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**Fabrication and Characterization of Cobalt Microbars** DIEGO USECHE, CIRO GELVEZ, EDGAR J. PATINO, Universidad de los Andes, LEONARDO BASILE, Escuela Politecnica Nacional, SUPERCONDUCTIVITY AND NANODEVICES LABORATORY TEAM — Magnetic materials have been widely used in applications such as data storage, magnetic tunnel junctions and spin valve structures. In the present work we explore the shape anisotropy of a millimeter size array of magnetic microbars. For this study we focused on Cobalt microbars fabricated using photolithography, thermal evaporation and sputtering techniques. Magnetization measurements as a function of angle were performed on microbars samples which differ slightly in their dimensions. The measurements were carried out using vibrating sample magnetometry (VSM) and magnetic optic kerr effect (MOKE). Also, computer simulations in OOMMF were done in order to simulate the experimental results. Despite the bars being in the micrometer scale a small shape anisotropy was observed. Furthermore, when the applied field was parallel to the microbars the maximum coercivity was found and decreased slightly as the field rotated towards the perpendicular direction. It was also found a sheared hysteresis loop in one of the samples.

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