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Effect of Indium on the Superconducting Transition Temperature of Tin Telluride RUIDAN ZHONG, JOHN SCHNEELOCH, XIAOYA SHI, QIANG LI, JOHN TRANQUADA, GENDA GU, Brookheaven National Laboratory — Indium-doped tin telluride is one of the most appealing topological superconductors. We have grown a series of $Sn_{1-x}In_xTe$ crystals with different indium concentrations ($0.1 \leq x \leq 1.0$). The results show indium doping improves the superconducting transition temperature significantly and is highly related to the indium concentration. The maximum Tc of indium-doped tin telluride polycrystalline is 4.5K for x=0.4. Single crystals of $Sn_{1-x}In_xTe$ were also grown by the floating zone method, and their magnetic properties were characterized.

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