Efficiently Simulating and Optimising Antenna Placement in Virtual Test Scenarios

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Abstract

Due to increasing complexity and a higher demand for connectivity for all sorts of products, physical measurements are more and more enhanced by virtual testing, not only on component level but also for full platforms like vehicles, aircrafts, etc. in their environment. Simulation in the design stage is crucial for successful deployment.

This workshop demonstrates the development process, from antenna evaluation to placing the antenna concepts on a platform and performing the virtual test drive / flight analysis also using optimization to increase the performance of the system. The numerical methods applied for such types of analysis, like full wave solutions for the antenna design and placement, as well as different wave propagation models like empirical models or dominant path solutions will also be discussed in more detail.

Application examples from the automotive and aerospace domain will show time variant results for antenna systems on moving objects e.g. also for MIMO scenarios.

Workshop outline

In this practical workshop we will present both the theory and background of the numerical techniques used, as well as presenting application examples and real-world cases studies on how such a process is used in the industry today. It will be a combination of presentation and demonstration of the best insight in the process.