

Abstract Submitted
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Thermal Conductivity of SiC Thin Films¹ NITISH BARADWAJ, CACS Mork Family Department of Chemical Engineering and Material Science, PRIYA VASHISTA, AIICHIRO NAKANO, RAJIV KALIA, CACS Mork Family Department of Chemical Engineering and Material Science, Department of Physics, University of Southern California — Non-equilibrium molecular dynamics (NEMD) simulations are carried out to study thermal conductivity of SiC thin films as a function of film thickness over a wide range of temperatures between 300 and 1100 K. Film thickness is varied from 1.308 nm to 20.2nm and we find that the thermal conductivity increases linearly with the film thickness, reaching a plateau when the film thickness is about 20 nm. To a lesser extent, the length of SiC sample has the same effect on thermal conductivity as the film thickness. Temperature variation has a negligible effect on thermal conductivity of SiC.

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