Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Nernst-Ettingshausen effect in Bismuth across the quantum limit
KAMRAN BEHNIA, ESPCI, MARIE-AUDE MEASSON, YAKOV KOPELEVICH
— In elemental Bismuth, 10^5 atoms share a single itinerant electron. A magnetic field of the order of 10 T can confine electrons to the lowest Landau level. We report on the first study of metallic thermoelectricity in this regime. The thermoelectric response is mainly off-diagonal and peaks each time a Landau level hits the chemical potential. The associated maxima in the Ettingshausen coefficient saturates to a temperature-independent magnitude offering a notable constraint for theory.

Kamran Behnia
ESPCI

Date submitted: 25 Nov 2006 Electronic form version 1.4