Accepted Manuscript

Dissipative light bullets: From stationary light bullets to double, quadruple, sixfold, eightfold and tenfold bullet complexes

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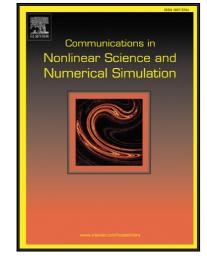
PII: \$1007-5704(18)30271-5

DOI: https://doi.org/10.1016/j.cnsns.2018.08.009

Reference: CNSNS 4623

To appear in: Communications in Nonlinear Science and Numerical Simulation

Received date: 25 December 2016
Revised date: 30 June 2018
Accepted date: 20 August 2018



Please cite this article as: Martin Djoko, T.C. Kofane, Dissipative light bullets: From stationary light bullets to double, quadruple, sixfold, eightfold and tenfold bullet complexes, *Communications in Nonlinear Science and Numerical Simulation* (2018), doi: https://doi.org/10.1016/j.cnsns.2018.08.009

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Highlights

- Stabilization of the higher-order (3+1)D cubic-quintic-septic complex Ginzburg-Landau [(3+1)D CQS-CQL] equation is investigated in this work using variational analysis, numerical stimulation and Lyapunovs method.
- The set of evolution equations and the expression for the effective potential function have been derived.
- The fixed points are investigated by the means of Lyapunovs method and a potential well has been generated into the corresponding fixed point.
- New types of stable and robust dissipative light bullet complexes such as double, quadruple, sixfold, eightfold and tenfold bounded bullet complexes are obtained.



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