Analysis and Design of Advanced Antenna Systems using TICRA Tools

Peter Meincke has a PhD in electromagnetics and is part of the Computational Electromagnetics team, where he develops and maintains the EM core modules in TICRA's software packages. He is additionally Product Lead for Feeds & Waveguides. Before joining TICRA, Dr. Meincke was an associate professor at the Technical University of Denmark (DTU) where he among other things taught antenna theory.

Min manages the Computational Electromagnetics team and he performs research and development for computational techniques and antennas for space applications as well as software development for TICRA's software packages. Min began his career in TICRA in 2009 when he started his PhD that aimed at improving the design and analysis accuracy of printed reflectarrays. He is Product Lead for Reflectarray & Periodic Structures.

Abstract

TICRA has recently released TICRA Tools, a common framework for the software products:

- GRASP (competitive reflector antenna solutions)
- ESTEAM (general antennas and scattering by large structures)
- CHAMP 3D (passive waveguide components and complex feed chains)
- QUPES (quasi-periodic surfaces, e.g., reflectarrays and FSS)

TICRA Tools has the advantage of offering the same user experience whether you are using the program for reflector antennas, feeds and waveguides, reflectarrays, or platform scattering. In addition, certain features have been made available for all the products in TICRA Tools, e.g., general optimisation capabilities.

In this workshop we will present the most import research results conducted by TICRA, on which the EM cores of the various software products are based. Also, it will be demonstrated how the products work seamlessly together within TICRA Tools and how they can be used to design advanced antenna systems.

The speakers will be Dr. Peter Meincke and Dr. Min Zhou.

Workshop outline

The workshop will be divided into three main parts:

1. Introduction to TICRA Tools and underlying research
2. Software demonstration of analysis and design of advanced reflector antenna systems

Software demonstration of analysis and design of advanced reflectarray antenna systems