

New EM modelling capabilities in TICRA's GRASP software

This workshop provides an application-oriented overview of TICRA's recent CEM developments with special emphasis on new modelling capabilities that will become available in GRASP within the next year. The intended audience includes current GRASP users as well as anyone with an interest in solution of electrically large antenna problems and computational electromagnetics.

The workshop presents a preview of the following new software features:

- A new higher-order MLFMM solver for efficient full-wave solution of electrically large problems. This solver takes a new approach to solution of large scattering and radiation problems by introducing the first successful combination of a very high-order MoM scheme and an efficient MLFMM-acceleration. The resulting solver requires less memory and CPU time than the MLFMM solvers available in competing products.
- An extended MoM/MLFMM formulation allows non-connected and defective meshes to be accurately analysed.
- A new physical optics (PO) algorithm for general structures with shadowing.
- GPU-acceleration of PO.
- A fast PO algorithm for electrically huge antennas. This reformulated fast PO algorithm reduces the computation time by multiple orders of magnitude when analysing large reflector antennas.