

ADVANCED FUNCTIONAL MATERIALS

NANOCOMPOSITES

It is commonly thought that conventional polymer/carbon nanotube (CNT) nanocomposites are electrically conductive because the CNTs easily percolate in the polymer matrix. On page 2338 Kenichi Hayashida and Hiromitsu Tanaka report that this is not the case. A multiwalled CNT onto which poly(cyclohexyl methacrylate) is densely grafted has much higher volume resistivity than a conventional nanocomposite. Impedance analysis clearly shows that the highly insulated nanocomposite is a dielectric, not a conductor.