

Abstract Submitted
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Novel Itinerant Antiferromagnet With Nonmagnetic Constituents¹ ETERI SVANIDZE, JIAKUI WANG, Rice University, TIGLET BESARA, Florida State University, MONICA GAMZA, Stony Brook University, THEO SIEGRIST, Florida State University, MEIGAN ARONSON, Stony Brook University, ANDRYI NEVIDOMSKYY, EMILIA MOROSAN, Rice University — While many systems exhibit both local and itinerant magnetism, only two are known to display magnetism while being composed of non-magnetic elements - Sc_3In and ZrZn_2 . Drastic differences in dimensionality, critical scaling and susceptibility to perturbations suggest that more systems like this would be useful in identifying the origin of their magnetic properties. In this talk, the properties of a new itinerant antiferromagnet with no magnetic constituents, are presented. Specific heat, resistivity and magnetization data indicate magnetic ordering below $T_N \approx 36$ K. Above this temperature, the susceptibility displays Curie-Weiss-like behavior, with an unexpectedly large paramagnetic moment $\mu_{PM} \approx 0.8 \mu_B \text{ F.U.}^{-1}$. The magnetism is confirmed by band structure calculations, which suggest a spin-density wave ground state with a modulation wavevector $Q = (0, 2\pi/3b, 0)$.

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