

先導研講演会のご案内

カーボンナノチューブやナノ物質の合成・分離からエネルギー・環境分野への応用、バイオ燃料や燃料電池の開発、など多様な研究分野において数多くの顕著な業績を挙げられ、数々の賞を受賞されているYang, Duck-Joo博士(テキサス大学ダラス校自然科学および数学学部副学部長)の講演会を開催します。

教職員・学生皆さんの是非のご来聴を頂きますよう、ご案内申し上げます。

Prof. Duck-Joo YANG 講演会

講演題目: “Coating of Carbon Nanotubes on Flexible Substrate and its Adhesion Study”

日時: 2009年9月18日(金) 14:00 - 15:30(終了時間は予定)

会場: 九州大学先導物質化学研究所 中央 111 号室

Abstract

The primary goal of this project was to develop a flexible transparent conductor with 100 Ω /sq with 90% transmittance in the wavelength range of 400–700 nm on a flexible substrate. The best result achieved so far was 110 Ω /sq at 88% transmittance using purified single walled nanotubes (SWNTs) coated on a polyethylene naphthalate (PEN) substrate. The secondary goal is to simplify overall coating procedure; we successfully reduced from five steps (prior art method) to three steps utilizing sonication method. We have also found that the use of metallic SWNTs can significantly improve the conductivity and transmittance compared with the use of mixed SWNTs, i.e., unseparated SWNTs. Furthermore, a possible adhesion mechanism between SWNTs and the surface of PEN was studied; we concluded that π - π stacking effect and hydrophobic interaction are the major contributing factors for CNTs to adhere on the surface of the substrate.

問い合わせ先:

尹 聖昊 (Seong-Ho Yoon), Professor

Institute for Materials Chemistry and Engineering, Kyushu University

Address : Kasuga, Fukuoka, Japan

Zip code: 816-8580

Tel: +81-92-583-7959(Office), +81-80-5607-1847(HP)

Fax:+81-92-583-7897

Homepage: <http://www.cm.kyushu-u.ac.jp/carbon/>
