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Vortragstitel	Test and Performance Analysis of the New Star Tracker STELLA
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Abstract	<p>STELLA is a miniature star tracker for pico and nano satellites developed at the University of Würzburg under financial support of DLR (FKZ 50RM0901). The star tracker features small dimensions and weight as well as low power consumption and fulfills therewith major boundary conditions and requirements of small satellite missions. This paper discusses the verification process of the STELLA star tracker. This process includes functional, performance and environmental tests. Functional tests have been done using a star simulator and were confirmed during field experiments. Furthermore influences of disturbances such as false stars (space debris, satellites, comets) were explored. The paper also presents an evaluation of some advanced functionalities: pixel failure detection and recognition of interference from the Sun, the Earth and the Moon. Subsequently to functional tests investigation of accuracy performance was done. The star tracker has been subjected to a full qualification program, which includes thermal-vacuum, shock, vibrations and radiation tests. The paper explains results of the tests and star tracker performance and shows, how successful the design requirements are met. The lessons learned contribute to advancement of the next generation of miniature star trackers.</p>