

Abstract Submitted
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Zitterbewegung of graphene superlattices QING WANG, Nanjing University — We investigate Zitterbewegung (ZB) behavior in a graphene superlattice with new generations of massless Dirac fermions having highly anisotropic group velocities, which results from a graphene subject to one-dimensional periodic potentials. It is found that with tuning parameters of the periodic potential, the frequency of ZB oscillations can be of order 10^{12} Hz, the amplitude can increase to hundreds of angstroms, and their attenuation can become much slower. The required parameters of the graphene superlattice can be realized under current experimental conditions, thus providing a good system for probing the ZB effect experimentally.

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