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Spin transport studies in mesoscopic graphite BARBAROS OEZYILMAZ, PHILIP KIM, Department of Physics, Columbia University, New York, NY 10027 — We present experimental studies on spin transport in mesoscopic graphite. Two dimensional graphite sheets have been fabricated by means of micromechanical exfoliation. Spin injection has been achieved by employing ferromagnetic Co electrodes. We use the shape anisotropy of the electrodes to uniquely define the magnetic state of the device. Typical two terminal resistances are in the order of 1 kΩ. We will discuss the switching behavior of the device magnetoresistance as a function of temperature, the gate bias voltage and of the source drain bias.

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