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Thermomagnetic properties of single-crystal Holmium[1] SARAH J. WATZMAN, YIBIN GAO, STEPHEN R. BOONA, Department of Mechanical and Aerospace Engineering, The Ohio State University, Columbus, Ohio 43210, JOSEPH P. HEREMANS, Department of Mechanical and Aerospace Engineering, Department of Physics, The Ohio State University, Columbus, Ohio 43210 — This talk will present results of experiments intended to experimentally map out the complete thermomagnetic transport tensor of elemental holmium. An emphasis has been placed on examining the evolution of these properties as the material crosses between its various magnetic phases, including the unusual helical anti-ferromagnetic state. This state is particularly interesting due to the gradual rotation of the local magnetic moments that leads to their net global cancellation, as the impact of this type of ordering on the thermomagnetic transport properties has yet to be fully explored. Specifically, we will report results of the magneto-thermopower, magneto-thermal conductivity, and the Nernst coefficient on single crystal samples.

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