Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Spectroscopy Measurements of Magnesium Diboride Josephson Junctions

J.T. MLACK, J.G. LAMBERT, S.A. CARABELLO, Z.E. THRAILKILL, P.T. GALWADUGE, R.C. RAMOS, Drexel University — MgB$_2$ has the highest T$_c$ of the conventional superconductors at 39K and exhibits two superconducting energy bands. This material is also inexpensive to produce and has been utilized in new designs for MRI, RF cavities, and Josephson junctions. We report results of recent spectroscopy and transport measurements of Josephson junctions made of MgB$_2$ obtained from our collaborators. We investigate its transport characteristics at sub-kelvin temperatures as well as its responses to resonant microwave activation.

We thank Prof. Xiaoxing and Prof. Ke Chen from Temple University for providing MgB2 thin film Josephson junction samples.

J.T. Mlack
Drexel University

Date submitted: 15 Dec 2009

Electronic form version 1.4