Abstract Submitted
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Low temperature growth of boron nitride nanotubes[1] CHEE HUEI LEE, MING XIE, JIESHENG WANG, YOKE KHIN YAP — Boron nitride nanotubes (BNNTs) are promising nanostuctures that will complement the applications of carbon nanotubes in various emerging areas. However, the synthesis of BNNTs is still challenging and required high growth temperatures (1500 $^\circ$C to 3000 $^\circ$C). Here we will discuss about two approaches for low temperature growth of BNNTs. First, we have reported on the growth of *pure* BNNTs at 600 $^\circ$C by a plasma-enhanced pulsed-laser deposition (PE-PLD) technique [1]. These BNNTs were grown vertically-aligned on substrates. Latest result on the effect of catalyst, growth temperatures, ambient gas pressures, substrate bias voltages and the growth mechanism will be discussed in the meeting. Secondly, effective growth of BNNTs is recently achieved by conventional thermal chemical vapor deposition (CVD). Our new CVD approach leads to effective growth of long and clean BNNTs at 1200 $^\circ$C. SEM, TEM, EELS, Raman, FTIR, and UV absorption data indicate that these BNNTs are having high structural ordered and a energy band gap $>$ 5.6 eV. [1]. J. Wang et. al, Nano Lett. 5, 2528 (2005).

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