Giant Bipolar Nernst Effect in the Quasi-One-Dimensional Metal, Li$_{0.9}$Mo$_6$O$_{17}$[1]

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— The Nernst coefficient for the quasi-one-dimensional metal, Li$_{0.9}$Mo$_6$O$_{17}$, is found to be among the largest known for metals ($\nu \simeq 500$ μV/KT at $T \sim 20$ K), and is enhanced in a broad range of temperature by orders of magnitude over the value expected from Boltzmann theory for carrier diffusion. A comparatively small Seebeck coefficient implies that Li$_{0.9}$Mo$_6$O$_{17}$ is bipolar with large, partial Seebeck coefficients of opposite sign. A very large thermomagnetic figure of merit, $ZT \sim 0.5$, is found at high field in the range $T \approx 35 - 50$ K.

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