

Seminar über Microwave Physics and Atmospheric Physics

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Titel: Sub-THz Antennas and Associated Technologies for 6G
Wireless Communication

The activities presented in this seminar focus on the development of high-gain submillimeter-wave antennas for short-range wireless communication. The proposed prototypes are based on a simplified structure and are fully metallic, which is particularly suitable for 6G wireless communication systems requiring low-cost antennas with good performance.

The first part of the seminar deals with the development of circularly and linearly polarized high-gain antennas based on different technologies. Antennas have been designed and manufactured demonstrating the potential of prototypes for the 300 GHz band. Finally, the implementations and the design of wideband, low loss, and wide field-of-view based multi-beam antennas (MBAs) are proposed and studied. The MBAs are based on fully metallic parallel-plate waveguide (PPW) Luneburg lenses with periodic structures. The first implementation consists of a periodic cylindrical metallic post with different thicknesses. The post thickness mimics the equivalent refractive index of Luneburg law. The second implementation consists of a uniform-size metallic post periodic. The PPW top plate air gaps control the equivalent refractive index of Luneburg law. Both implementations showed a good performance with a wide field of view.

Zeit: Freitag, 23. September 2022, 10:15 Uhr

Ort: <https://unibe-ch.zoom.us/j/97081325603?pwd=d0ozME5xOS9pQVNxallLem81VHQyZz09>
Meeting ID: 970 8132 5603
Passcode: iapmw