

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Langevin Approach to Optimizing Thermal Conductivity in Composite Materials ABDELLAH AIT MOUSSA, K.G.S.H. GUNAWARDANA, KIERAN MULLEN, Homer L. Dodge Dept. of Physics and Astronomy, University of Oklahoma — The quest for high thermal conductivity materials has lead to nano-composites incorporating materials with excellent thermal conductivity in a matrix of poorer thermal conductivity. To minimize the interface thermal resistance the stiff, incorporated materials can be chemically functionalized with various side chains. We report here an efficient theoretical method to evaluate different choices for functionalization. We use this method to examine how effective different alkane chains improve the heat flux through a graphene nano-sheet.

Kieran Mullen
University of Oklahoma

Date submitted: 28 Dec 2010

Electronic form version 1.4