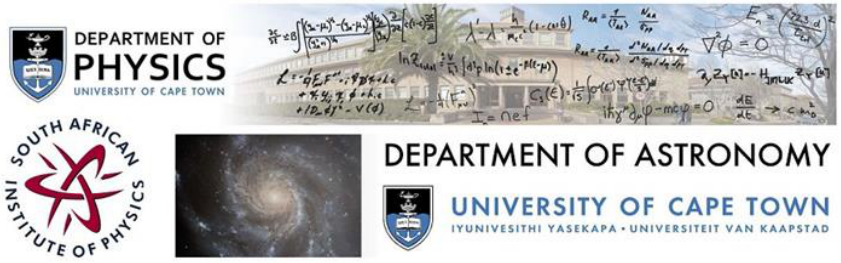

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Growing zirconium carbide (ZrC) layers by CVD using ZrCl4 mixed with CH4,Ar and H2

Wednesday, 6 July 2016 16:10 (1h 50m)

Abstract content
   (Max 300 words)
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Zirconium carbide (ZrC) layers were grown on graphite substrate by chemical vapor deposition (CVD) using zirconium tetrachloride (ZrCl4) and methane (CH4), hydrogen (H2) and argon (Ar) as precursors. The layers were deposited at 1400 deg;C in atmosphere pressure. P=-5 Kpa The growth rate of ZrC layers as a function of temperature was investigated. The morphology of ZrC layers on graphite substrates were observed by scanning electron microscopy (SEM) and (EDS). The thickness of the layers was directly measured by SEM. The phases of the layers were characterized by X-ray diffraction (XRD). The results indicated that the deposition of ZrC was dominated by gas nucleation.

Keyword: Chemical vapor deposition (CVD), surface morphology, zirconium carbide (ZrC).

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