

NOMENCLATURE

Abbreviations

MLG	Monolayer Graphene
BLG	Bilayer Graphene
MLGG	Monolayer Gapped Graphene
2DEG	2-Dimensional Electron Gas
ARPES	Angle Resolved Photoemission Spectroscopy
TFA	Thomas Fermi Approximation
RPA	Random Phase Approximation
SCBA	Self Consistent Born Approximation
EMT	Effective Medium Theory
EELS	Electron Energy Loss Spectroscopy
EELF	Electron Energy Loss Function
SPs	Surface Plasmons
SPPs	Surface Plasmons Polaritons
THz	Tera-Hertz
SOI	Spin Orbital Interaction
SPE	Single Particle Excitation
NDP	Non-interacting Dynamical Polarization function

Symbols

a_0	Lattice Constant
$\mathbf{a}_1$ & $\mathbf{a}_2$	Primitive Lattice Vectors
$\mathbf{b}_1$ & $\mathbf{b}_2$	Primitive Reciprocal Lattice Vectors
$\mathbf{K}$ & $\mathbf{K}'$	Dirac Points
H_{TB}	Tight Binding Hamilton
V_{SC}	Screened Coulomb Potential

κ	Average Background Dielectric Constant
e	Electronic Charge
ϵ	Dielectric Function
Π	Polarization Function
α	Dimensionless Coupling Constant for MLG and MLGG
β	Dimensionless Coupling Constant for BLG
n_i	Impurity Concentration
n_c	Carrier Concentration
$\hbar$	Dirac Constant
v_f	Fermi Velocity
γ	Band Parameter
τ	Relaxation Time
μ_c	Chemical Potential
Δ	Energy Gap
a	Gap Parameter
$N(E)$	Density of State
$F(\mathbf{k}, \mathbf{k}')$	Chirality Function
$f(E)$	Fermi Distribution Function
k_B	Boltzmann Constant
T_f	Fermi Temperature
σ	Conductivity
ω_p	Plasmon Frequency
η	Landau Damping Rate
μ_f	Fermi Energy for MLGG
μ	Mobility