

Seminar On

CEM Applications: Stability Analysis and
Efficient High-Resolution SAR Imaging for 3D Electrically Large-Scale Targets in Clutter

By

Professor Xia Wu

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Date : 19 June 2019 (Wednesday)

Time : 11:00 am – 12:00 noon

Venue : Room 15-202, 15/F, State Key Laboratory of Terahertz and Millimeter Waves,
Lau Ming Wai Academic Building, City University of Hong Kong

Abstract

Part I: Stability Analysis of Time Domain FEM by Applying Routh-Hurwitz Stability Criterion

The time domain FEM algorithm is ideal for efficient simulation of ultra-wideband (UWB) antennas. On the other hand, it is necessary to consider the stability of implicit time domain finite element methods. In previously work, engineers and mathematicians have been chosen backward Euler, Newmark method, etc. This talk focused on the Routh-Hurwitz Stability Criterion for stability analysis of implicit time domain finite element methods.

Part II: The Efficient High-Resolution SAR Reconstruction Imaging Algorithms for Three-Dimensional Electrically Large-Scale Targets in Clutter

In recent years, significant effort of both the scientific and industrial community is invested in research and development of multifrequency, multi-polarization, and high-resolution synthetic aperture radar (SAR) systems. One of the key issues is to realize efficient methods for imaging, reconstruction, and target detection of three-dimensional (3-D) electrically large-scale objects. In this talk, an advanced multiple-input multiple-output (MIMO) SAR based on high-resolution imaging algorithm was developed.

Biography

Xia Wu received the B.S. and Ph.D. degrees from Peking University, Beijing, China, in 2004 and 2009, respectively. From 2009 to 2011, she was a post-doctoral fellow with the Key Laboratory of Wave Scattering and Remote Sensing Information (Ministry of Education), Fudan University, Shanghai, China. She is currently an associate professor of the School of Electronics and Information Engineering, Tongji University, Shanghai, China. Her main research interests include electromagnetic scattering modeling, computational electromagnetics, remote sensing and VANET.

*** ALL ARE WELCOME ***

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