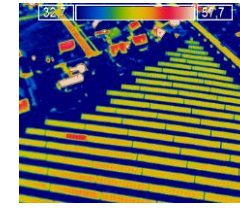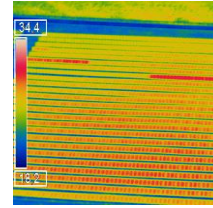# Bachelor Thesis – **Developing an algorithm for georeferencing PV-modules for aerial electroluminescence and thermography imaging**

For quality control we inspect solar parks using imaging methods (thermography, electroluminescence) and drones in order to detect failures on-site and at real operating conditions. Using drone-based systems has various advantages, especially the automated inspection of Solar parks is enhanced. In order to use the benefit of this approach, the localization and identification of the detected suspicious site is important.

In this Bachelor thesis, an algorithm for georeferencing the PV-modules with respect to the position of the drone with the camera has to be developed. Therefore, data in the field has to acquired and models for data analysis developed and tested. The resulting routine will be implemented in an evolved measurement system.

TODO's:
- Work with modern drones, camera- and ground-based RTK-systems
- Link the position data of the drone-mounted camera-system with the location of the focused PV-module
- Evaluate air- and ground-based location data

Qualification:
- Student of Mechanical Engineering, Material Science, Process Engineering, Physics or comparable
- Profound technical knowledge
- Experience in a programming language (Python, C/C++) is beneficial

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