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Surface Brillouin scattering studies of VC thin films deposited on SiC

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Abstract content
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The surface Brillouin scattering (SBS) technique has been used to extract the elastic stiffnesses of thin films of vanadium carbide deposited by RF magnetron sputtering on 6H-SiC substrates. SBS is a non-destructive method where there is a frequency shift in the laser light scattered from a sample due to the propagation of acoustic phonons. Atomic force microscopy (AFM) and X-ray Reflectometry (XRR) measurements have also been used to determine the surface roughness which provides an indication of the high quality of the thin films. XRR was also used to determine their thickness and density which are used as input data in calculations to determine their elastic stiffness constants using the surface wave velocity dispersion curves measured by SBS.

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

PhD

Main supervisor (name and email) and his / her institution

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No

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