

Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Ultra-high vacuum fabrication of metal/insulator/superconductor junctions for spin polarization measurements ZACHARY BARCIKOWSKI, JOSHUA POMEROY, National Institute of Standards and Technology, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY TEAM, UNIVERSITY OF MARYLAND COLLABORATION — Using a unique ultra-high vacuum (UHV) deposition chamber equipped with electron gun deposition sources, sputter deposition and plasma oxidation, we are depositing shadow mask defined tunnel junctions. These unique capabilities allow us to assess the importance of creating high quality tunneling materials in the ultra-thin regime where abrupt chemical interfaces and near-ideal stoichiometries are important. In this talk, I will present experimental details about this unique system and discuss devices being fabricated, including spectroscopy measurement techniques using the superconductor quasi-particle DOS as an analyzer.

Zachary Barcikowski
National Institute of Standards and Technology

Date submitted: 15 Nov 2013

Electronic form version 1.4