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 SiH4/CH4 gases on glass and crystalline silicon substrates. The SiH4 gas flow rate was 1 sccm and influences of CH4 gas flow rate, [CH4], on structural properties of SiC thin films were investigated. The mean crystallite size was increased with decreasing [CH4] from 100 to 10 sccm. Infrared absorption spectra showed that the Si–C bonds increased with decreasing the methane gas flow rate.


REFERENCES