

---

**FRIDOLIN TING**, Lakehead University, 955 Oliver Road, Thunder Bay, Ontario P7B 5E1

*Dynamic stability of multi-vortex solutions to Ginzburg–Landau equations with external potential*

We consider the dynamic stability of pinned multi-vortex solutions to Ginzburg–Landau equations with external potential in  $\mathbb{R}^2$ . For a sufficiently small external potential with widely spaced non-degenerate critical points, there exists a perturbed multi-vortex (pinned) solution whose vortex centers are near critical points of the potential. We show that multi-vortex solutions which are concentrated near local maxima of the potential are orbitally stable w.r.t. gradient and Hamiltonian dynamics.