Abstract Submitted
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Pressure Effects on the Vanadium Oxides V_6O_{11}, V_7O_{13}, and V_8O_{15}[1] STELLA KIM, ESTELLE COLOMBIER, NI NI, SERGEY BUD'KO, PAUL CANFIELD, Iowa State University and Ames Laboratory — Members of the V_NO_{N-1} Magneli Series ($3 < N < 9$) exhibit metal to insulator transitions (MIT) as well as antiferromagnetic (AFM) transitions at ambient pressure, with the exception of V_7O_{13} which remains metallic to lowest measured temperatures. In this talk we present pressure and temperature dependent measurements of electrical resistivity for V_6O_{11}, V_7O_{13} and V_8O_{15} samples. For V_6O11 and V_8O_{15} MIT can be suppressed by 4 and 1.3 GPa respectively. For V_7O_{13} and V_8O_{15} T_{SDW} can be suppressed by 3.5 GPa. Composite phase diagrams will be presented and low temperature data, focusing on the possibility of quantum criticality will be discussed.

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