Electronic correlation in ABC graphene trilayers XU DOU, AK-
BAR JAEFARI, University of Oklahoma, YAFIS BARLAS, University of California
at Riverside, BRUNO UCHOA, University of Oklahoma — At low energies, un-
doped ABC-stacked trilayer graphene can be described by an effective two-band
model which features a cubic noninteracting energy spectrum. The divergence of
the density of states at the neutral points provides a large phase space for electronic
instabilities, which differentiates it from single-layer and bilayer graphene. In the
large N limit, where N is the number of fermion species, we show that the self-energy
is logarithmically renormalized by Coulomb interactions in leading order in 1/N. We
show that the dynamical polarization bubble is also logarithmically divergent near
the edge of the particle hole continuum. We investigate the renormalization of dif-
ferent physical observables accounting for dynamical polarization effects.

Xu Dou
Univ of Oklahoma

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