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*(In)stability of pinned fundamental vortices*

We study the (in)stability of pinned  $\pm 1$  vortex solutions to the Ginzburg–Landau equations with external potentials in  $R^2$ . For smooth and sufficiently small external potentials, there exists a perturbed vortex solution centered near critical points of the external potential (called pinned vortices). We show that pinned vortices centered near maxima (resp. minima) of the potential are orbitally stable (resp. unstable) w.r.t. gradient and Hamiltonian flow. This is joint work with I. M. Sigal.