

Abstract Submitted
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Synthesis and characterization of ruthenium dioxide nanorods

SUMAN NEUPANE, LATHA KUMARI, Department of Physics, Florida International University, GARY KAGANAS, WENZHI LI, Department of Physics, Florida International — We report the synthesis of ruthenium dioxide (RuO_2) nanorods by chemical vapor deposition. The growth and morphology of the RuO_2 nanorods are determined by the flow rate and pressure of the oxygen gas. An oxygen flow rate of 600 sccm at atmospheric pressure (760 Torr) inside the reaction chamber results in high density pinetree-like nanorods, whereas oxygen flow rate of 300 sccm at pressure of 1 torr is favorable for the formation of club-shaped RuO_2 nanorod array. X-ray diffraction and high resolution transmission electron microscopy have indicated that the RuO_2 nanorods are of orthorhombic phase with rutile crystal structure.

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