



# Formation of complex two-dimensional dissipative solitons via spontaneous symmetry breaking

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Résumé en anglais	<p>We propose a complex Ginzburg-Landau equation (CGLE) with localized linear gain as a two-dimensional model for pattern formation proceeding via spontaneous breaking of the axial symmetry. Starting from steady-state solutions produced by an extended variational approximation, simulations of the CGLE generate a vast class of robust solitary structures. These are varieties of asymmetric rotating vortices carrying the topological charge (TC), and four- to ten-pointed revolving stars, whose angular momentum is decoupled from the TC. The four- and five-pointed stars feature a cyclic change of their structure in the course of the rotation.</p>
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## Liens

- [1] <http://okina.univ-angers.fr/v.ska/publications>
- [2] [http://okina.univ-angers.fr/publications?f\[author\]=8712](http://okina.univ-angers.fr/publications?f[author]=8712)
- [3] [http://okina.univ-angers.fr/publications?f\[author\]=9745](http://okina.univ-angers.fr/publications?f[author]=9745)
- [4] [http://okina.univ-angers.fr/publications?f\[author\]=23791](http://okina.univ-angers.fr/publications?f[author]=23791)
- [5] [http://okina.univ-angers.fr/publications?f\[author\]=8696](http://okina.univ-angers.fr/publications?f[author]=8696)
- [6] <http://okina.univ-angers.fr/herve.leblond/publications>

[7] <http://okina.univ-angers.fr/publications/ua5752>

[8] <http://dx.doi.org/10.1103/PhysRevA.90.023845>

[9] <http://journals.aps.org/pr/abstract/10.1103/PhysRevA.90.023845>

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