电磁波信息科学教育部重点实验室

Key Laboratory for Information Science of Electromagnetic Waves (MoE)

SEMINAR

Antenna and Scattering Field Transformations for Irregular Field Measurements with Arbitrary Measurement Probes

光华楼东主楼1101室, 2014年8月15日， 上午9:00~11:00

Prof. Dr.-Ing. Thomas F. Eibert，德国慕尼黑工业大学

Abstract

Radiation and scattering fields are more and more measured under near-field conditions and it is desirable to perform such measurements in almost arbitrary environments. At the same time, the accuracy of the far-field patterns of such measurements must become better and better and it is often even necessary to retrieve as much as possible information about the radiation or scattering objects.

In this presentation, we discuss field transformations based on various equivalent sources representations and utilizing the plane wave based field transformation operators known from the multilevel fast multipole method. These field transformations are very flexible and robust, they allow diagnostic investigations, imaging and echo suppression. A variety of results are shown and discussed, where in particular also many true measurement results are considered.

Thomas F. Eibert received the Dipl.-Ing. (FH) degree from Fachhochschule Nürnberg, Nuremberg, Germany, the Dipl.-Ing. degree from Ruhr-Universität Bochum, Bochum, Germany, and the Dr.-Ing. degree from Bergische Universität Wuppertal, Wuppertal, Germany, in 1989, 1992, and 1997, respectively, all in electrical engineering.

From 1997 to 1998, he was with the Radiation Laboratory, EECS Department at the University of Michigan, Ann Arbor, MI, USA, from 1998 to 2002, he was with Deutsche Telekom, Darmstadt, Germany, and from 2002 to 2005, he was with the Institute for High-Frequency Physics and Radar Techniques of FGAN e.V., Wachtberg, Germany, where he was Head of the Department Antennas and Scattering. From 2005 to 2008, he was a Professor of radio frequency technology at Universität Stuttgart, Stuttgart, Germany. Since October 2008, he has been a Professor of high-frequency engineering at the Technische Universität München, Munich, Germany. His major areas of interest are numerical electromagnetics, wave propagation, measurement techniques for antennas and scattering as well as all kinds of antenna and microwave circuit technologies for sensors and communications.

Dr. Eibert is currently an Associate Editor for the IEEE Transactions on Antennas and Propagation.