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Hofstadter Butterfly Formation for Modulated Graphene GODFREY GUMBS, Hunter College, CUNY and Donostia International Physics Center (DIPC), San Sebastian Spain, ANDRII IUROV, Hunter College CUNY, DANHONG HUANG, Air Force Research Laboratory, PAULA FEKETE, United States Military Academy, West Point, NY, LIUBOV ZHEMCHUZHNA, North Carolina Central University, Durham, NC — A two-dimensional (2D) periodic array of scatterers has been introduced to monolayer graphene in the presence of a uniform perpendicular magnetic field. The corresponding eigenvalue equation has been solved numerically to display the mixing of Landau orbits to form minibans. Comparison of the Hofstadter butterfly in graphene is made with that in modulated 2D electron gas (EG). Additionally, we calculated the *density-of-states* in the low, intermediate and high magnetic field regimes. The results reflect the effect of Landau level structure in the three regimes and specifically the fractal structure at intermediate magnetic fields.

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