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IEEE Transactions on Electromagnetic Compatibility



Special Issue on Applications of Nanotechnology in Electromagnetic Compatibility (nano-EMC)

PAPERS DUE: May 1, 2011

In the past few years, there has been an exploding interest in nanoscale science and technology. Nanotechnology is functional engineering on an extremely small scale that can be used to develop innovative materials and devices, and implants for numerous industrial applications. It involves the control of materials with a nanoscale fine structure, and with the manipulation of tiny objects at the dimension of molecules and atoms. The potential benefits of nanotechnology are revolutionary. Nanotechnology is truly multidisciplinary: research at the nanoscale frontier is unified by the need to share knowledge, tools and techniques, and expertise on atomic and molecular interactions. Nanotechnology is currently exploited in electronics, optoelectronics, photonics, sensors, material science, medicine and biology, but its application in EMC is still not very wide.

This Special Issue is intended to present recent research advances in nanoscale science and nanotechnology with applications of interest for the EMC community. The Special Issue is aimed to bridge the gap between nanoscale science and technology and EMC; to present new materials, devices and processes for EMC applications exploiting the powerful of nanotechnology; to investigate EMC issues related to the integration of nanocomponents in micro and macro electrical and electronic systems.

Suggested topics to be covered in this Issue include:

- Electromagnetic modeling and characterization of nanostructured materials, devices and systems for EMC;
- Nanostructured materials for EMC applications, like EM shielding, EM energy absorption, antistatics, surge suppression and protection, novel devices;
- Electrical and EM properties of nanocomposites for EMC;
- Nanointerconnects for next generation ICs;
- Signal integrity in nanocomponents and nanodevices;
- Nanostructured sensors for EMC;
- MEMS-based technology for smart antennas arrays and frequency-selective surfaces for EMC;
- Nanometrology for EMC.

Please submit your manuscript on-line to the IEEE TEMC Manuscript Central at the web site <http://mc.manuscriptcentral.com/tems-ieee>, making it clear that it is for this Special Issue, before **May 1, 2011**. All manuscripts should conform to IEEE Transactions on EMC Guidelines (see "Information for Authors"). Papers should not exceed 8 pages in length, due to editorial limitations. The publication of the Special Issue is scheduled for **November 2011**.

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