



# All-dielectric surface-wave antennas

Bachelor Thesis  
or  
Research Thesis

## Theory and Motivation:

- leaky-wave radiation from a dielectric waveguide offers large frequency bandwidth and directivity
- an all-dielectric design will increase radiation efficiency by eliminating conduction loss from any metal features
- advantage of high robustness against environmental influences

## Application:

- directional-of-arrival estimation
- millimeter-wave communication
- near-field scanning

## Tasks:

- antenna design and optimization
- design of planar feed structure to excite surface waves
- measurements in anechoic chamber

## Information:

- requires some knowledge of high-frequency circuit design and concepts
- thesis can be written in either German or English language
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