

Theoretical Model study of the Effect of different Substrates on Electron Specific Heat in Graphene in Paramagnetic Limit

R PANDA¹, S SAHU¹ and G C ROUT^{2,*}

¹School of Applied Sciences (Physics), KIIT University, Bhubaneswar, Pin-751024

²Condensed Matter Physics Group ,Physics Enclave, Plot No.- 664/4825, Lane -⁴A,Shree Vihar, C. S. Pur, PO- Patia, Bhubaneswar- 751031, Odisha, India

* E-mail-gcr@iopb.res.in

Received: 22.11.2016 ; Revised : 11.12.2016 ; Accepted : 8.1.2017

Abstract. We address here a tight binding model calculation taking into account of the substrate effect, electron correlations and different band fillings in monolayer graphene. The model Hamiltonian is solved by Zubarev's Green's function technique. Hence sublattice electron densities are calculated self-sufficiently taking 120×120 grid points of the electron momentum. The effect of substrate induced gap on temperature dependent electron specific heat is investigated.

Keywords: Graphene, Electron specific heat, Paramagnetism

PACS No: 75.75.+a , 75.50. Xx

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