## Abstract Submitted for the MAR16 Meeting of The American Physical Society

Magnetic Property Determination of Nickel Niobate (NiNb2O6) TIMOTHY MUNSIE, MURRAY WILSON, ALANNAH HALLAS, YIPENG CAI, Department of Physics and Astronomy, McMaster University, TRAVIS WILLIAMS, ADAM ACZEL, Oak Ridge National Laboratory, HANNA DABKOWSKA, Brockhouse Institute for Materials Research, JOHN GREEDAN, Department of Chemistry, McMaster University, GRAEME LUKE, Department of Physics and Astronomy, McMaster University — We have synthesized a novel polymorph of the material nickel niobate, NiNb2O6, in a previously undetermined space group. We have examined the material using SQUID magnetometry and have observed a magnetic transition at approximately 14 K, and a second magnetic feature below 2 K. We have determined these materials using muon spin rotation and relaxation at TRIUMF National Lab in Vancouver, Canada and using neutron scattering on the HB-3A beamline of the High Flux Isotope Reactor at Oak Ridge National Labs, TN. Using these techniques we were able to determine that the magnetic structure is highly two-dimensional. This talk will discuss the nature of the phase transition and its evolution through low temperatures.

> Timothy Munsie McMaster University

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