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Synthesis and modification of Boron Nitride nanotubes using ion implantation

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Boron Nitride (BN) nanotubes were grown on Silicon (Si) substrates using chemical vapor deposition at temperatures ranging from 900 to 1100 ℃. Ion implantations were carried out with boron (B+) ions at energies of 150 keV and fluences of 1x10ˆ14 and 5 x10ˆ14ions/cmˆ2. Raman analysis revealed a peak at 1367/cm, which is an indication of the spˆ2 hybridized BN planar bonding attributed to the high frequency mode for the hBN peak, but which is more clearly characterized at 1100 ℃. The glancing incidence X-ray diffraction (GIXRD) analysis revealed a well-defined peak at angles of 51-57°, indicating the hBN (004) peak. SEM images show BN nanotubes and BN nano particles of various shapes and sizes.

Apply to be considered for a student ; award (Yes / No)?

Yes

Level for award;(Hons, MSc, PhD, N/A)?

PhD

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