Improve Digital Sun Sensor Design based on Miniature Cameras

ZENTRUM FÜR TELEMATIK E.V.

Master Thesis

Task Description

- The NanEye miniature camera has been integrated in our satellites to serve as digital sun sensors. The design consists of the miniature camera including a pinhole blend, a half-duplex read-out circuit and software.
- Within this thesis, the design shall be improved for robustness including the pinhole blend and software.
- Fault-Detection, Isolation and Recovery (FDIR) techniques shall be applied.
- Three tests shall be included: sun intensity test (analyzing saturation and stray light), sun calibration (analyzing pinhole redesign) and a radiation test.

Previous Knowledge

- C Programming for Embedded Systems
- Camera models and calibration
- FDIR

Contact via Mail or Video Chat

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