

The 54th *MANA* Special Seminar



Nano-Fabrication of Quantum Metallic Nanowires in Carbon Nanotubes

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I will discuss a brand new approach to fabricate very thin metal nanowires within single-wall CNT (SWNT) and double-wall CNT (DWNT). Gd- and Er- metal nanowires in SWNT and DWNT are prepared with a high-temperature heat treatment of the corresponding metallofullerene-nanopeapods. The obtained (nanowires)@SWNT and (nanowires)@DWNT are characterized by high-resolution TEM, Raman spectroscopy and synchrotron photo-emission spectroscopy.

Based on such experimental analyses together with image simulations, we suggest that the very thin nanowires synthesized in CNTs here possess a 2×2 structure. Interestingly, these structures do not occur in any of the bulk Gd crystals ever reported.

***Venue:* Seminar Room #431, MANA Bldg., Namiki**

***Date:* Jan 23rd Friday *Time:* 16:00-17:00**

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