

**EFFECT OF METHANE FLOW RATE ON THE  
PROPERTIES OF HWCVD SILICON CARBIDE THIN FILMS**

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**ABSTRACT**

Silicon carbide (SiC) thin films were prepared by Hot Wire Chemical Vapor Deposition (HWCVD) from SiH<sub>4</sub>/CH<sub>4</sub> gases on glass and crystalline silicon substrates. The SiH<sub>4</sub> gas flow rate was 1 sccm and influences of CH<sub>4</sub> gas flow rate, [CH<sub>4</sub>], on structural properties of SiC thin films were investigated. The mean crystallite size was increased with decreasing [CH<sub>4</sub>] from 100 to 10 sccm. Infrared absorption spectra showed that the Si–C bonds increased with decreasing the methane gas flow rate.

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