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Broken sublattice symmetry states in Bernal stacked multilayer graphene CHIHO YOON, YUNSU JANG, Seoul National University, JEIL JUNG, University of Seoul, HONGKI MIN, Seoul National University — We analyze the ordered phases of Bernal stacked multilayer graphene in the presence of interaction induced band gaps due to sublattice symmetry breaking potentials, whose solutions can be analyzed in terms of light-mass and heavy-mass pseudospin doublets which have the same Chern numbers but opposite charge polarization directions. The application of a perpendicular external electric field reveals an effective Hund's rule for the ordering of the sublattice pseudospin doublets in a tetralayer, while a similar but more complex phase diagram develops with increasing layer number.

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