Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Rich Magneto-electronic spectra of AAB-stacked trilayer graphene[1] THI NGA DO, PhD. candidate, Dept. of Physics, National Cheng Kung University, Taiwan, MIN-FA LIN, Professor of the Dept. of Physics, National Cheng Kung University, Taiwan — We develop the generalized tight-binding model to study the magneto-electronic properties of AAB-stacked trilayer graphene. Three groups of Landau levels (LLs) are characterized by the dominating sub-envelope function on distinct sub-lattices. Each LL group could be further divided into two sub-groups in which the wave-functions are, respectively, localized at 2/6 and 4/6 of the total length of the enlarged unit cell. The unoccupied conduction and the occupied valence LLs in each sub-group behave similarly. For the first group, there exists certain important differences between two sub-groups, including the LL energy spacings, quantum numbers, spatial distributions, and the field-dependent spectra. The LL crossings and anti-crossings occur frequently in each sub-group during the variation of field strength, which thus leads to the very complicated energy pectra and the seriously distorted wave-functions.

[1]Thanks the Ministry of Science and Technology of Taiwan (ROC) for funding support

Thi Nga Do
PhD. candidate, Dept. of Physics, National Cheng Kung University, Taiwan

Date submitted: 14 Nov 2014 Electronic form version 1.4