Parallel electron heat flow along a spatially varying magnetic field
JEONG-YOUNG JI, ERIC HELD, Utah State University — We solve a system of general moment equations to obtain the parallel electron heat flow in an inhomogeneous magnetic field. Magnetic field gradient terms are kept and treated using both finite difference and Fourier series methods. Convergence in the heat flow is demonstrated as the number of moments is increased in regimes of high to moderate collisionality. Properties of the moment equations in the collisionless limit are also discussed. The heat flow shows local enhancement and reduction due to magnetic variations when compared to the integral parallel heat flow closure.

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