

Abstract Submitted  
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**Study of Superconducting Magnesium Diboride at milli-Kelvin Temperatures** J.T. MLACK, J.G. LAMBERT, Z.E. THRAILKILL, S.A. CARABELLO, P.T. GALWADUGE, R.C. RAMOS, Drexel University — The superconducting properties of magnesium diboride ( $\text{MgB}_2$ ) were first discovered in 2001 and since then many studies of this interesting material have been performed.  $\text{MgB}_2$  has a transition temperature of 40K and has been typically studied down to around 4.0K. We report results of recent current-voltage measurements, at milli-Kelvin temperatures, of  $\text{MgB}_2$ -based Josephson junctions obtained from our collaborators [1]. We investigate its I-V characteristics and the structure of its sub-gap resistance.

[1] Samples were obtained from Prof. Xiaoxing Xi's Research group at Temple University.

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