

Abstract Submitted
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Electronic band gaps and transport in aperiodic graphene-based superlattices of Thue-Morse sequence¹ LIGANG WANG, Department of Physics, Zhejiang University, Hangzhou 310027, PR China, TIANXING MA, Department of Physics, Beijing Normal University, Beijing 100875, PR China — We investigate electronic band structure and transport properties in aperiodic graphene-based superlattices of Thue-Morse (TM) sequence. The robust properties of zero- \bar{k} gap are demonstrated in both mono-layer and bi-layer graphene TM sequence. The Extra Dirac points may emerge at $k_y \neq 0$, and the electronic transport behaviors such as the conductance and the Fano factor are discussed in detail. Our results provide a flexible and effective way to control the transport properties in graphene-based superlattices.

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