

Stability and nesting of dissipative vortex solitons with high vorticity

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R�sum� en anglais	Using the variational method extended to dissipative systems and numerical simulations, an analytical stability criterion is established allowing the determination of stability domains of parameters for vortices with high topological charge S . Parameters from these domains are used as inputs for numerical self-generation of previously unexplored coexisting stable vortex solitons with topological charge ranging from $S=3$ to $S=20$. The nesting of low-vorticity solitons within those of higher vorticity is discovered. Such a self-organized structuring of light allows for selective dynamic nanophotonic tweezing.
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