Peg Institut für Produktentwicklung und Gerätebau

Student Project

Call for Proposals: 12.11.2024

Start: Immediately



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<u>Characterization and Evaluation of</u> <u>Damping of Star Tracker Housing under Vibration</u> along with Optical Performance

Motivation

The Institute for Product Development is researching additive manufacturing processes aimed at functional and design optimization. The current focus is investigating how vibration modes affect existing optical system.

In this project, the task is to adjust the existing testing platform and identify appropriate vibration parameters and optical evaluation methods to study the impact of vibration modes on the optical performance of the experimental setup. The goal is to evaluate and analyze the influence of specific vibration modes on optical systems, thereby providing a foundation for future design optimization.

Potential Work Packages:

- Literature research on:
 - I. Identification of evaluation criteria for assessing damping and image quality
 - II. Vibration parameters considering the experimental setup
- Initial investigations and adjustment of the experimental setup
- Testing and identifying the optimal experimental parameters
- Establish value ranges for assessment scales
- Written documentation of results, including discussion and critical evaluation

Your Profile:

- Interest in additive manufacturing, vibration, optics, and practical tasks
- Independent working style
- Reliability
- Strong methodological and analytical skills
- Enjoyment of scientific work

Have we sparked your interest? If so, we look forward to receiving your application.