

Abstract Submitted
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Hypothetical isovalance chemical doping effect on lattice and superconductivity of SnTe NEEL HALDOLAARACHCHIGE, Rowan University, MORTEN NIELSEN, QUINN GIBSON, SATYA KUSHWAHA, Princeton University, R CAVA, Princeton, PRINCETON UNIVERSITY COLLABORATION — Detail transport analysis on isovalance-chemical-doped SnTe system have revealed some interesting new details of correlation of lattice parameter, carrier doping and superconductivity. Simultaneous doping of Ag and Bi on SnTe $[\text{Sn}_{1-x}(\text{Ag}_{0.5x}\text{Bi}_{0.5x})\text{Te}]$ show that carrier density changes and lattice parameter shrinks linearly but superconductivity was not observed. Study suggests that carrier density change may not play an important role but dopant element is important for superconductivity on SnTe and related crystal systems.

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