

Magnetoelectric Responses from Superstructures of Topological Insulators

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Superstructures composed of magnetic and non-magnetic topological insulators (TIs) have been designed and fabricated to stabilize the quantum anomalous Hall states and the hybrid quantum normal and anomalous Hall states with ($\nu = 0$ and ± 1) at higher temperatures. We report on the emergent magnetoelectric responses observed in these TI superstructures, including skyrmion formation, zero-biased photocurrent, topological Faraday and Kerr rotations, and possible Axion insulator.

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