

Abstract Submitted
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Spin transport in nanowires with a double-junction ILDAR SABIRIANOV, ANDREI SOKOLOV, JODY REDEPENNING, BERNARD DOUDIN, University of Nebraska — Transport properties of ferromagnetic nanowires involving double insulating barriers are studied. Electrochemical synthesis of a Ni/NiO/CoNi/NiO/Co structure in shape of 70 nm diameter nanowires results in a CoNi “island”, approximately 100 nm long, separated by barriers to Ni and Co cylinders of typically 1 micron length. Transition from high-resistance to low-resistance states were observed during IV curves measurements when high bias voltage is applied. This system exhibits magnetoresistance ratios reaching 20% at low temperature, of sign changing after the high bias transition. This research is sponsored by NSF MRSEC, the Keck Foundations, and the Nebraska Research Initiative. University of Nebraska

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