

Abstract Submitted
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Enhanced superconducting vortex pinning in the Corbino geometry¹ YANIV ROSEN, IVAN K. SCHULLER, Department of Physics and Center for Advanced Nanoscience, University of California San Diego, La Jolla CA 92093 — We probed a dynamic system of superconducting vortices with an artificial pinning landscape in the Corbino geometry. Current was applied from the center of the disc and propagated radially outward to produce a circular force with a strength proportional to $1/r$ on the vortices. This caused a shearing force on the vortex lattice and was studied with varying current densities and temperature. Matching minima in the magnetoresistance curves were still observed under the Corbino conditions for the square lattice pinning site geometry. Surprisingly the even numbered matching fields show enhanced pinning compared to the odd matching fields. Other interesting temperature and current density dependencies will also be discussed.

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