

Industry-Academic Forum on EMC 2020

Academic Participants and Contributions



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Reverberation Chambers – What's next?

Reverberation chambers have been used for decades to perform immunity measurements in some industries. A reverberation chamber may be considered as an averaging sensor of radiated, scattered or absorbed energy. It also exhibits universal statistic properties, which make it relevant for many more applications. This presentation is dedicated to some of these applications, ranging from total radiated power, shielding effectiveness, absorbing cross-section measurements in EMC to some radio-frequency characterizations. These latter applications include the use of reverberation chambers for animal exposure to electromagnetic field and radar cross-section measurements. Further extensions and applications to wave shaping techniques are also very promising.

Philippe Besnier received the Ph. D. degree in electronics from the University of Lille in 1993. Following a one-year period at ONERA, Meudon as an assistant scientist in the EMC division, he was with the laboratory of radio-propagation and electronics (LRPE), University of Lille, as a researcher at the Centre National de la Recherche Scientifique (CNRS) from 1994 to 1997. From 1997 to 2002, Philippe Besnier was the director of Centre d'Etudes et de Recherches en Protection Electromagnétique (CERPEM): a non-for-profit organization for research, expertise and training in EMC and related activities, based in Laval, France. He co-founded TEKCEM in 1998 a small business company specialized in turnkey systems for EMC measurements. Back to CNRS in 2002, he has been since then with the Institute of Electronics and Telecommunications of Rennes (IETR). Philippe Besnier was appointed as CNRS senior researcher in 2013. He was co-head of the "antennas and microwave devices" research department of IETR between 2012 and 2016. Since July 2017, he is now a deputy director of IETR. His research activities are mainly dedicated to interference analysis on cable harnesses (including electromagnetic topology), theory and application of reverberation chambers, near-field probing and uncertainty quantification in EMC modeling.