

Abstract Submitted
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Field Modulation on the Electronic Structure for the Bilayer and Trilayer Graphene¹ BI-RU WU, Department of Nature Science, Center for General Education, Chang Gung University, Tao-Yuan, Taiwan — The electronic band gap plays a central role in modern device physics and a tunable band gap provides great flexibility in device design. I present the investigation of electric field effect on the electronic structure of the bilayer and trilayer graphene. The hexagonal and Bernal type structures are studied for the bilayer and trilayer graphene, additionally, the rhombohedral type is also taken into account for the trilayer one. It is found the band gaps of the Bernal type bilayer graphene and the Rhombohedral type trilayer graphene are tunable by a perpendicular electric field. The symmetry of the graphene plays a crucial role in the field modulation. The perpendicular electric field opens the band gap of the Bernal type bilayer graphene and the Rhombohedral type trilayer graphene by breaking the symmetry in z-direction.

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