Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Single-wall nanohorn structure and distribution of incorporated materials ALAN MAIGNE, Laboratoire de Physique des Solides UMR 8502 - University Paris-Sud - France ; SORST-JST Tsukuba, Japan, ALEXANDRE GLOTER, LPS - University Paris-Sud - France, KUMIKO AJIMA, KATSUYUKI MURATA, MASAKO YUDASAKA, SORST-JST, Tsukuba, Japan, CHRISTIAN COLLIEX, LPS - University Paris-Sud - France, SUMIO IIJIMA, SORST-JST Tsukuba, NEC Tsukuba, Meijo University Nagoya, Japan — Single-wall carbon nanohorns (SWNHs) are unique spherical-aggregates of single-wall carbon quasi-nanotubes. So far, the observable area has been limited to the aggregate surfaces. We studied core-region structure with TEM using thickness measurement method, EELS, and EDS, and found that carbon density was uniform over the whole aggregate. This result allows to modelize the core-region and to clarify previous models of SWNHs. We used same tools to investigate the incorporation of materials such as fullerenes or platinium compounds. We found that particles can even be incorporated in the core-region and that their distribution in the aggregate depends on their concentration. The information available with these models should be useful in the study of SWNH applications to, for example, drug delivery system.

Alan Maigne
LPS - Paris-Sud - France ; SORST-JST Tsukuba Japan

Date submitted: 30 Nov 2004 Electronic form version 1.4