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**Magnetic-Force Enhanced Temperature Gradient**[1] JONATHAN FRAINE, WEILI LUO, Department of Physics, University of Central Florida —
The temperature gradient was established in a quasi-one dimensional magnetic fluid by controlling the initial heating and cooling rates. Measurements were done to monitor temperature gradient verses time before and after the cooling and heating were stopped in both zero and applied magnetic field. We found that the magnetic field can enhance the temperature gradient across the sample. The theoretical calculation shows that the effect of field on the temperature gradient is attributed to the magnetic body force that depends on the gradient of the susceptibility.

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