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Feng Wang is now an Assistant Professor with the Key Laboratory for Information Science of Electromagnetic Waves (Ministry of Education), Fudan University, Shanghai. He received the Ph.D. degree from Fudan University, Shanghai, China, in 2017. He was a visiting scholar to Technical University of Munich, Germany in 2013 and a Post-Doctoral Research Fellow with the State Key Laboratory of Lunar and Planetary Sciences, Macau University of Science and Technology, Macau, China, from 2017 to 2018. He was with the Shanghai Institute of Technical Physics of the Chinese Academy of Sciences, Shanghai, as an Assistant Research Fellow. His research interests include SAR/ISAR Imaging, Target Recognition and UAV borne Remote Sensing.

Speech Title: "Three-Dimensional Reconstruction of ISAR Images using Parametric Electromagnetic Part Model"

Abstract: Three-dimensional reconstruction is a hot topic in remote sensing as well as computer vision. The particularity and complexity of the microwave scattering mechanism bring great challenges to the 3-D reconstruction of ISAR (Inverse Synthetic Aperture Radar) images, and the applicability of existing methods need to be improved. This study proposes an efficient and explainable point clouds framework for 3-D reconstruction of ISAR images based on 3-D parametric electromagnetic part models. This 3-D ISAR reconstruction framework consists of two parts: a feature extraction generative adversarial network and a 3-D reconstruction generative network. The feature extraction generative adversarial network has five convolutional layers to extract the features of single ISAR image and save them in the form of graph, then input this graph to the 3-D reconstruction generative network and we can get the main shape of the target from an ISAR image. This framework effectively reduces the numbers of observation for 3-D reconstruction and makes the 3-D reconstruction from single ISAR image possible.