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Unconventional metallic magnetism in $\text{LaCr}_{1-x} V_x \text{Sb}_3$ system¹ XIAO LIN, VALENTIN TAUFOUR, Iowa State University, SERGEY BUD'KO, PAUL CANFIELD, Ames Laboratory, US DOE, Iowa State University — Unconventional, low temperature ground states can often be found in the vicinity of a magnetic phase transition that has been continuously tuned to 0 K. As part of our search for exotic superconductivity, we have studied the LaCrSb₃ system. Whereas magnetization measurements of LaCrSb₃ under pressure reveal no change of T_C up to ≈ 5 GPa, the ferromagnetic transition is gradually suppressed with increasing V substitution. Single crystals of the LaCr_{1-x}V_xSb₃ series have been characterized by measurements of, temperature dependent magnetic susceptibility, magnetization, electrical resistivity, and specific heat. Determinations of magnetic anisotropies as well as ferromagnetic ordering temperatures have been made. Below T_C , spin reorientation has been observed within bc plane. A T - x phase diagram has been assembled to shed light on the magnetism in this system.

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Xiao Lin Iowa State University

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