

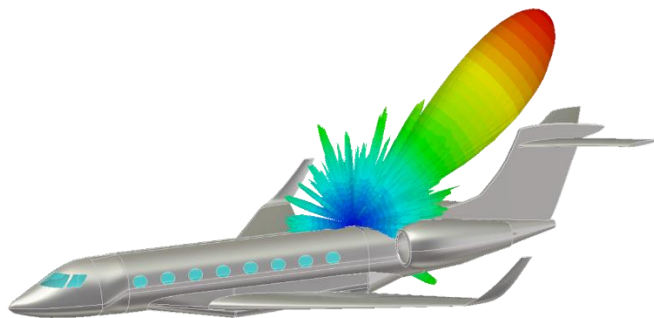
Industrial Workshop

First 45 mins from Dassault Systemes

Title: Installed Antenna Performance in complex environments

Abstract: Antennas are integral components of modern communication systems, enabling the transmission and reception of electromagnetic signals. However, they seldom operate in isolation, often being integrated into various systems such as radomes or mounted on complex platforms like vehicles, aircraft, or masts. In environments characterized by obstacles, multipath propagation, and interference, antenna performance may be greatly impacted. Efficiently simulating such complex systems becomes crucial. This presentation delves into various simulation techniques employed to assess installed antenna performance in complex environments.

This presentation will highlight various solver technologies utilized in the analysis of installed antenna performance. The simulation workflow will demonstrate the effective utilization of hybrid methods within the CST Studio Suite to achieve this goal. By partitioning the electrically large domain into discrete subdomains, we can significantly reduce simulation time, ultimately saving costs for the entire process. Additionally, we will showcase diverse examples across different industries to illustrate the effectiveness of this technology.



Speaker:

Yingjie YOU is an Industrial Process Consultant and has worked in this role for Dassault Systemes since September 2018. Her main responsibility is delivering Electromagnetic Simulation technical solutions to a wide variety of customers across the EuroNorth. She specialises in antenna design, microwave component simulation and high power component simulation.

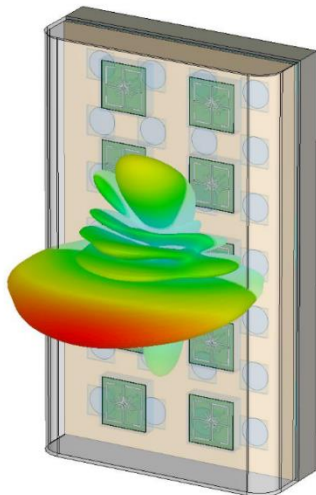
Prior to her current role, she worked as an early stage researcher for the 5G European Research (Horizon-2020) Programme. She studied for both her MSc and PhD degree at the University of Sheffield, UK, focussing on antenna design and propagation models for wireless mobile network systems.

Second 45 mins from Simuserv GmbH

Title: Antenna array design workflow – from single element to array installed performance

Abstract: As our world becomes more connected, higher data rates will be required to support the transmitted data volume. Data links at millimeter-wave frequencies as part of the upcoming 5G standards will make this possible. The smaller physical size of antennas and arrays at higher frequencies means they will be seen in many new application areas as agile, responsive beamforming becomes feasible for base stations and user terminals. This will be a critical enabling technology for future wireless applications. The array design capabilities of SIMULIA CST Studio Suite have grown dramatically over the last years and are relied on by many companies around the world.

This presentation will live showcase the arrays design workflow in CST Studio Suite to quickly generate complex simulation projects from single elements to full array installed performance. Various numerical solver including the improved Domain Decomposition and the establish time domain solver will be discussed.



Speaker:

Frank Demming-Janssen is managing director of the Simuserv GmbH. He has more than 25 years experience in electro-magnetic simulation with one focus and RF-Components – antennas & filters - as well as simulation of optical devices.

Prior to his current positions, he worked for 20 years at CST GmbH as a senior sales and application engineer. He received his Ph.D in physics from the Technical University of Chemnitz