arXiv.org > physics > arXiv:1107.0809

Search or Article-id

All papers

Physics > Optics

## Solitons supported by complex PT symmetric Gaussian potentials

Sumei Hu, Xuekai Ma, Daguan Lu, Zhenjun Yang, Yizhou Zheng, Wei Hu

(Submitted on 5 Jul 2011 (v1), last revised 13 Oct 2011 (this version, v2))

The existence and stability of fundamental, dipole, and tripole solitons in Kerr nonlinear media with parity-time symmetric Gaussian complex potentials are reported. Fundamental solitons are stable not only in deep potentials but also in shallow potentials. Dipole and tripole solitons are stable only in deep potentials, and tripole solitons are stable in deeper potentials than for dipole solitons. The stable regions of solitons increase with increasing potential depth. The power of solitons increases with increasing propagation constant or decreasing modulation depth of the potentials.

Comments: 7 pages, 11 figures

Subjects: Optics (physics.optics)

Journal reference: Physical Review A 84, 043818 (2011)

DOI: 10.1103/PhysRevA.84.043818

Cite as: arXiv:1107.0809 [physics.optics]

(or arXiv:1107.0809v2 [physics.optics] for this version)

## Submission history

From: Wei Hu [view email]

[v1] Tue, 5 Jul 2011 07:51:42 GMT (1141kb) [v2] Thu, 13 Oct 2011 14:45:24 GMT (1001kb)

Which authors of this paper are endorsers?

Link back to: arXiv, form interface, contact.

## **Download:**

- PDF
- **PostScript**
- Other formats

Current browse cont physics.optics < prev | next >

new | recent | 1107

Change to browse b physics

References & Citation

NASA ADS

Bookmark(what is this?)









