Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Transport in Carbon Nanotubes with Ferromagnetic Contacts in Low and High Magnetic Fields CHEN-WEI LIANG, SERHAT SAHAKALKAN, SIEGMAR ROTH — Spin transport in carbon nanotubes has been attracting considerable attention due to its novel device structure. A single-wall nanotube (SWNT) contacted by ferromagnetic materials can be considered as either a spin-valve device with a nano-size channel or a ferromagnetic contacted quantum dot system. We have made Co- and Ni-contacted SWNT devices and studied transport properties in both low and high magnetic fields. At low magnetic field we observed spin-valve effect, which showed hysteresis of magnetoresistance (MR) in opposite sweeping directions of field. In addition to low field measurements, MR was also observed in high magnetic field. However, differing from low-field MR, high-field MR didn't have hysteresis and rather symmetrical. Details of the transport results will be discussed in this presentation.

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Date submitted: 18 Nov 2006 Electronic form version 1.4