Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Characterization of Titanium Nitride thin films Sputtered at Room Temperature WEIQI HUANG, STEPHEN ARNASON, MATTHEW BELL, University of Massachusetts Boston — Thin film titanium nitride (TiN) has become widely used in photon detection with microwave kinetic inductance detectors and recently as resonant structures in superconducting quantum information circuits. The attractive properties of the material are its widely tunable critical temperature, large surface inductance, and low losses at microwave frequencies when incorporated into resonant circuits. We report on thin films of TiN sputter-deposited on intrinsic silicon substrates at room temperature for various nitrogen flow rates and deposition pressures. Characterization of the inductance and microwave losses in lumped-element resonators fabricated from these films will also be discussed.

Matthew Bell
University of Massachusetts Boston

Date submitted: 14 Nov 2014 Electronic form version 1.4