

# Substantial pressure effect on the resistivity and Curie temperature for the diluted magnetic semiconductor $\text{Sb}_{2-x}\text{V}_x\text{Te}_3$

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## Abstract

The influence of hydrostatic pressure on the electrical resistivity  $\rho$  and ferromagnetic transition temperature  $T_c$  of bulk, single crystal  $\text{Sb}_{1-x}\text{V}_x\text{Te}_3$  with  $x = 0.03$  is presented. Pressure strongly suppresses  $\rho$  at all temperatures, with an overall decrease of about 35% at 1.6 GPa. The peak in  $\rho$ , a signature of  $T_c$ , moves to lower temperature with increasing pressure. An overall suppression of  $T_c$  near 40% at 1.6 GPa is observed. The results are discussed within the context of a carrier-mediated ferromagnetic exchange interaction.