

Master thesis / Diplom- / Studienarbeit

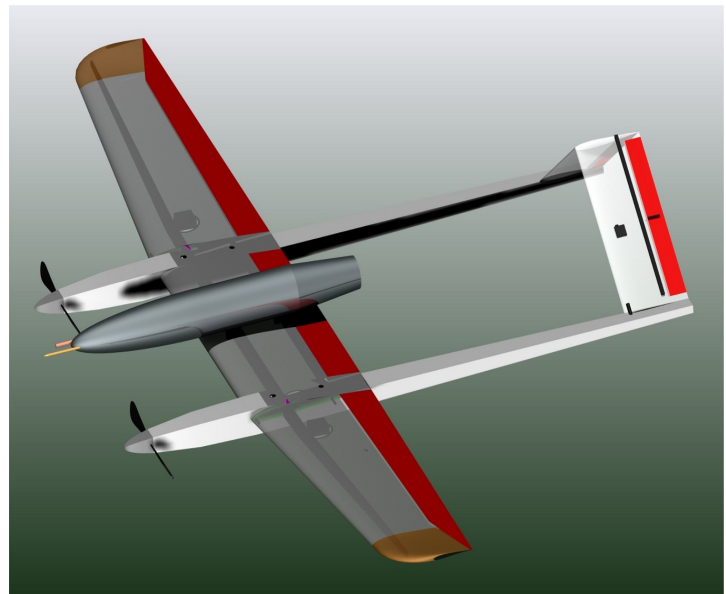
Design of a Kalman-filter for the attitude determination of an UAV

The Environmental Physics (EnPhy) Group at the Centre for Applied Geoscience (ZAG), Eberhard Karls Universität Tübingen, concentrates on research in the lower turbulent atmosphere. The research includes numerical simulations and boundary-layer measurements using small unmanned and automatically operating aircraft (UAV). The UAV are equipped with a meteorological sensor package including a five-hole probe (airflow angles and air-speed), inertia measurement unit IMU (for acceleration and angular velocity) and a GPS receiver (position and ground speed) to determine the meteorological wind.

The goal of the announced project is to develop a **Kalman filter that combines the IMU data and the raw GPS data** to calculate the attitude of the UAV (position, ground speed and Euler angles).

Required qualifications:

- self-dependent work in a multi disciplinary team
- programming experience
- Linux OS



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