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**Spectroscopy Measurements of Magnesium Diboride Josephson Junctions**[1] 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 Tc 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.

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J.T. Mlack
Drexel University

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