

教师介绍

赵 健

来源: 更新时间: 2019-09-03

姓 名	赵健
职 称	副教授
所在系别	光电信息工程系
所属课题组	光子系统实验室
电子邮件	enzhaojian@tju.edu.cn
办公地址	天津大学26楼C区603
主讲课程	《光通信基础》、《光通信技术基础》
导师类型	光学工程(光学工程专业学位)——硕导
通讯地址	天津大学精密仪器与光电子工程学院
邮政编码	300072



个人经历

2013.6-至今 天津大学精仪学院 教师
2010.12-2013.6 天津理工大学 教师
2006.9-2010.11 香港理工大学 博士
2003.9-2006.7 南开大学 硕士
1999.9-2003.7 天津大学 学士
2016.12-2018.1 美国中佛罗里达大学CREOL访问学者
2012.8-2012.10 香港理工大学 访问学者
2013.9-2013.10 香港理工大学 访问学者

赵健老师多次受邀在国际顶级专业学术会议上发表论文, 并做口头报告和海报报告, 多次受学术杂志邀请撰写邀请论文以及受邀参加学术杂志编委会。在天津大学工作期间, 在学校的大力支持下, 本人负责光子系统实验室建设, 经费投入1200万元, 经过三年左右建设, 2015年光子系统实验室已经建立起完备的光纤通信、传输与器件测试实验平台, 并协助课题组牵头申请并获得国家973计划项目, 2016.12至2018.1赵健老师赴美国三大光学中心之一的中佛罗里达大学光学院进行访问学者进修一年, 期间独立完成了与美国Fujitsu公司的合作项目一项, 相关成果当年发表在Photonics Journal杂志上。本人还参与了香港理工大学与华为公司合作开展的100 Gb/s高速光通信系统关键技术研究项目, 作为项目参与者研制出亚太区第一套100 Gb/s DQPSK光通信系统样机。赵健老师先后参与或完成多项科研课题, 包括“973”项目, 国家重大仪器专项, 自然科学基金仪器项目等, 国内外共发表高水平论文50余篇, 其中30余篇为第一作者或通信作者。Google Scholar 统计显示, 总引用近千次。

研究方向

光纤通信, 空分复用, 相干光传输, 光信号处理, 非线性光学, 光纤传感, DSP, 光纤设计, 深度学习, AI

科研项目

- 7芯3模光纤模式复用与解复用器研究与制备, 国家重点课题, 2018-2019, 项目负责人
- 多模复用光纤通信基础研究 国家973计划项目, 2014-2018, 课题实际PI
- 国家自然科学基金, 400Gb/s光纤通信系统关键技术研究 2014.1-2016.12, 项目负责人
- 天津市高等学校科技发展基金, 传输损伤与光信号性能监测方法研究 (20110704), 2011.11-2014.10, 项目负责人
- Optical Impairments Identification and monitoring(G-YF50), 香港理工大学项目, 2007.03-2010.04, 20万港币, 第二完成人
- Optical signal monitoring system using polarization maintaining fiber Bragg grating(G-YF65), 香港理工大学项目, 2007.03-2010.04, 25万港币, 第三完成人
- High speed optical transmission systems (100Gb/s system)(ZG06), 香港理工大学与华为公司合作项目, 2007.07-2010.06, 426万6千港币, 第五完成人
- 基于少模技术的新型波分系统, 华为公司合作项目, 在研, 2800万, 排名第二
- 相干光系统中的非线性补偿算法, 中兴公司合作项目, 课题, 20万, 排名第二

论文、专著

Journal papers:

- J. Zhao*, I. Kim, O. Vassilieva, T. Ikeuchi, W. Wang, H. Wen and G. Li, "Minimizing the number of spans for terrestrial fiber-optic systems using quasi-single-mode transmission," IEEE Photonics Journal, Vol. 10(1), 1-10, 2018. (SCI, IF=2.627)
- H. Zhang, Jian Zhao*, Z. Yang, G. Peng and Z. Di, "Low-DMGD, Large-effective-area and Low-bending-loss 12-LP-mode Fiber for Mode-division-multiplexing," IEEE Photonics Journal, Vol. 11(4), 7203808, 2019. (SCI, IF=2.7)
- Y. Liu, Z. Han, J. Zhao*, Z. Yang, L. Yu, W. Wang, "Simultaneous Beat-Length Measurement of a Polarization-Maintaining Few-Mode Fiber," IEEE Photonics Journal, Vol. 11(5), 7102806, 2019. (SCI, IF=2.7)
- Wei Wang, Jian Zhao*, Huang Yu, Zhiqun Yang, Yichi Zhang, Zhenzhen Zhang, Cheng Guo, Guifang Li, "Demonstration of 6×10-Gb/s MIMO-Free Polarization- and Mode-Multiplexed Transmission," IEEE Photon. Technol. Lett., Vol. 30, no. 15, pp. 1372-1375, 2018. (SCI, IF=2.446)
- Zhiqun Yang, Jian Zhao*, Neng Bai, Ezra Ip, Ting Wang, Zhihong Li, and Guifang Li, "Experimental demonstration of adaptive VFF-RLS-FDE for long-distance mode-division multiplexed transmission," Optics Express, vol.26, no.14, pp. 18362-18367, 2018. (SCI, IF=3.356)
- Y. Liu, Z. Yang, J. Zhao, L. Zhang, Z. Li and G. Li, "Intrinsic loss of few mode fibers," Optics Express, Vol. 26, pp. 2107-2116, 2018. (SCI, IF=3.356)
- B. Huang, J. Zacarias, H. Liu, N. Fontaine, H. Chen, R. Ryf, F. Poletti, J. Hayes, J. Antonio-Lopez, Jian Zhao, R. Correa, and G. Li, "Triple-Clad Photonic Lanterns for Mode Scaling," Optics Express, vol. 26, no.10, pp. 13390-13396, 2018. (SCI, IF=3.356)
- C. Guo, Z. Zhang, N. Zhao, L. Cui, X. Li, Jian Zhao, and G. Li, "Design of Elliptical Few-Mode Fibers for Mode Coupling-Free Parametric Amplification," JOSA B, vol. 35, no. 3, pp. 545-551, 2018. (SCI, IF=2.048)
- H. Wen, H. Liu, Y. Zhang, J. Zhao, P. Sillard, R. Correa and G. Li, "Few-mode lensed fibers," Journal of Lightwave Technology 36 (24), pp. 5794-5799, 2018. (SCI, IF=3.652)
- Z. Wang, Z. Wang, Y. Liu, R. He, J. Zhao, G. Wang and G. Yang, "Self-organized compound pattern and pulsation of dissipative solitons in a passively mode-locked fiber laser," Optics letters 43 (3), pp. 478-481, 2018. (SCI, IF=3.589)
- W. Wang, J. Zhao*, Z. Yang, C. Li, Z. Wang, L. Yu and R. Mi, "Amplified spontaneous Emission and Rayleigh Scattering in Few-Mode Fiber Raman Amplifiers," IEEE Photon. Technol. Lett., vol. 29, pp.1159-1162, 2017. (SCI, IF=2.446)
- W. Wang, J. Zhao*, L. Zhang, Q. Mo, Z. Yang, C. Li, Z. Wang, Z. Zhang, C. Carboni and G. Li, "4×10Gb/s MIMO-free polarization and mode group-multiplexing for data center applications," IEEE Photon. Technol. Lett., vol. 29, pp. 1711-1714, 2017. (SCI, IF=2.446)
- 李超, 赵健*, 王伟, 杨志群, 王震, 米瑞龙, 余丽莹, "4×100Gbit/s少模光纤长距离准单模双向传输的实验研究", 中国激光, 44(2), 2017
- W. Wang, X. R. Ma, L. Chen, S. Zhang and Jian Zhao, "Measurement of Optical Frequency Stability by Using Spectral-Hole Burning," Chinese Physics Letters, 2012, 29(10): 100601. (SCI, IF=0.847)
- Jian Zhao*, Alan Pak Tao Lau, K. K. Qureshi, Chao Lu, X. R. Ma, H. Y. Tam and P. K. A. Wai, "Signed frequency offset measurement for direct detection DPSK system with a chromatic dispersion offset," Optics Express, vol.18, no. 23, pp. 23829-23836, Nov. 2010. (SCI, IF=3.356)
- Jian Zhao*, Alan Pak Tao Lau, Chao Lu, H. Y. Tam and P. K. A. Wai, "Signed and accurate measurement of phase offset in optical DPSK demodulator," IEEE Photon. Technol. Lett., vol.22, no.14, pp.10118-1020, Jul. 2010. (SCI, IF=2.446)
- Jian Zhao*, Alan Pak Tao Lau, K. K. Qureshi, Zhaohui Li, Chao Lu and H. Y. Tam, "Chromatic dispersion monitoring for DPSK system using RF power spectrum," J. Lightw. Technol., vol. 27, no. 24, pp. 5704-5709, Dec. 2009. (SCI, IF=3.356)
- Jian Zhao*, Zhaohui Li, Dawei Liu, Linghao Cheng, Chao Lu and H. Y. Tam, "NRZ-DPSK and RZ-DPSK signal signed chromatic dispersion monitoring using asynchronous delay-tap sampling," J. Lightw. Technol., vol. 27, no.23, pp. 5295-5301, Dec. 2009. (SCI, IF=3.652)
- Zhaohui Li, Jian Zhao, Linghao Cheng, Yanfu Yang, Chao Lu, Alan Pak Tao Lau, Changyuan Yu, H. Y. Tam and P. K. A. Wai, "Signed chromatic dispersion monitoring of 100Gbit/s CS-RZ DQPSK signal by evaluating the asymmetry ratio of delay tap sampling," Optics Express., vol. 18, no.3, pp. 3149-3157, Feb. 2010. (SCI, IF=3.356)
- K. K. Qureshi, Jian Zhao, Chao Lu, H. Y. Tam, P. K. A. Wai, "Tunable polarization maintaining fiber Bragg grating based OSNR monitor," Optical Fiber Technology, vol. 16, no. 4, pp. 222-224, Aug. 2010. (SCI, IF=1.35)
- L. Y. Shao, Jian Zhao, Xinyong Dong, H. Y. Tam, C. Lu, and Sailing He, "Long-period grating fabricated by periodically tapering standard single-mode fiber," Applied Optics, vol. 47, pp. 1549-1552, 2008. (SCI, IF=1.791)
- L. Jin, W. Zhang, H. Zhang, B. Liu, Jian Zhao et al., "An embedded FBG sensor for simultaneous measurement of stress and temperature," IEEE Photon. Technol. Lett., vol. 18, pp. 154-156, 2006. (SCI, IF=2.446)

Conference papers and presentations:

- W. Wang, J. Zhao*, H. Yu, L. Zhang, Z. Yang, Y. Zhang and G. Li, "MIMO-free space-division-multiplexing for data center applications," SPIE Photonics West 2018.
- Wei Wang, Jian Zhao*, Lin Zhang, Qi Mo, Zhiqun Yang, Chao Lu, Zhenzhen Zhang, Cheng Guo, and Guifang Li, "4×10 Gb/s Polarization- and Mode Group-Multiplexing for Data Center Applications," CLEO 2017 paper SW115.
- C. Li, J. Zhao*, L. Zhang, Q. Mo, Z. Yang, W. Wang and G. Li, "Long haul transmission of 4×100Gb/s DP-QPSK signals over 2800 km with span lengths greater than 250 km," CLEO 2017, paper Stu3M.4.
- L. Yu, J. Zhao*, Q. Mo, L. Zhang and G. Li, "Simultaneous measurement of temperature and strain based on a polarization-maintaining few-mode fiber," OFC 2017, paper W3H.6.
- Z. Wang, H. Wu, X. Hu, N. Zhao, Z. Yang, F. Tan, J. Zhao, Q. Mo, and G. Li, "Rayleigh Backscattering in Few-Mode Optical Fibers," OFC 2016, paper W4F. 6.
- Z. Yang, Jian Zhao*, N. Bai, et al., "Experimental demonstration of adaptive recursive least square frequency-domain equalization for long-distance mode-division multiplexed transmission," ECOC 2015, pp: 1-3.
- Z. Yang, J. Zhao*, N. Bai, et al., "A Feasible Adaptive Recursive Least Square Frequency-Domain Algorithm for Equalization of Mode-Division Multiplexed Fiber Transmission," ACP 2015: ASuSD. 3.
- F. Tan, Jian Zhao*, Q. Mo, et al., "A Modified Spatial and Spectral (S 2) Imaging System Based On Electromagnetic Disturbance Mitigation," ACP 2015: ASu2A. 43.
- Jian Zhao*, Alan Pak Tao Lau, Zhaohui Li, Chao Lu and H. Y. Tam, "Signed chromatic dispersion monitoring for DPSK signal based on delay-tap sampling," Conference on Lasers and Electro-Optics (CLEO) 2010, paper JThE51.
- Jian Zhao*, Chao Lu and H. Y. Tam, "Nonlinear effect on residual dispersion monitoring of DPSK signals using delay-tap sampling and Hausdorff distance measure," Opto-Electronics and Communications Conference (OECC), 2009, paper ThLP79.
- Jian Zhao*, Zhaohui Li, Chao Lu, K. K. Qureshi and H. Y. Tam, "Optical signal monitoring for 10Gb/s NRZ WDM transmission system using cross-correlation method," 7th International Conference on Information, Communications and Signal Processing (ICICS), Dec. 2009, paper WeA6.6.
- Jian Zhao*, Chao Lu and H. Y. Tam, "OSNR and chromatic dispersion monitoring of DPSK signals based on PM-AM conversion and RF spectrum analysis," 7th International Conference on Information, Communications and Signal Processing (ICICS), Dec. 2009, paper TuA6.5.
- Jian Zhao*, Zhaohui Li, K. K. Qureshi, A. P. T. Lau, Chao Lu and H. Y. Tam, "In-service chromatic dispersion monitoring based on imperfect phase tuned delay interferometer for NRZ-DPSK systems," Proc. SPIE, Asia Communications and Photonics Conference and Exhibition (ACP) 2009, vol. 7362, paper 7362-18.
- Jian. Zhao*, C. Lu, K. M. Lam, Z. H. Li, H. Y. Tam, and P. K. Wai, "A novel optical signal monitoring method of DPSK signal based on delay tap sampling and Hausdorff Distance measure," in Conference on Lasers and Electro-Optics (CLEO), 2008, paper JWA108.
- Jian Zhao*, Chao Lu, Zhaohui Li, H. Y. Tam, P. K. A. Wai, "Optical signal monitoring of DPSK signals using RF power detection", Opto-Electronics and Communications Conference (OECC), 2008, paper WeK-5.
- Jian Zhao*, K. K. Qureshi, Zhao hui Li, Chao Lu, H. Y. Tam and P. K. A. Wai, "Chromatic dispersion monitoring of DPSK signals using RF power detection", Proc. SPIE., Asia-Pacific Optical Communications (APOC) 2008, vol. 7136, paper 7136-52.
- Z. Li, Jian Zhao, Linghao Cheng, Yanfu Yang, Chao Lu, Alan Pak Tao Lau, H. Y. Tam and P. K. A. Wai, "100Gbit/s RZ-DQPSK signal monitoring using delay tap sampling and asymmetry ratio evaluation" Opto-Electronics and Communications Conference (OECC), 2009, paper FW7.
- L. Y. Shao, Jian Zhao Xinyong Dong, H. Y. Tam, C. Lu, and Sailing He, "Long-period grating fabricated using resistive filament heating," 19th International Conference on Optical Fibre Sensors (OFS), 2008, vol. 7004.

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入选天津市“131”创新型人才培养工程
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