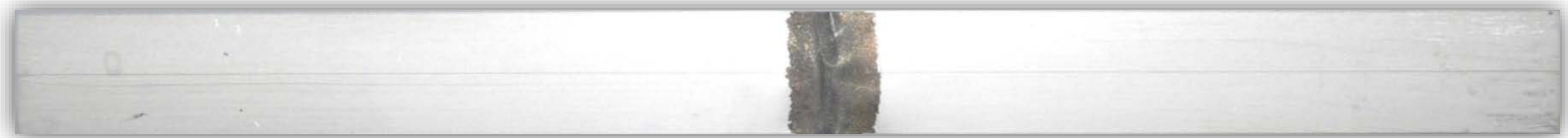
R. Gyuráki, F. Sirois, F. Grilli

- Haugen *et al.* (2007) *IEEE TAS*, High resolution thermal imaging of hotspots in superconducting films
- Poster ID:1257, *Thu-Af-Po4.11*



Challenge with HTS Tapes

- **Quench** needs further studying
- **Normal Zone Propagation Velocity** is slow in HTS
→ Can lead to the destruction of tapes, cables and devices



Burned HTS tape

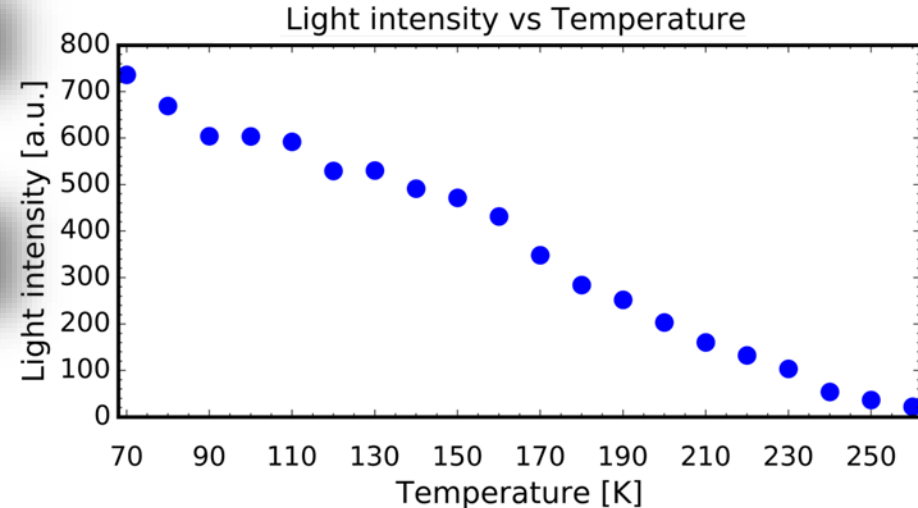
Fluorescent Imaging Concept



HTS Tape



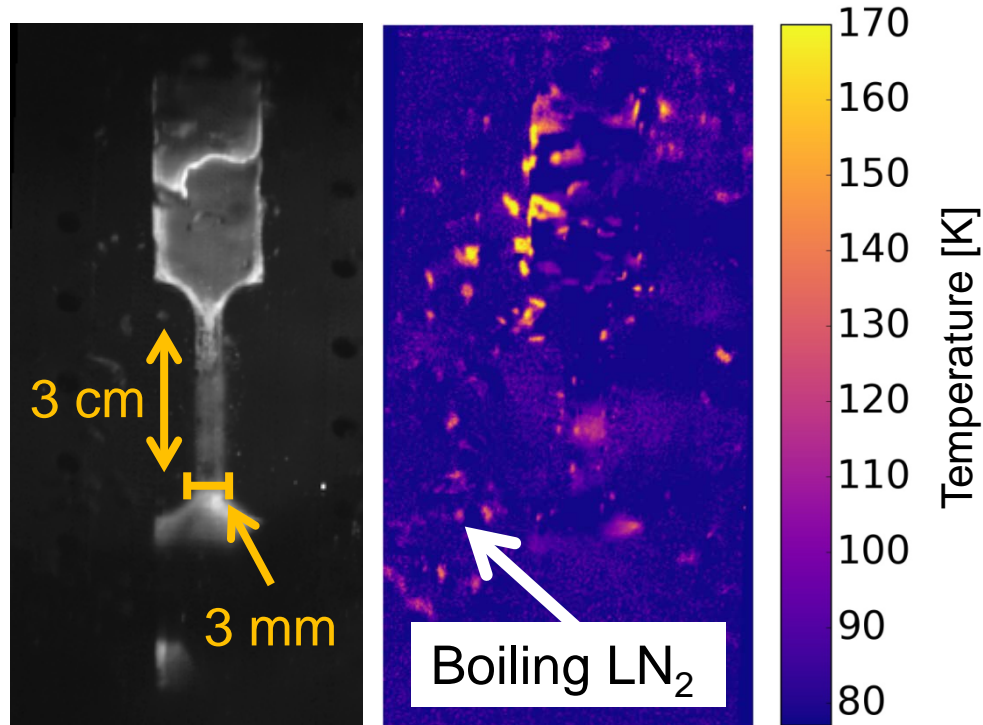
HTS Tape excited with UV light



Measured with Marius Jakoby, IMT, KIT

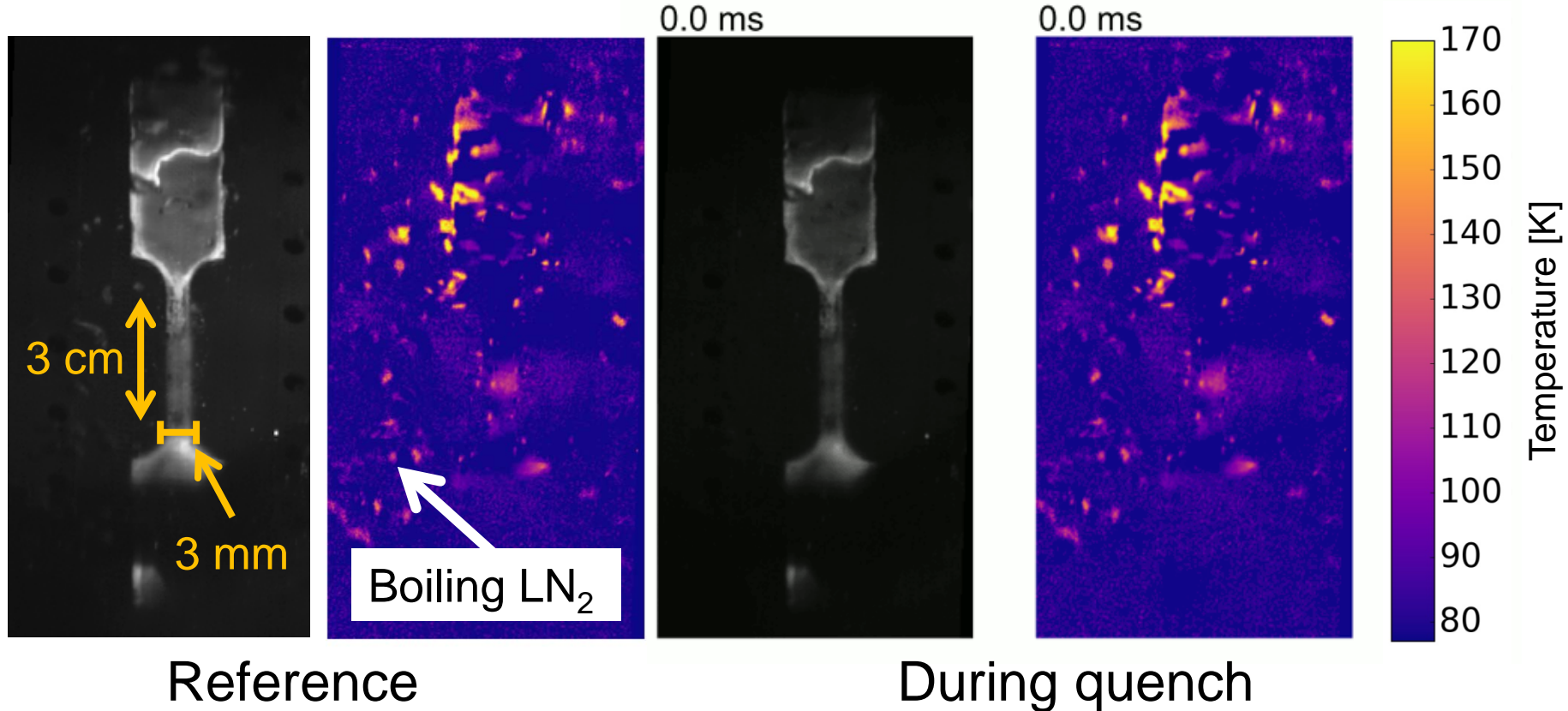
- Recording speed: 2500 images/second
- Quench it

Surface Temperature Mapping



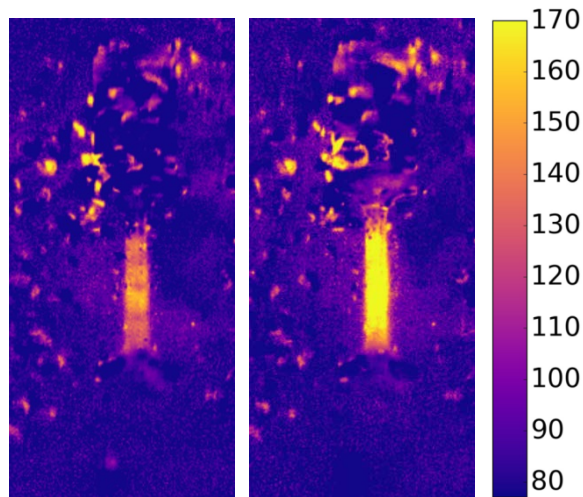
Reference

Surface Temperature Mapping



Conclusions and outlook

- Observation of a quenched, normal zone in 2D
- Temperature measurement



- Filamentary HTS tapes
- Cables, e.g. ROEBEL



Anna Kario, KIT, EuCARD2