

Abstract Submitted
for the HAW05 Meeting of
The American Physical Society

Nuclear polarization of the ground state of ^{57}Cu produced through a nucleon pick up reaction at the primary beam energy 140 MeV/nucleon KEI MINAMISONO, PAUL MANTICA, THEODORE MERTZ-IMEKIS, ANDREW DAVIES, JORGE PEREIRA, JOSH STOKER, BRYAN TOMLIN, R. RANJITH WEERASIRI, NSCL, Michigan State University, MICHAEL HASS, Weizmann Institute, WARREN ROGERS, Westmont College — In order to measure the magnetic moment of the ground state of $^{57}\text{Cu}(I^\pi = 3/2^-, T_{1/2} = 199 \text{ ms})$, which is one proton outside doubly-magic ^{56}Ni , a polarized ^{57}Cu beam has been developed at NSCL/MSU. ^{57}Cu ions were produced through a (p, 2n) reaction process of a 140 MeV/nucleon ^{58}Ni primary beam on Be target and separated from other products in the A1900 fragment separator. To produce polarization, ^{57}Cu ions ejected at an angle of 2 degree relative to the normal beam axis were selected. Polarized ^{57}Cu ions were implanted into a single-crystal NaCl under an external magnetic field $H_0 > 0.1 \text{ T}$. The degree of the polarization was measured by an H_0 on and off technique with normalization runs without polarization. The degree of the polarization as a function of the momentum of ^{57}Cu and H_0 will be discussed.

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Date submitted: 10 May 2005

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