

## **Carbon nanopipe catalysed by as-prepared NiO nanoparticles**

### **Abstract**

Carbon nanopipes catalyzed by high purity nickel oxide (NiO) nanoparticles were reported. The nanocrystals catalysts were first prepared using precipitation technique and characterized using x-ray diffraction (XRD), energy dispersive x-ray (EDX) and scanning electron microscopy (SEM) and subsequently used as catalyst for the formation of nanotubes. Pure phase, rhombohedral nickel oxide formation was identified from the XRD data, with the major peak located at 43.29° of the 2θ degree corresponding to a (202) plane. A pulsed laser ablation deposition technique (PLAD) was used to produce the CNTs. From the SEM micrograph, deposited CNTs shows a web-like structure, while the HR-TEM reveals carbon nanopipes with a length of 10 micron and diameter of 430 nm, suggesting that the nanocrystals aggregate and forms bigger cluster consequence of the ablation process.

**Keyword:** Nickel oxide; Rhombohedral; Precipitation; Pulsed laser ablation deposition