

Abstract Submitted
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The Fabrication of ZnO nanowires on Silicon by using Dual Ion Beam Sputtering ANUP BANDYOPADHYAY, Texas State University-San Marcos — In the last few years, Zinc Oxide (ZnO) in one dimensional (1D) form received importance with an aim to fabricate nanogenerator, field emission devices, solar cells, photodetector. In this work , ZnO was sputtered on Si substate by using Dual Ion Beam Sputtering technique in order to fabricate nanowire. Before sputtering, silicon substrate was cleaned with piranha acid and sonicated in D.I. water, Acetone and IPA. The ZnO film was sputtered on gold buffer layer over Si substrate at different times and different temperatures. During sputtering, RF power for primary source was kept constant at 100 Watt and Oxygen atomic source was used as assist source at 200 Watt. The sputtered samples were studied by using AFM, SEM, XRD to determine the effects of temperature as well as sputtering times over the nanowire fabrication. EDAX was used to measure the elemental composition for ZnO nanowire.

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