



## **Course Contents:**

- Introduction to microwave filters
- Basic network theory
- Design of lumped lowpass prototype networks
- Circuit transformation on lumped prototype networks
- Coupled resonator circuits
- TEM transmission line filters
- Introduction to waveguide filters
- Introduction to dielectric resonator filters
- Introduction to different filter technologies
- Computer aided design

## **Prerequisite:**

Hochfrequenztechnik, Leitungstheorie

## **Course Credits:**

3 SWS (2 Lectures, 1 Exercise)

## **Language of Instruction:**

English

## **Evaluation procedure:**

Oral exam

## **Time and location:**

Monday: 8:30-10:00 + 10:15-11:00, D037

## **Instructors:**

Dr.-Ing. Payman Rezaee (pre@tf.uni-kiel.de)

Prof. Dr.-Ing. Michael Höft (mh@tf.uni-kiel.de)

## **This course is targeting postgraduate students.**

## **Literature:**

- [1] I. C. Hunter, *Theory and Design of Microwave Filters*. London: IET, 2006.
- [2] J.-S. Hong and M. J. Lancaster, *Microstrip filters for RF/microwave applications*. New York: Willey, 2001.
- [3] G. Matthaei, L. Young, and E. M. T. Jones, *Microwave Filters, Impedance Matching Networks and Coupling Structures*. Norwood, MA, Mcgrew-Hill, 1964.
- [4] Relevant articles related to the topics.