ICAMD 2007
The 5th International Conference on Advanced Materials and Devices
http://www.icamd.or.kr
Dec. 12 ~ 14, 2007, Jeju, KOREA
Ramada Plaza Jeju Hotel

PROGRAM & ABSTRACTS

Organized by
Applied Physics Division, The Korean Physical Society
Quantum Photonic Science Research Center
The Korean Vacuum Society
Center for Nanotubes and Nanostructured Composites
Electron Spin Science Center
Yonsei Medical National Core Research Center
Asia Pacific Center for the Theoretical Physics
Research Center for Spin Dynamics and Spin-wave Devices
Nano Optical Property Laboratory
Quantum-Function Spinics Laboratory
Vietnamese Academy of Science and Technology

Sponsored by
Korean Ministry of Science and Technology
Korea Science and Engineering Foundation
BK21 Division of Advanced Research & Education in Physics,
Hanyang University
The electromagnetic interference shielding using thin multiwalled carbon nanotube/poly(methyl-methacrylate) composites

Sunghwan Kim, Jin Woo Lee, Young Ki Hong, Chung Yup Lee, Jinsoo Joo*, and Chul Jin Lee

Hybrid Nanostructure Research Lab and Department of Physics, Korea University, Seoul, KOREA

1Nanotubes and nanodevices Lab, School of Electrical engineering, Korea University, Seoul, KOREA

We fabricated the composite films of the thin-multiwalled carbon nanotubes(t-MWCNT) with poly methyl-methacrylate (PMMA) for the measurements of electromagnetic interference (EMI) shielding efficiency (SE) both in far-field and near-field regions. The t-MWCNT varied for the composites. The thickness of t-MWCNT composite films was about 100 μm. The EMI-SE of t-MWCNT composite films were measured by using 2 ports flanged coaxial line holder for far-field EMI shielding characteristics and by using the micro strip line (MSL) and modified MSL for near-field EMI shielding characteristics. The frequency range of the measured EMI-SE was 50 MHz–13.5 GHz. The dc conductivities were measured through four probe contact method. We compared the measured EMI-SE of the composite films with the theoretical EMI-SE obtained from the simulations.

*Kim, Sunghwan, e-mail: 97043974@KOREA.AC.KR, Tel: 02-3290-3533, Fax: 02-927-3292