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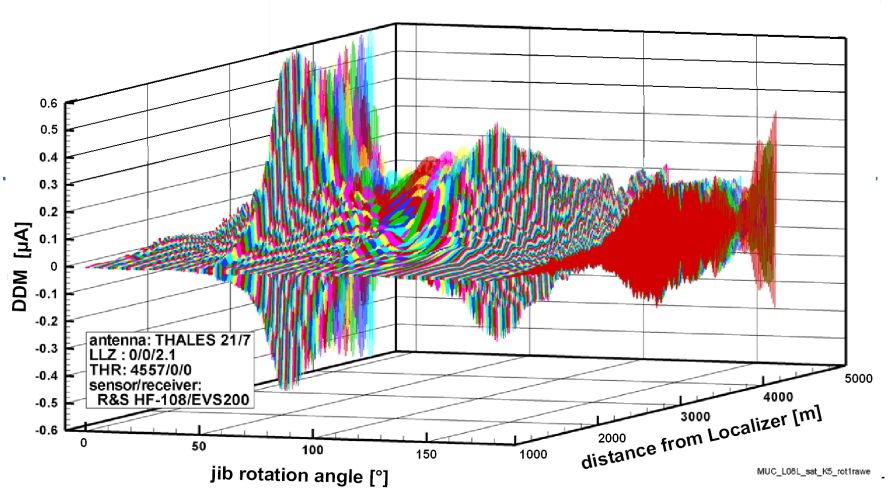
SWISS INSTITUTE OF NAVIGATION ION-CH

Invitation to a Joint Lecture of the AES-IEEE-CH on

Instrument landing system ILS
Advancements in Performance and Simulations

Dr.-Ing. Gerhard Greving, NAVCOM



Date: **08. December 2021**
Time: **17.30**
Place: **ETH Zürich, HG D 1.1**

Dr.-Ing. Gerhard Greving studied electrical engineering at the RWTH-Aachen. He got his Dipl.-Ing.-degree in 1972 and his PhD in 1978 with a dissertation on numerical calculation of 3D-nearfields radiated of antennas. The method used is still state-of-the-art. He joined SEL in 1980 (later Alcatel and Thales today) where he headed the R&D department for antennas and propagation. This department developed advanced antennas for navigational aids, radar and communications. Many of those are still in production today and in particular the full range of ILS-antennas is used worldwide. He is senior member of the IEEE and has published numerous technical papers.
In 1997 Dr.-Ing. Greving founded the company 'NAVCOM Consult' to exploit the market niche for the development of highly specialized computational electromagnetic 3D-system-simulations for navigational aids, radars and communication. His advancements allow the evaluation of the performance for entire systems when impacted by objects, such as buildings, aircraft, cranes and wind-turbines. The results of these simulations allows service providers to gain an insight if they will meet the stringent requirements in civil aviation under changing environmental conditions like airport enlargements or wind parks.
The lecture will comprise results of these R&D efforts and focus on the Instrument Landing System ILS. The accurate and detailed modeling together with calculations based on a sound theoretical foundation has led to highly accurate agreement between simulation and measurement The application of the state-of-the-art simulation methodology will be described and illustrated with practical cases.
Also the pros and cons of the latest trends of ILS developments will be discussed, such as the very wide/widest-aperture antennas, antenna pattern modifications and the application of the Out-Of-Phase-Clearance developed by Dr.-Ing. Greving, which is an effective improvement for extreme cases.

We look forward to your participation. Guests are welcome. COVID Certificate and mask mandatory.

Heinz Wipf, Chair AES IEEE.CH

Dr. Urs Wild, President ION-CH