Abstract Submitted
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**Graphitic Switches** J.C. MEDINA PANTOJA, ROBSON R. DA SILVA, Instituto de Física "Gleb Wataghin," Universidade Estadual de Campinas, UNICAMP 13083-970, Campinas, São Paulo, Brasil, YAKOV KOPELEVICH, ALEX M. BRATKOVSKY, Hewlett-Packard Laboratories, 1501 Page Mill Road, Palo Alto, California 94304, USA — Four-probe dc current-voltage (I-V) characteristics were measured for 80-250 nm thick graphite samples with the lateral size ranging between $\sim$ 30 microns and 0.5 mm. All studied samples possess break junctions made by means of mechanical deformation or using focused ion beam (FIB). The measurements were performed in the temperature interval 2 K $\leq$ T $\leq$ 300 K and applied magnetic field up to 9 T. Nonlinear (I $\sim$ $V^n$, n $>$ 1) and hysteretic I-V curves were recorded even at T = 300 K. The results revealed the switching effect in I-V curves at applied current of a few microamps that could be reduced further by magnetic field. The results indicate that graphite is a promising material for switches that can be used in memory devices.

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