

Abstract Submitted  
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**Evolution of Spin fluctuations in  $\text{CaFe}_2\text{As}_2$  with Co-doping.**<sup>1</sup> A. SAPKOTA, P. DAS, A. E. BÖHMER, Ames Laboratory, Dept. of Physics and Astronomy, Iowa State University, D. L. ABERNATHY, Oak Ridge National Laboratory, P. C. CANFIELD, A. KREYSSIG, R. J. MCQUEENEY, A. I. GOLDMAN, Ames Laboratory, Dept. of Physics and Astronomy, Iowa State University — Spin fluctuations are an essential ingredient for superconductivity in Fe-based superconductors. In Co-doped  $\text{BaFe}_2\text{As}_2$ , the system goes from the antiferromagnetic (AFM) state to the superconducting (SC) state with Co doping, and the spin fluctuations also evolve from well-defined spin waves with spin gap in the AFM regime to gapless overdamped or diffused fluctuations in the SC regime.  $\text{CaFe}_2\text{As}_2$  has a stronger magneto-elastic coupling than  $\text{BaFe}_2\text{As}_2$  and no co-existence of SC and AFM region as observed in  $\text{BaFe}_2\text{As}_2$  with Co doping. Here, we will discuss the evolution of spin fluctuations in  $\text{CaFe}_2\text{As}_2$  with Co doping.

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Aashish Sapkota  
Ames Laboratory/Iowa State University

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