Recent Progresses on The Research of Two-Dimensional Stanene

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Stanene is a two-dimensional allotrope of tin in a buckled honeycomb lattice. The material was predicted to support many novel features, including large-gap quantum spin Hall (QSH) states, quantum anomalous Hall (QAH) states, enhanced thermoelectric performance, or possibly even topological superconductivity. Recent progresses on the research of stanene will be reviewed. In particular, a recent experiment has successfully fabricated this theoretically predicted material. All these make the research of stanene as a fast-growing field.