Abstract Submitted
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Large transverse thermoelectric effects in single crystals of the quasi-one-dimensional metal $Li_{0.9}Mo_6O_{17}$[1] SAEED MOSHFEGHYEGANEH, JOSHUA COHN, University of Miami, CARLOS A.M. DOS SANTOS, Escola de Engenharia de Lorena - USP, Brazil, JOHN J. NEUMEIER, Montana State University — We present measurements of transverse thermoelectric (TE) effects in the temperature range 300-500 K for single crystals of the quasi-one-dimensional (q1D) metal $Li_{0.9}Mo_6O_{17}$ (lithium purple bronze). Prior work demonstrates a highly anisotropic Seebeck coefficient (S), with metallic n-type behavior along the q1D chains (crystallographic b axis), p-type semiconductor behavior in the perpendicular, inter-chain direction (c axis), and a difference $\Delta S \simeq 200\mu$V/K near $T = 450$ K. Significant transverse TE voltages, induced by applied temperature differences, and Peltier cooling, induced by applied currents, in specimens with body axes misaligned with the b and c axes will be discussed.

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