

Abstract Submitted  
for the MAR17 Meeting of  
The American Physical Society

**Exploration of possible superconductivity in chemically doped CrSb**<sup>1</sup> ASHUTOSH DAHAL, JAGATH GUNASEKERA, Univ of Missouri - Columbia, SENG HUAT LEE, YEW SAN HOR, Missouri University of Science and Technology, DEEPAK K. SINGH, Univ of Missouri - Columbia — Our efforts of finding a new superconductor in 11-system is based on a simple proposition that antiferromagnets (AFM) with stripe magnetic configuration indirectly plays the key role in the Cooper pair formation, essential for superconductivity. As CrAs exhibits superconductivity under pressure, CrSb based compounds with antiferromagnetic order and Neel temperature in excess of 700K would be a natural venue for the exploration of superconductivity. In this talk, I will discuss experimental results on chemically doped CrSb (on both Cr and Sb site), which reveals interesting new properties that are reminiscent of a superconductor. The transition to the possible superconducting state occurs at  $T \sim 8.5$  K with a critical field of more than 2.5 T. However, the transition to the possible superconducting state is not unambiguous. We have tried various chemical doping and synthesis methods to understand this behavior.

<sup>1</sup>DOE, Office of Basic Energy Sciences under grant no. DE-SC0014461

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Date submitted: 11 Nov 2016

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