

## HELICAL CARBON NANOTUBES AND NANOCOMPOSITES: MECHANICAL AND FLAME - RETARDANT PROPERTIES

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日時: 2009年 8月7日(金) 13:30-15:00

会場: 東京大学工学部2号館 3F 31A会議室

### 要旨

Helical carbon nanotubes have been synthesized by CCVD decomposing acetylene at 700° C on various supported metal catalysts. They have been studied by high resolution TEM, electron diffraction, AFM... Using AFM, and determining the fundamental vibrations of a coiled CNT, it was possible to determine the weight of a single nanoparticle of ca. 1 femto -gram. In the nanocomposite materials the surface of interaction between the CNTs and the matrix is the most important parameter. Flame - retardant properties can also be arrived at using CNTs in composite materials.

