Abstract Submitted
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Chemical pressure effects on structural, magnetic, and transport properties of $Mn_{1-x}Co_xV_2O_4$[1] ANDHIKA KISWANDHI, JAMES BROOKS, JUN LU, JEFFREY WHALEN, THEO SIEGRIST, HAIDONG ZHOU, National High Magnetic Field Laboratory — The low-temperature x-ray diffraction, susceptibility, specific heat, and resistivity of the single crystal $Mn_{1-x}Co_xV_2O_4$ have been investigated. With increasing Co-doping, the chemical pressure related to the decreasing V-V distance drives the system towards the itinerant electron limit, accompanied with the increase of the ferrimagnetic transition temperature and the suppression of the structural distortion. These effects are compared to the effects from the application of physical pressure, and show that the V-V distance is the critical parameter controlling the properties of AV_2O_4.

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