Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Sorting Category: 13.6.2 (E)

Hot Electron Assisted Current Counterflow in Two Dimensional Electron Gas[1] ISMET I. KAYA, ENGIN KARABUDAK, Sabanci University — Nonequilibrium conditions generated by hot electron injection give rise to nonlinear transport in conductors with dimensions comparable to intercarrier scattering length scales. The outstanding scattering properties of two dimensions intensify such effects leading to current or potential reversal [1]. In this work, experimental results describing new transport phenomena occuring under nonequilibrium conditions is explained. Counterflow of electron current occurs in a three terminal conductor formed in a two dimensional electron gas. Electron stream dragged by hot carriers generates an opposing flow over the electrostatic barriers for a range of hot electron energies. [1] Ismet I. Kaya and Karl Eberl, Phys. Rev. Lett. 98, 186801 (2007)

[1]Supported by TUBITAK.

[X] Prefer Oral Session
[ ] Prefer Poster Session

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Date submitted: 27 Nov 2007 Electronic form version 1.4