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Electron Transport in Ferromagnetically-Contacted Single-Walled Carbon Nanotubes CHRIS MERCHANT, SOO-HYUNG LEE, JEFFREY WASSERMAN, NINA MARKOVIC, Johns Hopkins University — We present low-temperature electron transport measurements on ferromagnetically-contacted single-walled carbon nanotubes in the Coulomb blockade regime. The carbon nanotubes were grown by the chemical vapor deposition method and end-contacted with cobalt leads spaced less than 500 nm apart. Due to the Coulomb blockade effects, conduction occurs via either single-electron tunneling or higher-order processes, which can involve spin modulation. The effect of Coulomb blockade on magnetoresistance is investigated and discussed in terms of spin transport.

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