Physics > Optics

Defect Solitons in PT Symmetric Optical lattices with nonlocal nonlinearity

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The existence and stability of defect solitons in parity-time (PT) symmetric optical lattices with nonlocal nonlinearity are reported. Fundamental solitons are found in the semi-infinite gap, whereas dipole solitons are found in the first gap. It is found that nonlocality can expand the stable range of solitons. For the positive or zero defects, fundamental and dipole solitons can exist stably in the semi-infinite and the first gap, respectively. For the negative defects, fundamental solitons are stable in the semi-infinite gap for the low nonlocality degree, whereas dipole solitons are unstable in the first gap.

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