

Abstract Submitted
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**A Comparative Study of Magnetic and Structural
Transitions Focusing on Dielectric and RF Measurements¹**

LAUREL WINTER, JAMES BROOKS, NHMFL/FSU, HAIDONG ZHOU, NHMFL — High frequency inductive and dielectric measurements were used to study the magnetic and structural transitions of a number of compounds, including a series of spinel vanadates of the form $\text{Mn}_{1-x}\text{Co}_x\text{V}_2\text{O}_4$. We then compared the results to those found using other measurement techniques, such as resistivity and specific heat. The high frequency inductive measurements were conducted using a tunnel diode oscillator (TDO), and proved to be an effective and simple way to observe the magnetic transitions. From capacitance and dissipation measurements we were able to observe both magnetic and structural transitions, but only in the more insulating samples.

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