

Abstract Submitted  
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**Vortex pinning effects in the Corbino geometry**<sup>1</sup> YANIV ROSEN, STEFAN GUÉNON, IVAN SCHULLER, Center for Advanced Nanoscience, University of California San Diego — 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 strength proportional to  $1/r$  on the vortices. For small injection currents the vortex lattice is rigid, however large currents can cause shearing of the lattice. In order to investigate the temperature, current, and pinning lattice dependencies in different samples, we have defined Nb discs with a diameter of  $60\ \mu\text{m}$  on a circularly symmetric lattice of magnetic dots. In particular we present data that show steps instead of minima in the magnetoresistance curves at the position of the matching field indicating an unexpected influence of the pinning array on the motion of the vortex lattice.

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