

Invitation to the Oral Examination – Department EE

For the occasion of his examination for a Doctoral Degree,

Mr. Fabian T. Faul

will present his dissertation entitled/on

Near-Field Measurement and Transformation of Modulated Electromagnetic Fields using Uncrewed Aerial Vehicles

on **30 September 2024** at **14:00 h**

Attendance to the presentation is open to the public. The presentation will be in English.

The candidate, all members of the Examination Committee, and authorized examiners of the TUM School of CIT are invited to the presentation and subsequent oral examination.

The presentation and subsequent examination will take place in room [N0116](#), Theresienstr. 90, Munich.

Examination committee

Chair: **Prof. Dr.-Ing. Alexander W. Koch**

First Examiner: **Prof. Dr.-Ing. Thomas Eibert**

Second Examiner: **Prof. Dr. rer. nat. Frank Gronwald**

Munich, the 18th of September 2024

Mailing list

Members of the examination committee

Doctoral candidate

Abstract

This thesis deals with the measurement and transformation of modulated electromagnetic fields that are recorded with the help of uncrewed aerial vehicles (UAVs). A UAV-based near-field measurement setup is presented, corresponding measurements are examined and a comprehensive error analysis of the measurement setup is given. Furthermore, approaches for the measurement of modulated field signals are discussed and their applicability is demonstrated by numerical simulations and measurements in an anechoic chamber and on a flight navigation system.