

Abstract Submitted  
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**Engineering topological band with superlattice.**<sup>1</sup> XIAOOU ZHANG, WENYU SHAN, DI XIAO, Carnegie Mellon Univ — Since the discovery of the quantum Hall effect, the search for topological states has been a major subject of interest in condensed matter physics. Here we propose a general scheme to create nontrivial Chern band by fabricating superlattice structure on a system with non-zero Berry curvature. We analyze the topological band structure by deriving an effective Hamiltonian that incorporates the Berry curvature effect. The Chern number is tunable by the superlattice configurations that are realizable with existing experimental technology.

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