# Stephen E Ralph

List of Publications by Year
in descending order

| | | | |
|---|---|---|---|
| 67 papers | 413 citations | 840776 11 h-index | 839539 18 g-index |
| 67 all docs | 67 docs citations | 67 times ranked | 450 citing authors |

| # | Article | IF | Citations |
|---|---------|-----|-----------|
| 1 | Constellation-based identification of linear and nonlinear OSNR using machine learning: a study of link-agnostic performance. Optics Express, 2022, 30, 2693. | 3.4 | 4 |
| 2 | Behavioral PAM-4 VCSEL Model using Stochastic Multimode Rate Equations for Link Design Optimization. , 2022, , . | | 1 |
| 3 | Accelerating Assessments of Optical Components Using Machine Learning: TDECQ as Demonstrated Example. Journal of Lightwave Technology, 2021, 39, 64-72. | 4.6 | 5 |
| 4 | Analytic Equations for Photonic Frequency Converter Design. Journal of Lightwave Technology, 2021, , 1-1. | 4.6 | 1 |
| 5 | Synthetic Pockels Modulators in Silicon. , 2021, , . | | 0 |
| 6 | High Performance Microwave Photonic Downconversion in a Commercial InP Platform. , 2021, , . | | 4 |
| 7 | Impairment Identification for PAM-4 Transceivers and Links Using Machine Learning. , 2021, , . | | 2 |
| 8 | Robust Topology Optimization for Foundry-Photonics Inverse Design: Examining Compact and Arbitrary Power Splitters. , 2021, , . | | 1 |
| 9 | Spectral Spacing Estimation in Gridless Nyquist-WDM Systems using Local Binary Patterns. , 2021, , . | | 1 |
| 10 | Supermode Dynamics for VCSEL Modulation. , 2021, , . | | 4 |
| 11 | Design Guide for Photonic Frequency Converters. , 2021, , . | | 0 |
| 12 | Multi-Objective Laser Rate Equation Based Parameter Extraction Using VCSEL Small Signal Response and RIN Spectra. Journal of Lightwave Technology, 2020, 38, 6437-6445. | 4.6 | 4 |
| 13 | High-Performance Fully Integrated Silicon Photonic Microwave Mixer Subsystems. Journal of Lightwave Technology, 2020, 38, 5536-5545. | 4.6 | 13 |
| 14 | Frequency Dependent ENoB Requirements for 400G/600G/800G Optical Links. Journal of Lightwave Technology, 2020, 38, 5008-5016. | 4.6 | 10 |
| 15 | Optical performance monitoring using digital coherent receivers and convolutional neural networks. Optics Express, 2020, 28, 32087. | 3.4 | 18 |
| 16 | Joint Linear and Nonlinear Noise Estimation of Optical Links by Exploiting Carrier Phase Recovery. , 2020, , . | | 6 |
| 17 | TDECQ Sensitivity to Algorithmic Implementation and Noise Characterization. , 2020, , . | | 3 |
| 18 | Convolutional Recurrent Machine Learning for OSNR and Launch Power Estimation: A Critical Assessment. , 2020, , . | | 3 |

| # | Article | IF | Citations |
|---|---------|-----|-----------|
| 19 | 55 Gbps error free data transmission with 980 nm VCSELs across 100 m of multiple-mode optical fiber. , 2019, , . | | 1 |
| 20 | Silicon Photonic Modulator Linearity and Optimization for Microwave Photonic Links. IEEE Journal of Selected Topics in Quantum Electronics, 2019, 25, 1-10. | 2.9 | 22 |
| 21 | Convolutional Neural Networks for Optical Performance Monitoring. , 2019, , . | | 1 |
| 22 | Photonic Integrated Circuits for Simultaneous Channelization and Downconversion. , 2019, , . | | 0 |
| 23 | Identification of Soft Failures in Optical Links Using Low Complexity Anomaly Detection. , 2019, , . | | 21 |
| 24 | Microwave Photonic Links: Optimizing SiP Modulator Design and Operation. , 2019, , . | | 2 |
| 25 | Frequency Dependent ENoB Requirements for M-QAM Optical Links: An Analysis Using an Improved Digital to Analog Converter Model. Journal of Lightwave Technology, 2018, 36, 4082-4089. | 4.6 | 33 |
| 26 | Parameter Extraction through Joint Optimization of Modulation Response and RIN Spectra. , 2018, , . | | 3 |
| 27 | Noise in VCSEL-Based Links: Direct Measurement of VCSEL Transverse Mode Correlations and Implications for MPN and RIN. Journal of Lightwave Technology, 2017, 35, 698-705. | 4.6 | 20 |
| 28 | VCSEL-Based PAM-4 Links up to 62 Gbit/s Over OM3, OM4, and WB-MMF: Performance Comparison at 850 nm and 1050 nm. Journal of Lightwave Technology, 2017, 35, 1614-1623. | 4.6 | 14 |
| 29 | Implementing DACs in High Speed Optical Link Simulations. , 2017, , . | | 6 |
| 30 | Blind polarization identification and demultiplexing using statistical learning. , 2017, , . | | 2 |
| 31 | Optical signal reconstruction using transmit-side DSP. , 2017, , . | | 0 |
| 32 | Photonic frequency conversion for dynamic spectral access and signal remoting. , 2016, , . | | 0 |
| 33 | Raised cosine pulse shapes for next generation MMF links. , 2016, , . | | 1 |
| 34 | Adaptive nonsymmetrical demodulation based on machine learning to mitigate time-varying impairments. , 2016, , . | | 1 |
| 35 | ENoB requirements for non-square 64-QAM. , 2016, , . | | 5 |
| 36 | Autonomous receiver architecture for multi-gigabit photonic assisted RF signals. , 2015, , . | | 0 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Simple nonlinear post-compensator for coherent detection. , 2015, , . | | 0 |
| 38 | A novel channel estimation technique for transmitter side narrowband filtering compensation. , 2015, , . | | 0 |
| 39 | Autonomous identification and detection for multi-gigabit photonic assisted wireless links. , 2015, , . | | 2 |
| 40 | Photonic frequency downconversion link theory and simulation. , 2014, , . | | 0 |
| 41 | Experimental demonstration of 51.56 Gbit/s PAM-4 at 905nm and impact of level dependent RIN. , 2014, , . | | 8 |
| 42 | Performance comparison of autonomous software-defined coherent optical receivers. , 2014, , . | | 1 |
| 43 | New model for Mode Partition Noise and relative intensity noise in VCSEL-based optical links. , 2013, , . | | 3 |
| 44 | Lattice-reduction-aided Wiener filtering for communications over ISI channels. , 2012, , . | | 0 |
| 45 | Digital pre-compensation of inter-channel crosstalk for superchannel systems. , 2012, , . | | 0 |
| 46 | In-Band Crosstalk Transmission Penalties on 112-Gb/s PDM-QPSK Optical Links. IEEE Photonics Technology Letters, 2011, 23, 745-747. | 2.5 | 10 |
| 47 | DQPSK for Terabit Ethernet in the 1310 nm band. , 2011, , . | | 1 |
| 48 | Nonlinearity-enhanced crosstalk effects for a 112 Gb/s PDM-QPSK transmission over 1620-km SSMF. , 2011, , . | | 0 |
| 49 | Offset QPSK for 112 Gb/s coherent optical links. , 2010, , . | | 2 |
| 50 | Block linear coherent detection of optical continuous phase modulation. , 2010, , . | | 0 |
| 51 | Dispersion map optimization of single and Dual-Pol QPSK in the presence of aggressor channels. , 2010, , . | | 0 |
| 52 | 100 m, 40 Gb/s Plastic Optical Fiber Link. , 2008, , . | | 10 |
| 53 | 40-Gb/s in Plastic Optical Fiber. , 2008, , . | | 0 |
| 54 | 10 Gb/s, 850 nm VCSEL based large core POF links. , 2008, , . | | 2 |

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|---|---------|-----|-----------|
| 55 | High Data Rate Multimode Fiber Access Systems. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , . | 0.0 | 1 |
| 56 | Mode coupling: Why POF Supports 40Gbps. , 2007, , . | | 5 |
| 57 | 40Gbps links using plastic optical fiber. , 2007, , . | | 8 |
| 58 | Scalability of line excitation THz arrays. , 2007, , . | | 0 |
| 59 | Scalability of Line Excitation THz Arrays. , 2007, , . | | 0 |
| 60 | Bidirectional DFEs for 10Gb/s Ethernet over Multimode Fiber Links: Complexity Reduction and Reach Extension. , 2007, , . | | 0 |
| 61 | Receiver-side adaptive opto-electronic chromatic dispersion compensation. , 2007, , . | | 5 |
| 62 | Raman Amplification in Multimode Fiber. IEEE Photonics Technology Letters, 2007, 19, 218-220. | 2.5 | 22 |
| 63 | Mode Coupling in Plastic Optical Fiber Enables 40-Gb/s Performance. IEEE Photonics Technology Letters, 2007, 19, 1254-1256. | 2.5 | 21 |
| 64 | Electronic Equalization of Multikilometer 10-Gb/s Multimode Fiber Links: Mode-Coupling Effects. Journal of Lightwave Technology, 2006, 24, 4885-4894. | 4.6 | 40 |
| 65 | III-nitride integration on ferroelectric materials of lithium niobate by molecular beam epitaxy. Applied Physics Letters, 2005, 87, 171107. | 3.3 | 34 |
| 66 | Spectral method for the simultaneous determination of uncorrelated and correlated amplitude and timing jitter. Applied Physics Letters, 2002, 80, 3694-3696. | 3.3 | 11 |
| 67 | Hole-induced transient bandgap renormalization: A mechanism for photo-induced absorption in defect-engineered semiconductors. Applied Physics Letters, 2000, 76, 1722-1724. | 3.3 | 15 |