Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Effects of electron-electron interactions on the rate of spin-relaxation ALEXANDER PUNNOOSE, Bell Labs, Lucent Technologies, Murray Hill, NJ 07974, ALEXANDER FINKELSTEIN, Physics Dept., Weizmann Institute of Science, Rehovot, Israel 76100 — Spin-relaxation, in the presence of a uniform intrinsic spin- orbit interaction, is studied in a disordered two-dimensional electron gas when the temperature corrections to the conductivity arising as a result of the combined action of the electron-electron interaction and disorder are important. We find that the rate of spin-relaxation τ_{so} follows the temperature dependence of the conductivity σ, i.e., $\tau_{so}^{-1}(T) \propto \sigma(T)$.

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Date submitted: 29 Nov 2004 Electronic form version 1.4