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**Exploring the ferromagnetic phase diagram of $Sb_{2-x}V_xTe_3$ and $Sb_{2-x}Cr_xTe_3$ using hydrostatic pressure as an experimental variable**[1] JEFFREY DYCK, MATTHEW BOWERS, Physics Department, John Carroll University, YI-JIUNN CHIEN, CTIRAD UHER, Physics Department, University of Michigan, CESTMIR DRASAR, PETR LOSTAK, Faculty of Chemical Technology, University of Pardubice — We report on the hydrostatic pressure dependence of the magnetotransport properties of ferromagnetic $Sb_{2-x}V_xTe_3$ and $Sb_{2-x}Cr_xTe_3$ with $x \leq 0.15$. Pressure significantly alters the carrier concentration in these diluted magnetic semiconductor compounds. Key to the understanding of the underlying mechanism of ferromagnetism is the role that both free hole and magnetic impurity concentration and type play in these materials. The evolution of Curie temperature with carrier concentration and average impurity separation, as tuned by pressure, will be compared to a simple model incorporating indirect exchange among impurity spins, mediated by the free holes.

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