

Plot of the superconducting regions in a microsquare coupled to a magnetic dot, from a numerical study of superconductivity nucleation. The dot stabilizes novel vortex-antivortex patterns and induces multiquanta vortex entries, not possible in the square by itself. By varying the dot's magnetic field, vortex patterns in the square can be tuned, with possible applications to flux-quantization control in microstructures. See article 237003.

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