

## **Post-Processing of Measured Field and High Resolution Antenna Diagnostics**

Accurate and general techniques to post-process the measured field and perform antenna diagnostics have seen a prosperous development in the past 10 years. DIATool from TICRA is now one of the available commercial software tools in the market. One of its key features is its 3D reconstruction algorithm, which, with its higher-order Method of Moments-based implementation, makes it possible to accurately reconstruct from the measured field the extreme near-field on arbitrary 3D surfaces enclosing the antenna under test.

The 3D reconstruction algorithm of DIATool allows one solving a number of problems which traditional microwave holography can typically not handle. An example is the possibility of filtering the scattering from support structures, range reflections and measurement noise to obtain a more accurate measured field. Moreover, the enhanced resolution, which is higher than the one provided by microwave holography, allows an accurate identification of improper functioning and failure in array elements, and a clearer view of the antenna near-fields.

The workshop will focus on these applications and will show the results achievable with DIATool from measured data. Special attention will be given to the computational advantages given by the higher-order Method of Moments-based formulation. Considerations on the obtainable spatial resolution will be made. A step by step demonstration of DIATool will conclude the workshop.