

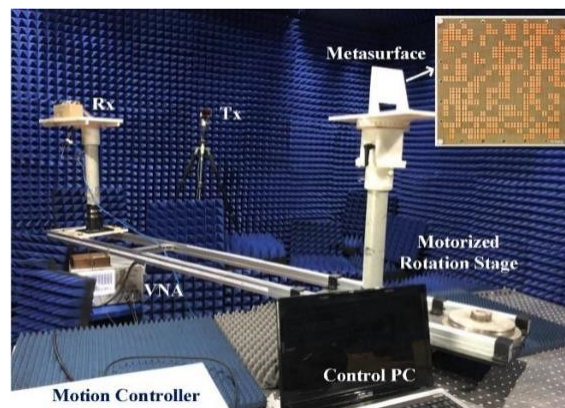
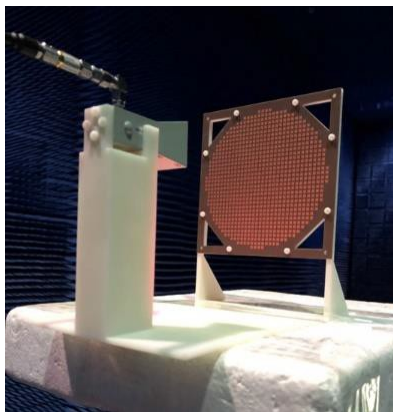
Broadband Patch Antenna and 1-bit Reflective Metasurface Designs for Millimeter-wave Wireless Communications

Speaker: Dr. Jiexi Yin

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Zoom link: please contact thomas.zwick@kit.edu

For millimeter-wave wireless communications, the devices usually require high performances, simple structures, and low cost. Satisfying all these demands for the millimeter-wave designs is challenging. In this talk, we discuss some methods and structures about the antenna and metasurface designs for alleviating these challenges. First, a new structure is proposed to broaden the bandwidth of the patch antenna. Then, the 1-bit reflective metasurfaces which can independent control dual-linearly-polarized beams are presented. Finally, the concept of 1-bit pre-phased reflective metasurfaces is proposed to achieve single-beam patterns under normally incident plane waves.



Dr. Jiexi Yin received the B.S. degree in applied physics from Ningbo University, Ningbo, China, in 2014, and the Ph.D. degree in electrical engineering from Southeast University, Nanjing, China, in 2020. From October 2018 to September 2019, she was a joint Ph.D. student at the Department of Electrical and Computer Engineering, National University of Singapore, Singapore. She has authored and co-authored 20 articles in peer-reviewed international journals and conference proceedings, and has held 8 Chinese patents. Her current research interests include metasurfaces and millimeter-wave antennas.