

Abstract Submitted
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Vortex dynamics in mesoscopic weak-pinning superconducting channels with a Corbino geometry.¹ T.W. HEITMANN, K. YU, C. SONG, B.L.T. PLOURDE, Syracuse University, M.B.S. HESSELBERTH, P.H. KES, Leiden University — We report transport measurements of vortex flow dynamics in mesoscopic weak-pinning channels of a-NbGe with strong-pinning NbN channel edges. The channels are arranged in circular patterns on a Corbino disk geometry, thus eliminating the influence of edge barriers to vortex entry on the dynamics. The number of vortices which can be detected at particular flow velocities is limited by the method for measuring the flux flow voltage and the channel configuration. We discuss potential applications of this system for guiding vortices around nanofabricated structures free from edge barriers.

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