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## Nonlocal effects in waveguide arrays with PT-symmetric defects

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### ABSTRACT

In this work, we reveal that effective nonlocality of PT-symmetric structures with gain and loss elements can lead to pronounced differences for optical beam dynamics in arrays of coupled waveguides with the same characteristics but different topology.

### INDEX TERMS

- **IEEE terms**  
Optical coupling , Photonics
- **INSPEC**
  - **Controlled Indexing**  
optical waveguides
  - **Non Controlled Indexing**  
PT-symmetric defects , coupled waveguides , gain elements , loss elements , nonlocal effects , optical beam dynamics , waveguide arrays

### REFERENCES

1. Y. J. Chen, A. W. Snyder, and D. N. Payne, IEEE J. Quantum Electron. 28, 239 (1992).
2. R. El-Ganainy, K. G. Makris, D. N. Christodoulides, and Z. H. Musslimani, Opt. Lett. 32, 2632 (2007).
3. A. Guo, G. J. Salamo, D. Duchesne, R. Morandotti, M. Volatier-Ravat, V. Aimez, G. A. Siviloglou, and D. N. Christodoulides, Phys. Rev. Lett. 103, 093902 (2009).
4. C. E. Ruter, K. G. Makris, R. El-Ganainy, D. N. Christodoulides, M. Segev, and D. Kip, Nature Physics 6, 192 (2010).
5. H. F. Jones, Phys. Rev. D 76, 125003 (2007).
6. M. Znojil, Phys. Rev. D 80, 045009 (2009).

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