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Type: **Poster Presentation**

Growth of Silicon Carbide nanoparticles by thermal annealing of e-beam deposited SiC/Pd thin films on c-Si substrate

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Silicon Carbide (SiC) nanostructures are well known for their superior mechanical properties, high thermal conductivity, low thermal-expansion coefficient, good thermal-shock resistance, chemical stability, and electron affinity which make them excellent candidates for work in harsh environments [1]. Silicon carbide nanoparticles were grown via thermal annealing of electron-beam deposited SiC/Pd thin films on crystalline silicon (c-Si) substrate in vacuum at 800 °C. Scanning electron microscopy (SEM) analysis of the as-deposited samples showed a uniform surface with small grains while annealed films showed formation of islands that grew larger as SiC thickness increased. Rutherford Backscattering Spectrometry (RBS) and Energy-dispersive X-ray Spectroscopy (EDX) confirmed the presence of Pd, Si, C and O on the nano-islands. Fourier Transform Infrared Spectroscopy (FTIR) confirmed the 3C-SiC polytype.

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

No

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

PhD

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