



陈志刚

招生专业: 光学,光子学与光子技术,凝聚态物理
电话:

邮箱: zgchen@nankai.edu.cn
办公地点:



1670 访问

个人资料

性别: 男

职称: 教授

部门: 物理学院

电子邮箱: zgchen@nankai.edu.cn

联系电话:

办公地址:

通讯地址:

教育经历

工作经历





南开大学 物理科学学院
Nankai University SCHOOL OF PHYSICS

个人资料

个人概况

研究方向

研究成果

社会兼职

教学经历

荣誉称号



陈志刚

招生专业: 光学,光子学与光子技术,凝聚态物理
电话:

邮箱: zgchen@nankai.edu.cn
办公地点:



1670 访问

个人简介

南开大学教授、博导。美国普林斯顿大学博士后。陈志刚教授曾于2009年入选美国光学学会会士(Fellow), 2015年入选美国物理学会会士(Fellow)。 (课题组主页: <http://topo-photonics.nankai.edu.cn/>)



南开大学
Nankai University

物理科学学院

天津市卫津路94号 [300071]
南开大学物理学院版权所有
津教备0061号 津ICP备12003308号-1



南开物理



NKPhysics



陈志刚

招生专业: 光学,光子学与光子技术,凝聚态物理
电话:

邮箱: zgchen@nankai.edu.cn
办公地点:



1670 访问

研究方向

本课题组每年计划招收博士生4名, 硕士生6-8名。

[Topological photonics and frontier physics](#)

[Beam shaping and application](#)

[Optical tweezers and biophotonics](#)





陈志刚

招生专业: 光学,光子学与光子技术,凝聚态物理
电话:

邮箱: zgchen@nankai.edu.cn
办公地点:



1670 访问

研究成果

(具体引用情况参见: <https://publons.com/researcher/2844228/zhigang-chen/>)

Invited Book Chapters

1. Z. Chen, and R. Morandotti eds., Nonlinear Photonics and Novel Phenomena, Springer Series in Optical Sciences, Vol 171, ISBN 978-1-4614-3537-2 (Springer, 2012).
2. J. Yang, X. Wang, J. Wang and Z. Chen, Light localization by defects in optically induced photonic structures, Invited Book Chapter, in Nonlinearities in Periodic Structures and Metamaterials, C. Denz, S. Flach, and Y. Kivshar ed., (Springer, 2010)
3. Y. Hu, G. A. Siviloglou, P. Zhang, N.K. Efremidis, D. N. Christodoulides, and Z. Chen, Generation and control of accelerating Airy beams, Invited Book Chapter, in Nonlinear Photonics and Novel Phenomena, Z. Chen, and R. Morandotti eds. in press, (Springer, 2012).
4. P. Zhang, Cibo Lou, Yi Hu, Sheng Liu, Jianlin Zhao, Jingjun Xu, and Z. Chen, Spatial beam dynamics mediated by hybrid nonlinearity, Invited Book Chapter, in Nonlinear Photonics and Novel Phenomena, Z. Chen, and R. Morandotti eds. in press, (Springer, 2012).
5. J. Yang and Z. Chen, Controlling light in reconfigurable photonic lattices, Invited Book Chapter, in Nonlinear Optics and Applications, H. Abdeldayem and D. O. Frazier ed., (Research Signpost, 2007).
6. Z. Chen* and J. Yang, Optical fabrication of photonic lattices for linear and nonlinear control of light, Special Review Book Chapter, in NONLINEAR OPTICS AND APPLICATIONS, H. Abdeldayem ed. (2006)

2022

1. H. Buljan, D. Jukić, & Z. Chen, "Loss leads the way to utopia" , Nature Phys. (2022). doi.org/10.1038/s41567-022-01518-x (2022). [Invited News &View]
2. L Jia, J Wu, Y Zhang, Y Qu, B Jia, Z Chen, DJ Moss, Fabrication Technologies for the On-Chip Integration of 2D Materials Small Methods 6, 2101435 (2022).
3. S Liu, S Qi, P Li, B Wei, P Chen, W Hu, Y Zhang, X Gan, P. Zhang, Y. Lu, Z. Chen, J. Zhao, "Analogous Optical Activity in Free Space Using a Single Pancharatnam–Berry Phase Element" , Laser & Photonics Rev., 16, 2100291 (2022).
4. S Xia, C Danieli, Y Zhang, X Zhao, H Lu, L Tang, D Li, D Song, Z Chen, "Higher-order exceptional point and Landau–Zener Bloch oscillations in driven non-Hermitian photonic Lieb lattices" , APL Photonics 6, 126106 (2022).
5. H. Wu; P. Zhang, X. Zhang, Y. Hu; Z. Chen, J. Xu, "Selective trapping of chiral nanoparticles via vector Lissajous beams" , Opt. Express 30, 3592–3600 (2022).

6. Q. Yuan, L. Gu, L. Fang, X. Gan, Z. Chen, J. Zhao, Giant Enhancement of Nonlinear Harmonic Generation in a Silicon Topological Photonic Crystal Nanocavity Chain, *Laser & Photonics Rev.*, doi.org/10.1002/lpor.202100269 (2022).

2021

1. S. Xia, D. Kaltsas, D. Song, I. Komis, J. Xu, A. Szameit, H. Buljan*, K. G. Makris*, and Z. Chen*, "Nonlinear control of PT-symmetry and non-Hermitian topological states" , *Science*, 372, 72-76 (2021). [doi:10.1126/science.abf6873](https://doi.org/10.1126/science.abf6873)
2. Y. Lu, Q. Zhang, Q. Wu*, Z. Chen*, X. Liu, and J. Xu*, "Giant enhancement of THz-frequency optical nonlinearity by phonon polariton in ionic crystals, *Nature Commun.*, 12, 3183 (2021).
3. Y. Xiang, G. Liang, P. Alvaro, X. Hu, Y. Liang, T. Kelly, Z. Shi, H. Xu and Z. Chen*, "Resonant optical nonlinearity and fluorescence enhancement in electrically tuned plasmonic nanosuspensions" , *Adv. Photon. Res.* 202000060 (2021).
4. Z. Shi*, M. Zuo, H. Li, D. Preece, Y. Zhang, and Z. Chen*, Topological edge states and solitons on a dynamically tunable domain wall of two opposing helical waveguide arrays, *ACS Photonics* 8, 4, 1077–1084 (2021).
5. N. Perez, J. Chambers, Z. Chen, A. Bezryadina*, "Nonlinear self-trapping and guiding of light at different wavelengths with sheep blood," *Opt. Lett.* 46, 629-632 (2021).
6. X. Liu, F. Lunić, D. Song, Z. Dai, S. Xia, L. Tang, J. Xu, Z. Chen*, H. Buljan*, "Wavepacket self-rotation and helical Zitterbewegung in symmetry-broken honeycomb lattices" , *Laser Photon. Rev.* 15, 2000563 (2021).
7. Y. Lu, Q. Wu*, H. Xiong, S. Huang, C. Pan, J. Qi, Z. Chen*, J. Xu*, Observation of frozen-phase propagation of THz pulses in a dispersive optical system, *Laser Photon. Rev.* 15, 2000591 (2021).
8. D. Bongiovanni, D. Li, M. Goutsoulas, H. Wu, Y. Hu, D. Song, R. Morandotti*, N. Efremidis, and Z. Chen*, "Free-space realization of tunable pin-like optical vortex beams" , *Photonics Research*, 9, 1204 (2021).
9. Z. Chen*, M. Segev, "Highlighting Photonics: Looking into the next decade" , *eLight* 1, 2 (2021). doi.org/10.1186/s43593-021-00002-y [Invited Perspective]
10. S. Xia, D. Song*, N. Wang, X. Liu, J. Ma, L. Tang, H. Buljan*, and Z. Chen*, "Topological phenomena in photorefractive photonic lattices" , *Opt. Materials Express*, 11, 1292 (2021). [Invited review]
11. J. Wang, Y. Liu, D. Yang, Z. Hu, X. Zhang, S. Xia, D. Song, M. Ren, S. Gao, R. Wang, Z. Chen, and J. Xu, "Tunable terahertz topological edge and corner states in designer surface plasmon crystals" , *Optics Express* 29, 19531-19539 (2021).
12. P. Zhang, Yi Hu, D. Bongiovanni, Z. Li, R. Morandotti, Z. Chen, and J. Xu, Unveiling the Link between Airy-like Self-Acceleration and Diametric Drive Acceleration, *Phys. Rev. Lett.* 127, 083901 (2021).
13. H. Wu, X. Zhang, P. Zhang, P. Jia, Z. Wang, Y. Hu, Z. Chen, and J. Xu, "Optical pulling force arising from nonparaxial accelerating beams, *Phys. Rev. A* 103, 053511 (2021).
14. X. Yang, Y. Ren, Z. Zhang, X. Liang, Y. Chen, L. Gao, J. Zhao, W. Cheng, D. N. Christodoulides, Z. Chen, The mechanism of suppressing transverse wavevectors for anti-diffracting propagation via coherent beam combination, *激光与光电子学进展*, 58(07): 1 (2021).
15. K. Chen, H. Qiu, Y. Wu, Z. Lin, H. Huang, L. Shui, D. Deng, H. Liu & Z. Chen, Generation and control of dynamically tunable circular Pearcey beams with annular spiral-zone phase, *Sci. China Phys. Mech. Astron.* 64, 104211 (2021)
16. Z. Hu, D. Bongiovanni, D. Jukić, E. Jajtić, S. Xia, D. Song, J. Xu, R. Morandotti, H. Buljan, Z. Chen, "Nonlinear control of photonic higher-order topological bound states in the continuum" . *Light Sci Appl* 10, 164 (2021).
17. H. Zhong, S. Xia, Y. Zhang, Y. Li, D. Song, C. Liu, Z. Chen, Nonlinear Topological Valley Hall Edge States Arising from Type-II Dirac Cones, *Adv. Photon.* 3(5), 056001 (2021).

18. D. Bongiovanni, D. Jukić, Z. Hu, F. Lunić, Y. Hu, D. Song, R. Morandotti, Z. Chen, H. Buljan, "Dynamically Emerging Topological Phase Transitions in Nonlinear Interacting Soliton Lattices" , Phys. Rev. Lett. 127, 184101 (2021).
19. P. Jia, J. Wu, D. Bongiovanni, Y. Hu, L. Zhang, R. Morandotti, Z. Chen, and J. Xu, "Efficient direct mapping of the nonlinear optical response via modulated Airy beams" , Opt. Lett. 46, 3725-3728 (2021).
20. F Lu, H Wu, Y Liang, L Tan, Z Tan, X Feng, Y Hu, Y Xiang, X Hu, Z Chen, J. Xu, "Bessel-modulated autofocusing beams for optimal trapping implementation" , Phys. Rev. A 104, 043524 (2021).
21. W Yan, D Song, S Xia, J Xie, L Tang, J Xu, Z Chen, "Realization of second-order photonic square-root topological insulators" , ACS Photonics, 8, 3308 (2021).
22. Y Xie, L Song, W Yan, S Xia, L Tang, D Song, JW Rhim, Z Chen, "Fractal-like photonic lattices and localized states arising from singular and nonsingular flatbands" , APL Photonics, 6, 116104 (2021).
23. D. Bongiovanni, D. Li, M. Goutsoulas, H. Wu, Y. Hu, D. Song, R. Morandotti, N. Efremidis, and Z. Chen, "Tunable pin-like optical vortex beams" , Opt. & Photonics News, December issue ("Optics in 2021").

2020

1. G. Marcucci, P. Cala, W. Man, D. Pierangeli. C. Conti and Z. Chen, "Anisotropic optical shock waves in isotropic media with giant nonlocal nonlinearity" , Phys. Rev. Lett. 125, 243902 (2020).
2. Z. Chen, H. Buljan & D. Leykam, Editorial, special issue on "Topological photonics and beyond: novel concepts and recent advances" . Light Sci.& Appl. 9, 203 (2020).
3. D. Bongiovanni, B. Wetzell, Z. Li, Y. Hu, S. Wabnitz, R. Morandotti, and Z. Chen, "Third-order Riemann pulses in optical fibers" , Opt. Express, 28, 39827 (2020).
4. Min Guo, Shiqi Xia, Nan Wang, Daohong Song, Zhigang Chen, and Jianke Yang, "Weakly nonlinear topological gap solitons in Su–Schrieffer–Heeger photonic lattices" Opt. Lett. 45, 6466 (2020).
5. P. Jia, D. Bongiovanni, Y. Hu, R. Morandotti, Z. Chen, and J. Xu, "Direct Reading of the Nonlinear Optical Response via Spatial Mapping" , Phys. Rev. Applied 14, 064001 (2020).
6. P. Zhang, Q. Kang, Y. Pei, Z. Wang, Y. Hu, Z. Chen, and J. Xu, "Unveiling chiral phase evolution in Rabi oscillations from a photonic setting" , Phys. Rev. Lett. 125, 123201 (2020).
7. G. Marcucci, P. Cala, W. Man, D. Pierangeli. C. Conti and Z. Chen, "Anisotropic optical shock waves in isotropic media with giant nonlocal nonlinearity" , Phys. Rev. Lett. (accepted).
8. Shiqi Xia, Dario Juki, Nan Wang, Daria Smirnova, Lev Smirnov, Liqin Tang, Daohong Song, Alexander Szameit, Daniel Leykam, Jingjun Xu, Zhigang Chen & Hrvoje Buljan, "Nontrivial coupling of light into a defect: the interplay of nonlinearity and topology" , Light Sci Appl 9, 147 (2020)
9. J. Ma, J.-W. Rhim, L. Tang, S. Xia, H. Wang, X. Zheng, S. Xia, D. Song, Y. Hu, Y. Li, B.-J. Yang, D. Leykam, and Z. Chen, Direct Observation of Flatband Loop States Arising from Nontrivial Real-Space Topology, Phys. Rev. Lett. 124, 183901 (2020).
10. Yan W, Zhong H, Song D, Zhang Y, Xia S, Tang L, Leykam D, Chen Z. Flatband Line States in Photonic Super-Honeycomb Lattices. Advanced Optical Materials 2020, DOI: 10.1002/ADOM.201902174.
11. X. Liu+, S. Xia+, E. Jajti+, D. Song, D. Li, L. Tang, D. Leykam, J. Xu, H. Buljan and Z. Chen, Universal momentum-to-real-space mapping of topological singularities. Nature communications 11 (1), 1586 (2020).
12. L. Pilozzi, D. Leykam, Z. Chen and C. Conti, "Topological photonic crystal fibers and ring resonators" ,Opt. Lett. 45, 1415 (2020).

13. N. Efremidis, M. Goutsoulas, D. Bongiovanni, D. Li, and Z. Chen, "Tunable self-similar Bessel-like beams of arbitrary order" , *Opt. Lett.* 45, 1830 (2020)
14. L. Tang, D. Song, S. Xia, S. Xia, J. Ma, W. Yan, Y. Hu, J. Xu, D. Leykam and Z. Chen, Photonic flat-band lattices and unconventional light localization, *Nanophotonics*, (2020) 9(5),1161-1176 (2020). DOI: 10.1515/nanoph-2020-0043 (Invited Review)
15. Hua Zhong, Yongdong Li, Daohong Song, Yaroslav V. Kartashov, Yiqi Zhang, Yanpeng Zhang, and Zhigang Chen, Topological Valley Hall Edge State Lasing, *Laser Photonics Rev.* 14, 2000001(2020).
16. Denghui Li, Domenico Bongiovanni, Michael Goutsoulas, Shiqi Xia, Ze Zhang, Yi Hu, Daohong Song, Roberto Morandotti, Nikolaos K. Efremidis, and Zhigang Chen , Direct comparison of anti-diffracting optical pin beams and abruptly autofocusing beams, *OSA Continuum*, 3, 1525(2020).
17. G. Marcucci, D. Pierangel, S. Gentilini, N. Ghofraniha, Z. Chen and C. Conti, Optical Spatial Shock Waves in Nonlocal Nonlinear Media, *Advances in Physics: X*, 4, 1662733 (2019) [Invited Review].
18. 夏世强, 唐莉勤, 夏士齐, 马继娜, 燕文超, 宋道红, 胡毅, 许京军, 陈志刚, 平带光子微结构中的新颖现象:从模式局域到实空间拓扑, *物理学报*. 69(15): 154207. 2020 [Invited Review].
19. Rekha Gautam , Anna Bezryadina , Yinxiao Xiang , Tobias Hansson , Yi Liang , Guo Liang , Josh Lamstein , Nicolas Perez , Benjamin Wetzel , Roberto Morandotti & Zhigang Chen, "Nonlinear optical response and self-trapping of light in biological suspensions" (2020), *Advances in Physics: X*, 5:1, 1-22 [Invited Review].
20. L. Li, Y. Jiang, P. Jiang, X. Li, Y. Qiu, P. Jia, Z. Pi, Y. Hu, Z. Chen, and J. Xu, "Experimental observation of three-dimensional non-paraxial accelerating beams" , *Opt. Express* 28, 17653-17659 (2020).
21. Y. Pei, Z. Wang, Y. Hu, C. Lou, Z. Chen, and J. Xu, "Spontaneous diametric-drive acceleration initiated by a single beam in a photonic lattice" , *Opt. Lett.* 45, 3175-3178 (2020)
22. H. Wang, L. Tang, J. Ma, X. Zheng, D. Song, Yi Hu, Y Li, and Z. Chen, "Optical clearing and shielding with fan-shaped vortex beams, *APL Photonics* 5, 016102 (2020). (Featured Article)
23. S Xia, C Danieli, W Yan, D Li, S Xia, J Ma, H Lu, D Song, L Tang, S Flach, and Z. Chen, "Observation of quincunx-shaped and dipole-like flatband states in photonic rhombic lattices without band-touching" *APL Photonics* 5, 016107 (2020).

2019

1. H. Xu, P. Alvaro, Y. Xiang, T. Kelly, Y. Ren, C. Zhang, and Z. Chen "Plasmonic resonant nonlinearity and synthetic optical properties in gold nanorod suspensions" , *Photonics Research*, 7, 28 (2019).
2. Z. Shi, D. Preece, C. Zhang, Y. Xiang, and Z. Chen, "Generation and probing of 3D helical lattices with tunable helix pitch and interfaces" , *Opt. Express*, 27, 121 (2019).
3. Y. Qiu, X. Mu, C. Zhang, X. Sun, Yi Hu, Z. Chen, J. Xu, "Generation of non-paraxial accelerating beams by active aberration compensation" , *Opt. Commun.* 437, 11 (2019).
4. X. Liang, Ze Zhang, D. Li, X. Han, F. Gao, Z. Chen, "Curved Volume Waveguides Induced by Airy Beams in Negative Polarizability Nanosuspension" , *Opt. Commun.* 437, 90 (2019).
5. R. Gautam, Y. Xiang, J. Lamstein*, Yi Liang , A. Bezryadina , G.Liang , T. Hansson , B. Wetzel , D.Preece , A. White* , M. Silverman , S.Kazarian , J. Xu , R.Morandotti, Z. Chen, "Optical force-induced nonlinearity and self-guiding of light in human red blood cell, *Light: Science & Applications* 8, 31 (2019).
6. N.K. Efremidis, Z. Chen, M. Segev, D.N. Christodoulides, "Airy beams and accelerating waves: An overview of recent advances" , *Optica*, 6, 686 (2019). [Invited Review]
7. D. Song, D. Leykam, J.Su , X. Liu, L. Tang, S. Liu, J. Zhao, N.K. Efremidis, J. Xu, Z. Chen, "Valley vortex states and degeneracy lifting via photonic higher-band excitation" ,

- Phys. Rev. Lett. 122, 123903 (2019).
8. D. Bongiovanni, B. Wetzels, P. Yang, Y. Hu, Y. Qiu, J. Xu, S. Wabnitz, Z. Chen, and R. Morandotti, "Optical generation and control of spatial Riemann waves" , Opt. Lett., 44, 3542 (2019).
 9. H. Zhong, Y.V. Kartashov, Y. Zhang, D. Song, Y. Zhang, F. Li, and Z. Chen, "Rabi-like oscillation of photonic topological valley Hall edge states" , Opt. Lett., 44, 3342 (2019).
 10. Ze Zhang, Xinli Liang, Mihalis Goutsoulas, Denghui Li, Xiuting Yang, Shupeng Yin, Jingjun Xu, D. N. Christodoulides, N.K. Efremidis, and Z. Chen, "Robust propagation of pin-like optical beam through atmospheric turbulence" APL Photonics, 4, 076103 (2019). [Featured Article]
 11. H. Wang, L. Tang, J. Ma, X. Zheng, D. Song, Yi Hu, Y Li, and Z. Chen, "Synthetic optical vortex beams from analogous trajectory change of an artificial satellite" , Photonics Research, 7, 1101 (2019).
 12. Z. Li, P. Zhang, X. Mu, P. Jia, Y. Hu, Z. Chen, and J. Xu, "Guiding and routing of a weak signal via a reconfigurable gravity-like potential" , Photonics Research, 7, 1087 (2019).
 13. G. Marcucci, D. Pierangel, S. Gentilini, N. Ghofraniha, Z. Chen and C. Conti, "Optical Spatial Shock Waves in Nonlocal Nonlinear Media" , Adv. In Phys. X, 4, 1662733 (2019) [Invited Review].
 14. Y Pei, Y Hu, P Zhang, C Zhang, C Lou, CE Rüter, D. N. Christodoulides, Z, Chen, J, Xu, Coherent propulsion with negative-mass fields in a photonic lattice, Optics Letters, 44, 5949 (2019).
 15. P. Jia, Z. Li, Yi Hu, Z. Chen and J. Xu, "Visualizing a nonlinear response in a Schrodinger wave" , Phys. Rev. Lett. 123, 234101 (2019).
 16. Y Liang, G Liang, Y Xiang, J Lamstein, R Gautam, A Bezryadina, Z Chen, "Manipulation and Assessment of Human Red Blood Cells with Tunable "Tug-of-War" Optical Tweezers" , Physical Review Applied 12 (6), 064060 (2019).
 17. R. Gautam, Y. Xiang, J. Lamstein, Yi Liang , A. Bezryadina , G. Liang , T. Hansson , B. Wetzels , D. Preece , A. White, M. Silverman , S. Kazarian , J. Xu , R. Morandotti, and Z. Chen, "Light-Guiding in Red Blood Cell Suspensions" , Opt. & Photonics News, December issue ("Optics in 2019").
 18. Ze Zhang, Xinli Liang, Mihalis Goutsoulas, Denghui Li, Xiuting Yang, Shupeng Yin, Jingjun Xu, D. N. Christodoulides, N.K. Efremidis, and Z. Chen, "Pin-Like Optical Beams to Penetrate Turbulence" , Opt. & Photonics News, December issue ("Optics in 2019").
- 2018
1. Shiqi Xia, Ajith Ramachandran, Shiqiang Xia, Denghui Li, Xiuying Liu, Liqin Tang, Yi Hu, Daohong Song, Jingjun Xu, Daniel Leykam, Sergej Flach, and Zhigang Chen, Phys. Rev. Lett. 121, 263902 (2018).
 2. Z. Shi, H. Li, X. Zhu and Z. Chen, "Airy-soliton interactions in self-defocusing media with PT potentials" , EPL, 124, 14006 (2018).
 3. Y. Sun, D. Leykam, S. Nenni*, D. Song, H. Chen, Y.D. Chong, and Z. Chen, "Observation of Valley Landau-Zener-Bloch Oscillations and Pseudospin Imbalance in Photonic Graphene" , Phys. Rev. Lett. 121, 033904 (2018).
 4. Xu Liu, Yi Hu, Pengbo Jia, Ping Zhang, Hao Wu, Zhenzhong Hao, Fang Bo, Zhigang Chen, and Jingjun Xu, Free-space coupling enhancement of micro-resonators via self-accelerating beams, Opt. Express, 26, 32055-32062 (2018)
 5. Yumiao Pei, Yi Hu, Cibo Lou, Daohong Song, Liqin Tang, Jingjun Xu, and Zhigang Chen*, Observation of spatial optical diametric drive acceleration in photonic lattices, Opt. Lett. 43, 118-121 (2018)
 6. RS Penciu, Y Qiu, M Goutsoulas, X Sun, Y Hu, J Xu, Z Chen, NK Efremidis, "Observation of microscale nonparaxial optical bottle beams" , Opt. Lett. 43 (16), 3878-3881(2018).

1. Y.X Ren, T.S Kelly*, C. Zhang*, H. Xu and Z Chen, "Soliton-mediated orientational ordering of gold nanorods and birefringence in plasmonic suspensions" , Optics Letters 42 (3), 627-630 (2017).
2. J. Lamstein*, A. Bezryadina, D. Preece, J.C Chen, and Z. Chen, "Optical tug-of-war tweezers: shaping light for dynamic control of bacterial cells" Chinese Optics Letters 15(3), 030010(2017) (Invited).
3. P. Zhang, D. Gallardo*, S. Liu, Y. Gao, T. Li, Y. Wang, Z. Chen, and X. Zhang, "Vortex degeneracy lifting and Aharonov–Bohm-like interference in deformed photonic graphene" , Opt. Lett. 42 (5), 915-918 (2017).
4. Yi Hu, Zhili Li, Benjamin Wetzel, Roberto Morandotti, Zhigang Chen, and Jingjun Xu, Cherenkov Radiation Control via Self-accelerating Wave-packets , Sci. Reports, 7, 8695 (2017).
5. A Bezryadina, T Hansson, R Gautam, B Wetzel, G Siggins*, A Kalmbach, Josh Lamstein*, Daniel Gallardo*, Edward J Carpenter, Andrew Ichimura, Roberto Morandotti, Zhigang Chen, "Nonlinear self-action of light through biological suspensions" , Physical Review Letters 119 (5), 058101(2017).
6. A Bezryadina, T Hansson, R Gautam, B Wetzel, G Siggins*, A Kalmbach, J. Lamstein*, D. Gallardo*, E. J Carpenter, A. Ichimura, R. Morandotti, Z. Chen, "Bacterial Waveguides of Light" , Opt. & Photonics News, December issue ("Optics in 2017").

2016

1. Yuanyuan Zong, Shiqiang Xia, Liqin Tang, Daohong Song, Yi Hu, Yumiao Pei, Jing Su, Yigang Li and Zhigang Chen*, Observation of localized flat-band states in Kagome photonic lattices, Opt. Express, 24(8), 8877-8885(2016)
2. Shiqiang Xia, Yi Hu, Daohong Song, Yuanyuan Zong, Liqin Tang and Zhigang Chen, "Demonstration of flat-band image transmission in optically induced Lieb photonic lattices," Opt. Lett.41(7), 1435-1438 (2016)
3. P. Ni, P. Zhang, X. Qi, J. Yang, Z. Chen, and W. Man, Light localization and nonlinear beam transmission in specular amorphous photonic lattices, Opt. Express 24, 2420-2426 (2016).
4. A. Bezryadina, D. Preece, J. C Chen and Z. Chen, "Optical disassembly of cellular clusters by tunable "tug-of-war" tweezers" , Light: Science & Applications, 5, e16158 (2016) (Featured Article)
5. B. Wetzel, D. Bongiovanni, M. Kues, Y. Hu, Z. Chen, S.Trillo, J. M. Dudley, S. Wabnitz and R. Morandotti, "Experimental Generation of Riemann Waves in Optics: A Route to Shock Wave Control" , Phys. Rev. Lett. 117, 073902 (2016).
6. D. Bongiovanni, B. Wetzel, Y. Hu, Z. Chen and R. Morandotti, "Optimal compression and energy confinement of optical Airy bullets" , Opt. Express, 24, 26454-26463 (2016).
7. Z. Chen, J. Xu, Y. Hu, D. Song, Z. Zhang, J. Zhao and Y. Liang, "Control and Novel Applications of Self-Accelerating Beams" , ACTA OPTICA SINICA, 10,125-144 (2016).
8. A. Bezryadina, D. Preece, J.C Chen and Z. Chen, "Tug-of-war' tweezers to fight biofilm" , Opt. & Photonics News, December issue ("Optics in 2016").
9. T.S. Kelly, Y.X Ren, A Samadi, A Bezryadina, D Christodoulides and Z. Chen, Guiding and nonlinear coupling of light in plasmonic nanosuspensions, Optics Letters, 41 (16), pp. 3817-3820 (2016)

2015

1. Song, Daohong, Liu, Sheng; Paltoglou, Vassilis, Gallardo, Daniel, Tang, Liqin; Zhao, Jianlin, Xu, Jingjun, Efremidis, Nikolaos, Chen, Zhigang, Controlled generation of pseudospin-mediated vortices in photonic graphene. 2D Materials, 2, 034007(2015)
2. Juanying Zhao, Ioannis D. Chremmos, Daohong Song, Demetrios N. Christodoulides, Nikolaos K. Efremidis and Zhigang Chen, Curved singular beams for three-dimensional particle manipulation. Sci. Rep. 5, 12086, doi: 10.1038/srep12086 (2015)
3. Juanying Zhao, I. D. Chremmos, Ze Zhang, Yi Hu, Daohong Song*, Peng Zhang, N. K. Efremidis, Zhigang Chen*. Specially shaped Bessel-like self-accelerating beams along

predesigned trajectories, *Sci. Bull.* (2015) 60(13):1157–1169

4. D. Song, V. Paltoglou, S. Liu, Y. Zhu, D. Gallardo, L. Tang, J. Xu*, M. Ablowitz, N. K. Efremidis, and Z. Chen*, Unveiling pseudospin and angular momentum in photonic graphene, *Nature Communications*, 6, Article number: 6272 (2015)
doi:10.1038/ncomms7272.
5. Yi Hu, A. Tehranchi*, S. Wabnitz, R. Kashyap, Z. Chen, and R. Morandotti*, Improved Intra-Pulse Raman Scattering Control via Asymmetric Airy Pulses, *Phys. Rev. Lett.*, 114,073901 (2015).
6. S. Xia, D. Song, Y. Zong, L. Tang*, and Z. Chen, Observation of self-trapping and rotation of higher-band gap solitons in two-dimensional photonic lattices, *Opt. Express*, 23, 4397-4405 (2015).

2014

1. Y. Plotnik, M. C. Rechtsman, D. Song, M. Heinrich, J. M. Zeuner, S. Nolte, N. Malkova, J. Xu, A. Szameit, Z. Chen, and M. Segev, Observation of unconventional edge states in photonic graphene, *Nature Material*, 13, 57 (2014)
2. X. Qi, K.G. Makris, R. El-Ganainy, P. Zhang, J. Bai, D. N. Christodoulides, and Z. Chen, Observation of accelerating Wannier-Stark beams in optically induced photonic lattices, *Opt. Lett.*, 39,1065-1068 (2014).
3. K. G. Makris, I. Kaminer, R. El-Ganainy, N. K. Efremidis, Z. Chen, M. Segev, and D.N. Christodoulides, Accelerating diffraction-free beams in photonic lattices, *Opt. Lett.*,39,2129-2132 (2014).
4. S. Fardad, A. Salandrino, M. Heinrich, P. Zhang, Z. Chen*, and D.N. Christodoulides*, Plasmonic Resonant Solitons in Metallic Nanosuspensions, *Nano Letters*, 14, 2498-2504 (2014).

2013

1. D. Deng, Y. Gao, J. Zhao, P. Zhang, and Z. Chen*, Three-dimensional nonparaxial beams in parabolic rotational coordinates, *Opt. Lett.*, 38,3934-3936 (2013).
2. Y. Hu, D. Bongiovanni, Z. Chen, and R. Morandotti* , Multi-path multi-component self-accelerating beams through spectrum-engineered position mapping, *Phys. Rev. A*, accepted (2013).
3. W. Mant†, S. Fardad†, Z. Zhang†, J. Prakash, M. Lau, P. Zhang, M. Heinrich, D. N. Christodoulides* and Z. Chen*, Engineered optical nonlinearities and enhanced light transmission in soft-matter systems with tunable polarizabilities, *Phys. Rev. Lett.*, 111, 218302 (2013).
4. M. C. Rechtsman*, Y. Plotnik, J. M. Zeuner, D. Song, Z. Chen, A. Szameit, and M. Segev, Topological Creation and Destruction of Edge States in Photonic Graphene, *Phys. Rev. Lett.*,111, 103901(2013).
5. Y. Hu, D. Bongiovanni, Z. Chen, and R. Morandotti , Periodic self-accelerating beams by combined phase and amplitude modulation in the Fourier space , *Opt. Lett.*,17, 3387(2013).
6. S. Fardad, M. S. Mills, P. Zhang, W. Man, Z. Chen, and D.N. Christodoulides , Interactions between self-channeled optical beams in soft-matter systems with artificial nonlinearities, *Opt. Lett.*,accepted (2013).
7. Juanying Zhao, Peng Zhang, Dongmei Deng, Jingjiao Liu, Yuanmei Gao, Ioannis D. Chremmos, Nikolaos K. Efremidis, Demetrios N. Christodoulides, and Zhigang Chen, Observation of self-accelerating Bessel-like optical beams along arbitrary trajectories, *Opt. Lett.* , 38,498-500 (2013).
8. Yi Hu, Ming Li, Domenico Bongiovanni, Matteo Clerici, Jianping Yao, Zhigang Chen, José Azaña, and Roberto Morandotti , Spectrum to distance mapping via nonlinear Airy pulses, *Opt. Lett.* , 38,380-382 (2013).

2012

1. P. Zhang, Y. Hu, T. Li, D. Cannan*, X. Yin, R. Morandotti, Z. Chen, and X. Zhang, Nonparaxial Mathieu and Weber Accelerating Beams, *Phys. Rev. Lett.*, 109, 193901 (2012).
2. P. Zhang, Yi Hu, D. Cannan*, A. Salandrino, T. Li, R. Morandotti, X. Zhang, and Z. Chen, Generation of linear and nonlinear nonparaxial accelerating beams, *Opt. Lett.*, 37, 2820 (2012).
3. Z. Zhang, D. Cannan*, P. Zhang, J. Liu, D.N. Christodoulides, and Z. Chen, Observation of trapping and transporting air-borne particles with a single optical beam, *Opt. Express*, 20, 16212 (2012).
4. Z. Chen, M. Segev, D.N. Christodoulides, Optical spatial solitons: historical overview and recent advances, Invited review paper, *Rep. Prog. Phys.*, 75, xxx (2012).
5. S. Liu, Y. Hu, P. Zhang, X. Gan, C. Lou, D. Song, J. Zhao, J. Xu, and Z. Chen, Symmetry-breaking diffraction and dynamic self-trapping in optically induced hexagonal photonic lattices, *App. Phys. Lett.*, 100, 061907 (2012).

2011

- 1.S. Liu, Y. Hu, P. Zhang, X. Gan, C. Lou, D. Song, J. Zhao, J. Xu, and Z. Chen, Tunable self-shifting Bloch modes in anisotropic hexagonal photonic lattices, *Opt. Lett.*, 37, 2184-2186 (2011).
- 2.J. Yang, P. Zhang, M. Yoshihara*, Y. Hu, and Z. Chen, Image transmission using stable solitons of arbitrary shapes in photonic lattices, *Opt. Lett.*, 36, 772-744 (2011).
- 3.J. Wang, A. Miller*, M. Ye, Y. Hu, C. Lou, P. Zhang, and Z. Chen, Nonlinear beam deflection in photonic lattices with negative defects, *Phys. Rev. A*, 83, 033836 (2011).
- 4.P. Zhang, Z. Zhang, Jai Prakash, S. Huang*, D. Hernandez*, M. Salazar*, D.N. Christodoulides, and Z. Chen, Trapping and transporting aerosols with a single optical bottle beam generated by moiré techniques, *Opt. Lett.*, 36, 1491-1493 (2011).
- 5.S. Liu, Y. Hu, P. Zhang, X. Gan, F. Xiao, C. Lou, D. Song, J. Zhao, J. Xu, and Z. Chen, Anomalous interactions of spatial gap solitons in optically induced photonic lattices, *Opt. Lett.*, 36, 1167-1169 (2011).
- 6.P. Zhang, N.K. Efremidis, A. Miller*, Peigen Ni, and Z. Chen, Reconfigurable 3D photonic lattices by optical induction for optical control of beam propagation, *Appl. Phys. B* (2011).
- 7.P. Zhang, J. Prakash, Z. Zhang, M.S. Mills, N.K. Efremidis, D.N. Christodoulides, and Z. Chen, Trapping and guiding micro-particles with morphing auto-focusing Airy beams, *Opt. Lett.*, 36, 2883-2885 (2011).
- 8.P. Zhang, S. Wang, Y. Liu, X. Yin, C. Lou, Z. Chen, X. Zhang, Plasmonic Airy beams with dynamically controlled trajectories, *Opt. Lett.*, 36, 3191-3193 (2011).
- 9.Z. Ye, S. Liu, C. Lou, P. Zhang, Y. Hu, D. Song, J. Zhao, Z. Chen, Acceleration control of Airy beams with optically induced refractive-index gradient, *Opt. Lett.*, 36, 3230-3232 (2011).

2010

- 1.Y. Hu, S. Huang, P. Zhang, C. Lou, J. Xu, and Z. Chen, Persistence and break-down of Airy beams driven by an initial nonlinearity, *Opt. Lett.*, 35, 3952 (2010).
- 2.P. Zhang, N. K. Efremidis, A. Miller, Y. Hu, and Z. Chen, Observation of coherent destruction of tunneling and unusual beam dynamics due to negative coupling in three-dimensional photonic lattices, *Opt. Lett.*, 35, 3252 (2010).
- 3.P. Zhang, S. Huang, Y. Hu, D. Hernandez, and Z. Chen, Generation and nonlinear self-trapping of optical propelling beams, *Opt. Lett.*, 35, 3129 (2010). (Featured on cover)
- 4.Yi Hu, Peng Zhang, Simon Huang, Cibo Lou, Jingjun Xu, and Z. Chen, Linear and nonlinear control of ballistic trajectory of Airy beams, *Proc. SPIE*, 7782, 778207 (2010).

- 5.S. Huang, P. Zhang, X. Wang, and Z. Chen , Observation of soliton interaction and planet-like orbiting in Bessel-like photonic lattices, *Opt. Lett.* , 35, 2284 (2010).
- 6.Y. Hu, P. Zhang, C. Lou, S. Huang, J. Xu, and Z. Chen , Optimal control of the ballistic motion of Airy beams, *Opt. Lett.* , 35, 2260 (2010).
- 7.D. Song, C. Lou, K. Law, L.Tang, Z. Ye, P.G. Kevrekidis, J. Xu, and Z. Chen , Self-trapping of optical vortices at the surface of an induced semi-infinite photonic lattice, *Opt. Express* , 18, 5873 (2010).
- 8.P. Zhang, C. Lou, S. Liu, J. Zhao, J. Xu, and Z. Chen , Tuning of Bloch modes, diffraction and refraction by two-dimensional lattice reconfiguration, *Optics Letters* , 35, 892 (2010).
- 9.P. Zhang, C. Lou, X. Wang, J. Zhao, J. Xu, and Z. Chen , Incomplete Brillouin zone spectra and controlled Bragg reflection with ionic-type photonic lattices, *Phys. Rev. A, Rapid Commun.* , 81(4): 041801(R) (2010).
10. N. K. Efremidis, P. Zhang, Z. Chen, D. N. Christodoulides, C. E. Ruter, and D. Kip , Wave propagation in waveguide arrays with alternating positive and negative couplings, *Phys. Rev. A*, 81, 053817 (2010).
11. Y. Hu, C. Lou, P. Zhang, J. Xu, and Z. Chen , Saddle lattice solitons: a perfect balance between hybrid nonlinearity and anisotropic diffraction, *Laser & Optoelectronics Progress (Chinese Optics 2009, in Chinese)* , 47, 03SC06 (2010).
12. D. Song, X. Wang, D. Shuldman, J. Wang, L. Tang, C. Lou, J. Xu, J. Yang, and Z. Chen , Observation of bandgap guidance of optical vortices in a tunable negative defect, *Opt. Lett.*, 35, 2106 (2010).
13. Y. Hu, R. Egger, P. Zhang, X. Wang, and Z. Chen , Interface solitons excited between a simple lattice and a superlattice, *Opt. Express*, 18, 14679 (2010).
14. E. Evgenieva, D. Song, A. Bezryadina, P. Zhang, Z. Chen and N.B. Abraham , Self-trapping and stabilization of double-charged optical vortices in optically-induced periodic structures, *Journal of Modern Optics*, 57, 1377 (2010).

2009

1. P. Zhang, C. Lou, S. Liu, F. Xiao, J. Zhao, J. Xu, and Z. Chen , Hybrid nonlinearity supported by nonconventionally biased photorefractive crystal, *Applied Phys B*, 95, 559 (2009).
2. H. Yi, C. Lou, P. Zhang, S. Liu, F. Xiao, J. Zhao, J. Xu, and Z. Chen , Orientation-dependent excitations of lattice soliton trains with hybrid nonlinearity, *Optics Letters*, 34, 1114 (2009).
- 3.P. Zhang, R. Egger and Z. Chen , Optical induction of three-dimensional photonic lattices and enhancement of discrete diffraction, *Opt. Express*, 17, 13151 (2009).
- 4.N. Malkova, I. Hromada, X. Wang, G. Bryant and Z. Chen , Observation of optical Shockley-like surface states in photonic superlattices, *Opt. Lett.*, 34, 1633 (2009).
- 5.X. Wang and Z. Chen , Beam control and multi-color routing with spatial photonic defect modes, *Opt. Express*, 17, 16927 (2009).
- 6.H. Yi, C. Lou, P. Zhang, J. Xu, J. Yang and Z. Chen , Saddle solitons: a balance between bi-diffraction and hybrid nonlinearity, *Opt. Letters*, 34, 3259 (2009).
7. N. Malkova, I. Hromada, X. Wang, G. Bryant and Z. Chen , Transition between Tamm-like and Shockley-like surface states in optically induced photonic superlattices, *PHYSICAL REVIEW A*, 80, 043806 (2009).
8. I. Hromada, N. Malkova, X. Wang, G. Bryant and Z. Chen , Optical Shockley-like surface states in photonic superlattices, *Opt. & Photonics News*, 20, 23 ("Optics in 2009").
9. K. J. Law, D. Song, P. G. Kevrekidis, J. Xu and Z. Chen , Geometric stabilization of extended $S = 2$ vortices in two-dimensional photonic lattices: theoretical analysis, numerical computation and experimental results, *Physical Review A*. 80, 063817 (2009)
- 10.X. Gan, P. Zhang, S. Liu, Y. Zheng, J. Zhao and Z. Chen , Stabilization and breakup of optical vortices in presence of hybrid nonlinearity, *Optics Express*. 17, 23130-23136

2008

1. C. Lou, D. Song, L. Tang, X. Chen, J. Xu, and Z. Chen , Novel spatial solitons in light-induced photonic bandgap structures, *Frontiers of Physics in China*, 3, 1 (2008) (invited review article).
2. C. Lou, L. Tang, X. Wang, J. Xu, and Z. Chen , Novel spatial gap solitons in photonic lattices, *Physics (Wuli, in Chinese)*, 37, 239 (2008) (invited review article).
3. P. Zhang, J. Zhao, F. Xiao, C. Lou, J. Xu and Z. Chen , Elliptical discrete solitons supported by enhanced photorefractive anisotropy, *Opt. Express*, 16, 3865 (2008).
4. D. Song, C. Lou, L. Tang, X. Wang, W. Li, X. Chen, K. Law, H. Susanto, P. G. Kevrekidis, J. Xu, and Z. Chen , Self-trapping of optical vortices in waveguide lattices with self-defocusing nonlinearity, *Opt. Express*, 16, 10110 (2008).
5. P. Zhang, S. Liu, J. Zhao, C. Lou, J. Xu and Z. Chen , Optically induced transition between discrete and gap solitons in a nonconventionally biased photorefractive crystals, *Opt. Letters*, 33, 878 (2008).
6. X. Wang, A. Samodurov, and Z. Chen , Demonstration of surface soliton arrays at the edge of a two-dimensional photonic lattice, *Opt. Letters*, 33, 1240 (2008).
7. H. Susanto, K. Law, P. G. Kevrekidis, L. Tang, C. Lou, X. Wang, and Z. Chen , Dipole and quadrupole solitons in optically induced two-dimensional defocusing lattices, *Physica D*, 237, 3123 (2008).
8. Z. Shi, J. Wang, Z. Chen and J. Yang, "Linear Instability of Two-Dimensional Low-Amplitude Gap Solitons Near Band Edges in Periodic Media, *Phys. Rev. A*, 78, 063812, (2008).
9. P. Zhang, C. Lou, S. Liu, F. Xiao, J. Zhao, J. Xu and Z. Chen , Band-gap engineering and light manipulation with reconfigurable photonic lattices, *Opt. & Photonics News*, 19, 25 ("Optics in 2008").
10. J. Yang, X. Wang, J. Wang, and Z. Chen , Light localization by defects in optically induced photonic structures, Invited Book Chapter, in *Nonlinearities in Periodic Structures and Metamaterials*, C. Denz, S. Flach, and Y. Kivshar ed., (Springer, 2008).

2007

1. A. Szameit, X. Wang, K. G. Makris, Y. V. Kartashov, T. Pertsch, S. Nolte, Lam Bui, A. Tünnermann, A. Bezryadina, Z. Chen, D. N. Christodoulides, L. Torner, and G. I. Stegeman, "Two-Dimensional Surface Lattice Solitons" , *Optics and Photonics News*, Vol. 18 Issue 12, pp.42-42 (2007).
2. P. Zhang, J. Zhao, C. Lou, X. Tan, Y. Gao, Q. Liu, D. Yang, J. Xu, and Z. Chen , "Elliptical solitons in nonconventionally biased photorefractive crystals, *Optics Express*, Vol. 15 Issue 2, pp.536 - 544 (2007).
3. S. Suntsov, K. G. Makris, G. A. Siviloglou, R. Iwanow, R. Schiek, D.N. Christodoulides, G.I. Stegeman, R. Morandotti, H. Yang, G. Salamo, M. Volatier, V. Aimez, R. Arès, M. Sorel, Y. Min, W. Sohler, X. Wang, A. Bezryadina and Z. Chen, "Observation of One- and Two-Dimensional Discrete Surface Spatial Solitons" , *J. Nonlinear Opt. Phys. & Mats.*(Invited review paper)
4. X. Wang, Z. Chen, J. Wang, and J. Yang, Observation of in-band lattice Solitons," *Phys. Rev. Lett.*, 99, 243901 (2007).
5. C. Lou, X. Wang, J. Xu, Z. Chen, and J. Yang, "Nonlinear Spectrum Reshaping and Gap-Soliton-Train Trapping in Optically Induced Photonic Structures," *Phys. Rev. Lett.*, 98, 213903 (2007).
6. L. Tang, C. Lou, X. Wang, D. Song, X. Chen, J. Xu, Z. Chen, H. Susanto, K. Law, and P. G. Kevrekidis "Observation of dipole-like gap solitons in self-defocusing waveguide lattices" *Opt. Lett.*, Vol. 32, Issue 20, pp. 3011-3013(2007)

- 7.X. Wang, A. Bezryadina and Z. Chen, K G. Makris, D. N. Christodoulides, and G. I. Stegeman, "Observation of two-dimensional surface solitons," *Phys. Rev. Lett.*, 98, 123903 (2007).
- 8.Z. Chen, J. Yang, *Nonlinear Optics and Applications, Optically-Induced Reconfigurable Photonic Lattices for Linear and Nonlinear Control of Light*, (2007)
- 9.J. Wang, J. Yang,Z. Chen, *Two-Dimensional Defect Modes in Optically Induced Photonic Lattices* *Phys. Rev. A* 76, 013828 (2007).

2006

- 1.X. Wang, Z. Chen , and P. G. Kevrekidis, Observation of discrete solitons and soliton rotation in periodic ring lattices, *Phys. Rev. Lett.* 96, 083904 (2006). [[Download PDF](#)]
- 2.J. Yang, and Z. Chen , Defect solitons in optically-induced photonic lattices, *Phys. Rev. E* 73, 026609 (2006). [[Download PDF](#)]
- 3.C. Lou, J. Xu, L. Tang, Z. Chen , and P. G. Kevrekidis, Symmetric and anti-symmetric solitons in two-dimensional lattices, *Opt. Lett.* 31, 492 (2006). [[Download PDF](#)]
- 4.X. Wang, Z. Chen , and J. Yang, Guiding light in optically induced ring lattices with a low-refractive-index core, *Opt. Lett.* 31, 1887 (2006). [[Download PDF](#)] (Published also in June 19, 2006 issue of *Virtual Journal of Nanoscale Science & Technology*.)
- 5.I. Makasyuk, Z. Chen , and J. Yang, "Bandgap guidance in optically-induced photonic lattices with a negative defect" , *Phys. Rev. Lett.* 96, 223903 (2006). [[Download PDF](#)] (Published also in June 19, 2006 issue of *Virtual Journal of Nanoscale Science & Technology*.)
- 6.A. Bezryadina*, E. Evgenieva and Z. Chen , "Self-trapping and flipping of doubly-charged vortices in optically-induced lattices" , *Opt. Lett.* 31, 2456 (2006). [[Download PDF](#)]
- 7.X. Wang, J. Young*, Z. Chen and J. Yang, "Observation of lower to higher bandgap transition of one-dimensional defect modes" , *Opt. Express* 14, 7362 (2006). [[Download PDF](#)]
- 8.A. Bezryadina*, D. Neshev, A. Desyatnikov, J. Young*, Z. Chen , and Y. Kivshar, "Observation of angular momentum transfer and charge flipping due to nonlinear vortex-lattice interaction" , *Opt. Express* 14, 8317 (2006). [[Download PDF](#)]
- 9.X. Wang, I. Makasyuk, Z. Chen and J. Yang, "Guiding light in optically induced PCF-like structures" , December Special Issue *Optics & Photonics News* (2006). [[Download PDF](#)]
- 10.T. Kapitula, P.G. Kevrekidis, Z. Chen , "Three is a crowd: Solitary waves in photorefractive media with three potential wells" , *SIAM Journal in Applied Dynamical Systems* to appear in (2006).

2005

- 1.M. Asaro*, M. Sheldon*, Z. Chen , O. Ostroverkhova and W. E. Moerner, Soliton-induced waveguides in a photorefractive organic glass, *Opt. Lett.* 30, 519 (2005). [[Download PDF](#)]
- 2.Z. Chen , H. Martin*, E. D. Eugenieva, J. Xu, J. Yang, and D. N. Christodoulides, Formation of discrete solitons in light-induced photonic lattices, focus issue in *Opt. Express*. 13, 1816 (2005). [[Download PDF](#)]
- 3.Z. Chen , H. Martin*, A. Bezryadina*, D.N. Neshev, Y.S. Kivshar, D. N. Christodoulides, Experiments on Gaussian beams and vortices in optically-induced photonic lattices, special issue in *J. Opt. Soc. Am. B*, accepted (2005). [[Download PDF](#)]
- 4.J. Yang, I. Makasyuk, H. Martin*, P.G. Kevrekidis, B.A. Malomed, D.J. Frantzeskakis, and Z. Chen , Necklace-like solitons in optically induced photonic lattices, *Phys. Rev. Lett.* 94, 113902 (2005). [[Download PDF](#)]
- 5.Z. Chen , J. Xu, C. Lou, *Novel Discrete Solitons in Light-induced Photonic Lattices*, *Physics (Wuli)*, 34, 12 (2005). (invited review article, in Chinese). [[Download PDF](#)]

6. Francesco Fedele, Jianke Yang, Z. Chen, Defect Modes in One-dimensional Photonic Lattices, *Opt. Lett.* 30, 1506 (2005). [[Download PDF](#)]
7. P. G. Kevrekidis, Z. Chen, B.A. Malomed, D.J. Frantzeskakis, and M.I. Weinstein. Spontaneous Symmetry Breaking in Photonic Lattices: Theory and Experiment. *Phys. Lett. A*, accepted (2005). [[Download PDF](#)]
8. Francesco Fedele, Jianke Yang, Z. Chen, Properties of Defect Modes in One-dimensional Optically-induced Photonic Lattices, focus issue in *Stud. Appl. Math.* accepted (2005). [[Download PDF](#)]

2004

1. D. Neshev, Y. S. Kivshar, H. Martin*, and Z. Chen, Soliton stripes in two-dimensional nonlinear photonic lattices, *Opt. Lett.* 29, 486, (2004). [[Download PDF](#)]
2. H. Martin*, E. D. Eugenieva, Z. Chen, and D. N. Christodoulides, Discrete solitons and soliton-induced dislocations in partially coherent photonic lattices, *Phys. Rev. Lett.* 92, 123902 (2004). [[Download PDF](#)]
3. Z. Chen, H. Martin*, E. D. Eugenieva, J. Xu and A. Bezryadina*, Anisotropic enhancement of discrete diffraction and discrete soliton trains in partially coherent photonic lattices, *Phys. Rev. Lett.* 92, 143902 (2004). [[Download PDF](#)]
4. D.N. Neshev, T.J. Alexander, E.A. Ostrovskaya, and Y.S. Kivshar, H. Martin*, I. Makasyuk and Z. Chen, Observation of discrete vortex solitons in optically-induced photonic lattices, *Phys. Rev. Lett.* 92, 123903 (2004). [[Download PDF](#)]
5. C. Lou, J. Xu, H. Qiao, X. Zhang, Y. Chen and Z. Chen, Enhanced second-harmonic generation by means of high-power confinement in a photovoltaic soliton-induced waveguide, *Opt. Lett.* 29, 953, (2004). [[Download PDF](#)]
6. P.G. Kevrekidis, B. A. Malomed, Z. Chen, and D.J. Frantzeskakis, Stable higher charge vortices in the discrete nonlinear Schrodinger equation, submitted to *Phys. Rev. E* 70, 056612 (2004). [[Download PDF](#)]
7. Z. Chen, J. Yang, A. Bezryadina, and I. Makasyuk, Observation of two-dimensional lattice vector solitons, *Opt. Lett.* 29, 1656 (2004). [[Download PDF](#)]
8. J. Yang, A. Bezryadina*, I. Makasyuk, and Z. Chen, Dipole solitons in two-dimensional optically-induced photonic lattices, *Opt. Lett.* 29, 1662 (2004). [[Download PDF](#)]
9. J. Yang, A. Bezryadina*, I. Makasyuk, and Z. Chen, Dipole and quadrupole solitons in optically-induced two-dimensional photonic lattices: theory and experiment, *Stud. Appl. Math.* 113, 389 (2004). [[Download PDF](#)]
10. J. W. Fleischer, D.N. Neshev, G. Bartal, Tristram J. Alexander, Oren Cohen, E. A. Ostrovskaya, Ofer Manela, H. Martin*, Jared Hudock, Igor Makasyuk, Z. Chen, D. N. Christodoulides, Yuri S. Kivshar, and M. Segev, Observation of discrete vortex solitons in 2D photonic lattices, *Opt. & Photonic News*, 15, 30 (2004) (December special issue, Optics in 2004). [[Download PDF](#)]

2003

1. Z. Chen and H. Martin*, Waveguides and waveguide arrays formed by incoherent light in photorefractive materials, *Optical Materials*, 23, 235 (2003). [[Download PDF](#)]
2. Z. Chen, M. Segev, and D.N. Christodoulides, "Experiments on partially coherent photorefractive solitons", in a special issue of *Journal of Optics A: Pure and Applied Optics*, 5, S389, 2003 (invited review article). [[Download PDF](#)]
3. Z. Chen, M. Asaro*, O. Ostroverkhova, W. E. Moerner, M. He and R. J. Twieg, Self-trapping of light in a photorefractive organic glass, *Opt. Lett.* 28, 2509, (2003). [[Download PDF](#)]

2002

1. Z. Chen, S. Sears, H. Martin*, M. Segev and D. N. Christodoulides, "Clustering of solitons in weakly-correlated wavefronts", the Proceedings of the National Academy of Sciences, USA, (PNAS), 99, 5223 (2002) [[Download PDF](#)]

2. Z. Chen, J. Klinger* and D. N. Christodoulides, "Induced modulation instability of incoherent light with varying perturbation periods" , Physical Review E, 66, 066601 (2002). [[Download PDF](#)]
3. Z. Chen and K. MacCarthy*, "Spatial soliton pixels from partially coherent light" , Optical Letters, 27, 2019 (2002). [[Download PDF](#)]
4. Z. Chen, K. MacCarthy* and H. Martin*, Photonic lattices induced by partially coherent light, Optics and Photonic News, December 2002. [[Download PDF](#)]

Publications Prior to 2002

A List of Earlier Publications [[Download PDF](#)]



南开大学
Nankai University

物理科学学院

天津市卫津路94号 [300071]
南开大学物理学院版权所有
津教备0061号 津ICP备12003308号-1



南开物理



NKPhysics



陈志刚

招生专业: 光学,光子学与光子技术,凝聚态物理
电话:

邮箱: zgchen@nankai.edu.cn
办公地点:



1670 访问

教学经历

课题组负责人:



陈志刚

兼职讲座教授:



Hrvoje Buljan

专任教师:

		
宋道红	胡毅	唐莉勤

博士后: Domenico Bongiovanni、夏士齐

在读博士研究生: 燕文超、胡志婵、雷思弘、贾鹏博、伍浩、王佳艺、谢雨卿、宋立敏、贺瑜、

钟琦、詹晶谚、梁永胜、高申一、张玉洁、杨国文、王孜腾、王向东

在读硕士研究生: 王钧谦、徐笑言、孙煜博、薛邦达、熊剑琪、唐慧妍、侯福成、侯靖





南开大学 物理科学学院
Nankai University SCHOOL OF PHYSICS

个人资料

个人概况

研究方向

研究成果

社会兼职

教学经历

荣誉称号



陈志刚

招生专业: 光学,光子学与光子技术,凝聚态物理
电话:

邮箱: zgchen@nankai.edu.cn
办公地点:



1670 访问

荣誉称号

2009年入选美国光学学会会士(Fellow), 2015年入选美国物理学会会士(Fellow)。



南开大学
Nankai University

物理科学学院

天津市卫津路94号 [300071]

南开大学物理学院版权所有

津教备0061号 津ICP备12003308号-1



南开物理



NKPhysics