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Measurements of ^{3}He magnetiztion on ZYX graphite using SQUID NMR[1] JINSHAN ZHANG, LEI GUO, YULIANG DU, C.M. GOULD, H.M. BOZLER, University of Southern California — ^{3}He films on ZYX graphite are more nearly ideal 2D systems than is the case with ^{3}He on more commonly used grafoil substrates, given the larger platelet size (100-200 nm) and smaller spread angle ($\sim$5 degrees) of ZYX. We have begun a study of these films using our SQUID NMR techniques. We are currently surveying a range of coverage from a little less than first layer completion to greater than third layer promotion in order to map out differences between the magnetism of ^{3}He on ZYX and grafoil. The primary objective of this study is to sort out the size effects on the apparent finite temperature ordering of these films in the ferromagnetic coverage region. The small surface area of ZYX graphite (1-1.5 m^2/g) poses an experimental challenge. We will present details of our wide bandwidth two-stage SQUID system used in these experiments.

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Christopher Gould
University of Southern California

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