SnO_2 nanostructures synthesized by using a thermal evaporation method

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Abstract: Tin - dioxide (SnO_2) nanostructures were prepared on silicon substrates by using thermal evaporation of a SnO_2 powder. The structure and the morphology of the as-synthesized products were characterized by X-ray diffraction, scanning electron microscopy (SEM), high-resolution transmission electron microscopy (HRTEM), selective area electron diffraction (SAED) and Raman scattering. The X-ray spectroscopy analysis indicated that the nanowires had the same crystal structure as that found in the rutile form of SnO_2. The film was a large array of SnO_2 nanowires with average diameters from 50 nm to 110 nm and typical length in the range of several tens of micrometers.

Author Keywords: Nanowires; Thermal evaporation; Tin-dioxide

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