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High Tc Magnet Leads for Research Cryostats YUKO SHIROYANAGI, GOKUL GOPALAKRISHNAN, SANGHUN AN, THOMAS GRAMILA, Ohio State University — The incorporation of high temperature superconducting wires in cryogenic systems has almost exclusively been in those systems with active cryocoolers, or when very high currents are necessary. Despite their obvious advantages, however, various properties of the wires have precluded their use in typical liquid Helium research cryostats. We report here the successful implementation of these wires into a research cryostat magnet lead design, and will discuss design features, aspects of assembly, and characterization of the lead system. The overall design is based on a baffle cooled approach [1] for removing heats from the leads, whose development involved careful numerical modeling. The design approach used for the Hi-Tc magnet lead system leverages this capability to address the various problems associated with superconducting wires, permitting their incorporation.
[1] Y.Shiroyanagi, G. Gopalakrishnan, S.An and T.J. Gramila, "Novel Approach for Magnet Leads," submitted to JLTP.

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