

Editorial

Introduction to the Special Issue on Advances and Perspectives in EM Shielding and Absorbers

IT IS an honor to present this Special Issue on EM Shielding and Absorbers. The response to the call for papers was most gratifying: 60 papers were submitted from countries spread worldwide and 24 were selected for the inclusion in the Special Issue after the standard deep review process. First of all, we are indebted with many anonymous expert reviewers, who devoted considerable time and efforts in the review of the submitted manuscripts, providing always a valuable feedback to authors.

Reading the submitted manuscripts, we were impressed by the level of both theoretical developments and adherence to actual configurations. Maybe it is right high level of configuration sophistication, which is the most evident difference between these papers and those published in the first Special Issue on EM shielding appeared in 1968, when the Editor-in-Chief was Richard B. Schulz, a pioneer in electromagnetic (EM) shielding theory and practice.

Some of the papers published herein are closely related to other papers published more or less recently, or are a follow-up: an unavoidable result when a picture of the state of the art is taken. In almost every issue of our journal, advances on theory and applications of EM shielding and absorbers are presented; however, grouping together papers on such a crucial topic for EMC has been deemed useful and worthy.

Thus, we believe that this Special Issue will provide our readers with a valuable opportunity to have an overview of the challenges and progress in this active field, which does not require any detailed introduction. Every EMC engineer has faced issues concerning EM shielding and is aware that absorbers are essential to dump EM field resonances inside enclosures.

In fact, another essential difference with the past Special Issues (1968 and 1988) is the frequency range of interest: nowadays, frequencies in the order of gigahertz (or tens of gigahertz) are quite common in actual EMC problems, while in the past such high frequencies were encountered only in specific fields and circumstances. The increase in the frequency spectra has given birth to several consequences, among which one of the most important is represented by the resonant behavior of almost all the closed shielding configurations of our interest, with complex interior field distributions and the need of absorbers. The latter components have become more and more important also because they allow for reducing the EM field scattered by objects and, thus, establish a link between methodologies and technologies used in shielding problems and those typical of other contexts of interest for our discipline.

Finally, an expression of deepest gratitude goes to the Editor-in-Chief, Prof. Tzong-Lin Wu, for his constant and wise support and the commitment to get this Special Issue published on time.

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Since 2005, he has been a Full Professor with the University of Rome “La Sapienza.” He has authored or coauthored more than 150 papers in international journals or conference proceedings, mainly in the fields of electromagnetic shielding and transmission lines. He authored a book on electromagnetic shielding (IEEE and Wiley, 2008, and 2nd edition in 2022). His current research interests include electromagnetic shielding, transient electromagnetics, and transmission lines.

Dr. Celozzi was an Associate Editor from 1995 to 2000 and since 2016 has been an Associate Editor for IEEE TRANSACTIONS ON ELECTROMAGNETIC COMPATIBILITY for papers on electromagnetic shielding. From 1997 to 2006, he was the Chair of the EMC Chapter of the IEEE Central and South Italy Section. He was the recipient of the IEEE EMC Society Award “Certificate of Technical Achievement” in 2012 and the Best Symposium Paper Awards in 1998 and 2011 at the annual IEEE EMC Conferences. He has been a Member of several international committees.

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