



High-5 Workshop

June 10th
10:00-17:00

10:00-11:00	Glide symmetry introduction
11:00-12:10	Talk by invited speakers
12:10-13:30	Lunch
13:30-14:50	Presenting High-5 projects
14:50-15:50	Posters and Fika
15:50-17:00	Talk by invited speakers





- ❑ **Assoc. Prof. Oscar Quevedo-Teruel, KTH Royal Institute of Technology (10:10-10:40)**
Title: Higher-symmetric structures for future 5G Communication Systems
Abstract: In this presentation, the opportunities of higher symmetries to provide efficient integrated antenna solutions for the expected 5G frequency bands, Ka- and U-band, are discussed.
- ❑ **Dr. Fatemeh Ghasemifard, KTH Royal Institute of Technology (10:40-11:00)**
Title: Analyzing glide-symmetric holey structures
Abstract: In this talk, an accurate and efficient formulation for dispersion analysis of glide-symmetric holey structures will be presented.
- ❑ **Prof. Zvonimir Sipus, University of Zagreb (11:00-11:30)**
Title: Higher-symmetric dielectric structures for future 5G Communication Systems
Abstract: The presentation will discuss a systematic approach to the analysis of dielectric periodic structures with higher symmetry, i.e. with glide symmetry.
- ❑ **Dr. Nelson Fonseca, European Space Agency (ESA) (11:30-12:10)**
Title: Recent communication satellite developments and technology transfer to and from terrestrial 5G communication systems
Abstract: This presentation will discuss recent technology developments supported by the ESA related to medium gain multiple beam antennas. Efforts to provide 5G-ready low latency satellite systems will also be addressed.
- ❑ **Oskar Dahlberg, KTH Royal Institute of Technology (13:30-13:50)**
Title: Low-dispersive Leaky-wave Antenna at 60 GHz based on bed-of-nails structures
Abstract: In this work, we demonstrate how leaky-wave antennas with significantly reduced beam-squint can be realized at mm-wave frequencies. These antennas have attractive properties for high frequency point-to-point communications, such as: high gain, low loss, low side lobes, compact size and multibeam capabilities.
- ❑ **Qiao Chen, KTH Royal Institute of Technology (13:50-14:10)**
Title: Low-dispersive Leaky-wave Antenna at 60GHz based on holey structures
Abstract: : In this work, we design a cost-effective leaky-wave antennas at 60 GHz with significantly reduced beam-squint. The antenna is realized using holey glide-symmetric structures and has high gain, low loss, low side lobes which are attractive properties for high frequency point-to-point communications.
- ❑ **Martin Petek, KTH Royal Institute of Technology (14:10-14:30)**
Title: Geodesic Lens Antenna at 60 GHz for high scanning
Abstract: A fully-metallic geodesic Luneburg lens operating in the frequency range 56-62 GHz is designed. The antenna has high efficiency and 13 ports, which allow for beam steering between -55 to 55 degrees.
- ❑ **Ramez Hamarneh, KTH Royal Institute of Technology (14:30-14:50)**
Title: Luneburg Lens Antenna at 28 GHz in PCB technology
Abstract: : A Luneburg lens antenna at 28 GHz is designed in PCB technology. The antenna has high efficiency and 11 ports, which allow for beam steering between -50 to 50 degrees.
- ❑ **Dr. Algaba Brazalez, Ericsson AB, (15:50-16:10)**
Title: Suppression of the leakage in the transition between PCB and waveguide using a glide-symmetric structure
Abstract: Introducing a new type of a glide-symmetric unit cell, a transition from a planar transmission line (stripline) in PCB technology to waveguide technology has been designed at 28 GHz with 16% bandwidth.
- ❑ **Dr. Alireza Motevasselian, Sunway Communication, (16:10-16:30)**
Title: Research Lines and products in Sunway Communication
Abstract: In this presentation, an overview of the research lines and products in RF and antenna design in Sunway is presented. In addition, the capabilities and future investments in this area are discussed.
- ❑ **Dr. Iman Vakili, Sencept, (16:30-16:50)**
Title: Future needs on automotive radars from antenna perspectives
Abstract: Realization of the autonomous driving rely on multiple sensors. Among different types of sensors, radars are the most cost-efficient and robust against harsh weather and lighting conditions. This presentation will provide an overview on automotive radars with a focus on antenna design requirements.