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Doping and Thermal Conductivity Studies of CrSiTe3 AMANDA HAGLUND, Dept. of Materials Science and Engineering, Univ of Tennessee, JIAQIANG YAN, Univ of Tennessee; Oak Ridge National Laboratory, VEERLE KEPPENS, Dept. of Materials Science and Engineering, Univ of Tennessee, DAVID MANDRUS, Univ of Tennessee; Oak Ridge National Laboratory — CrSiTe3 is a layered material with a 2-dimensional crystal structure, and has recently become of more interest due to the possibility of using its ferromagnetic and semiconducting properties for spintronics applications. To further investigate the properties of CrSiTe3, we doped it with various transition elements on the Cr site in an attempt to tune and control the magnetism, as well as study changes in the thermal conductivity. We synthesized pure CrSiTe3 and doped samples through flux growth, producing plate-like bulk crystals. Crystal quality was checked by x-ray diffraction and energy dispersive spectroscopy, and then thermal conductivity and magnetization measurements were obtained on the doped materials to compare variations from the pristine CrSiTe3.

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