

Abstract Submitted
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Superconducting vortex dynamics on asymmetric arrays with symmetric pinning centers¹ JOSE L. VICENT, Universidad Complutense, 28040 Madrid, DAVID PEREZ DE LARA, IMDEA-Nanociencia, 28049 Madrid and Universidad Complutense, 28040 Madrid, ALEJANDRO ALIJA, Universidad Oviedo, 33007 Oviedo, ELVIRA M. GONZALEZ, Universidad Complutense, 28040 Madrid, MARIA VELEZ, JOSE I. MARTIN, Universidad Oviedo, 33007 Oviedo — Arrays of Ni nanodots embedded in Nb superconducting films have been fabricated by sputtering and electron beam lithography techniques. The arrays are periodic triangular lattices of circular Ni dots arranged in a kagomé-like pattern with broken reflection symmetry. DC magnetoresistance shows several fractional matching field minima below the first matching field for vortex motion parallel and perpendicular to the array reflection symmetry. AC magnetoresistance shows reversal ratchet effect when the vortex lattice moves parallel to the array reflection symmetry. These effects could be understood taking into account the vortex lattice density.

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