

# Stanford

---



## Joseph Kahn

Professor of Electrical Engineering

### Bio

---

#### BIO

Joseph M. Kahn is a Professor of Electrical Engineering at Stanford University. His research addresses communication and imaging through optical fibers, including modulation, detection, signal processing and spatial multiplexing. He received A.B. and Ph.D. degrees in Physics from U.C. Berkeley in 1981 and 1986. From 1987-1990, he was at AT&T Bell Laboratories, Crawford Hill Laboratory, in Holmdel, NJ. He was on the Electrical Engineering faculty at U.C. Berkeley from 1990-2003. In 2000, he co-founded StrataLight Communications, which was acquired by Opnext, Inc. in 2009. He received the National Science Foundation Presidential Young Investigator Award in 1991 and is a Fellow of the IEEE.

#### ACADEMIC APPOINTMENTS

- Professor, Electrical Engineering
- Member, Bio-X

#### ADMINISTRATIVE APPOINTMENTS

- Chair, Academic Affairs Committee, Department of Electrical Engineering, (2012- present)

#### HONORS AND AWARDS

- Fellow, IEEE (2000)
- Presidential Young Investigator, National Science Foundation (1991-1996)
- Hoover Faculty Scholar, Stanford University (2003-2005)

#### PROFESSIONAL EDUCATION

- PhD, University of California, Berkeley , Physics (1986)
- MS, University of California, Berkeley , Physics (1983)
- BA, University of California, Berkeley , Physics (1981)

#### LINKS

- Profile at EE Department: <http://ee.stanford.edu/~jmk>
- Curriculum Vitae: <http://ee.stanford.edu/~jmk/biographical/Joseph.M.Kahn.resume.pdf>
- Google Scholar Profile: <http://scholar.google.com/citations?user=D22GptUAAAAJ&hl=en>

## Teaching

---

### COURSES

#### 2023-24

- Advanced Optical Fiber Communications: EE 348 (Aut)
- Signals and Systems I: EE 102A (Win)

#### 2022-23

- Digital Communication: EE 379 (Win)
- Introduction to Optical Fiber Communications: EE 247 (Aut)
- Signal Processing and Linear Systems I: EE 102A (Win)

#### 2021-22

- Advanced Optical Fiber Communications: EE 348 (Aut)
- Signal Processing and Linear Systems I: EE 102A (Win)

#### 2020-21

- Digital Communication: EE 379 (Win)
- Introduction to Optical Fiber Communications: EE 247 (Aut)
- Signal Processing and Linear Systems I: EE 102A (Win)

### STANFORD ADVISEES

#### Doctoral Dissertation Reader (AC)

Oguz Tolga Celik, Hongxiang Jia, Richelle Smith

#### Doctoral Dissertation Advisor (AC)

Elizabeth Chen, Ethan Liang, Anirudh Vijay

#### Orals Evaluator

Adele Zawada

#### Master's Program Advisor

Evan Cheng, Ben Choi, Erika Hunting, Rebecca Refaei

#### Doctoral (Program)

Mohammed Azzouz, Elizabeth Chen, Jonathan Fisher, Hongxiang Jia, Oleksiy Krutko, Louise Schul, Anirudh Vijay

## Publications

---

### PUBLICATIONS

- **Geometric Shaping for Distortion-Limited Intensity Modulation/Direct Detection Data Center Links** *IEEE PHOTONICS JOURNAL*  
Liang, E. M., Kahn, J. M.  
2023; 15 (6)
- **Optimal Shaping for the Stokes Vector Receiver** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Jia, H., Liang, E., Kahn, J. M.  
2023; 41 (22): 6884-6897
- **Design of Mode-Locked Semiconductor Laser Comb-Based Analog Coherent Links** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Chen, E., Coldren, L. A., Kahn, J. M.

2023; 41 (18): 5930-5941

- **Efficient Integrated Multimode Amplifiers for Scalable Long-Haul SDM Transmission** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Srinivas, H., Krutko, O., Kahn, J. M.  
2023; 41 (15): 4989-5002
- **Differential Edge Modulation Signaling for Low-Energy, High-Speed Wireline Communication** *IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS I-REGULAR PAPERS*  
Smith, R. L., Hossain, M., Werner, C. W., Kahn, J. M., Lee, T. H.  
2023
- **Effect of Higher-Order Modal Dispersion in Direct-Detection Mode-Division-Multiplexed Links** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Vijay, A., Kahn, J. M.  
2023; 41 (6): 1670-1683
- **Impact and Mitigation of Mode-Dependent Gain in Ultra-Long-Haul SDM Systems**  
Mello, D. A., Ospina, R. B., Srinivas, H., Choutagunta, K., Chou, E., Kahn, J. M., IEEE  
IEEE.2023
- **Phase Noise Analysis of Resonator-Enhanced Electro-Optic Comb-Based Analog Coherent Receivers** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Chen, E., Buscaino, B., Kahn, J. M.  
2022; 40 (21): 7117-7128
- **High-efficiency and broadband on-chip electro-optic frequency comb generators** *NATURE PHOTONICS*  
Hu, Y., Yu, M., Buscaino, B., Sinclair, N., Zhu, D., Cheng, R., Shams-Ansari, A., Shao, L., Zhang, M., Kahn, J. M., Loncar, M.  
2022
- **Successive Interference Cancellation on Frequency-Selective Channels With Mode-Dependent Gain** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Chou, E. S., Kahn, J. M.  
2022; 40 (12): 3729-3738
- **Phase Retrieval-Based Coherent Receivers: Signal Design and Degrees of Freedom** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Chou, E. S., Srinivas, H., Kahn, J. M.  
2022; 40 (5): 1296-1307
- **Modal Multiplexing and Atmospheric Turbulence Mitigation in Free-Space Optical Communications**  
Kahn, J. M., Belmonte, A., IEEE  
IEEE.2022
- **Optimal modes for spatially multiplexed free-space communication in atmospheric turbulence** *OPTICS EXPRESS*  
Belmonte, A., Kahn, J. M.  
2021; 29 (26): 43556-43566
- **Modeling and Experimental Measurement of Power Efficiency for Power-Limited SDM Submarine Transmission Systems** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Srinivas, H., Downie, J. D., Hurley, J., Liang, X., Himmelreich, J., Perin, J., Mello, D. A., Kahn, J. M.  
2021; 39 (8): 2376-86
- **External vs. Integrated Light Sources for Intra-Data Center Co-Packaged Optical Interfaces** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Buscaino, B., Chen, E., Stewart, J. W., Pham, T., Kahn, J. M.  
2021; 39 (7): 1984-96
- **Coherent Data Center Links** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Perin, J., Shastri, A., Kahn, J. M.  
2021; 39 (3): 730-41
- **Designing High-Performance Multimode Fibers Using Refractive Index Optimization** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Choutagunta, K., Kahn, J. M.  
2021; 39 (1): 233-42
- **High-efficiency and broadband electro-optic frequency combs using coupled lithium-niobate microresonators**

Hu, Y., Yu, M., Buscaino, B., Sinclair, N., Zhu, D., Shams-Ansari, A., Shao, L., Zhang, M., Kahn, J. M., Loncar, M., IEEE  
IEEE.2021

● **Phase Retrieval-Based Coherent Receivers**

Chou, E. S., Srinivas, H., Kahn, J. M., IEEE  
IEEE.2021

● **Experimental Characterization of Power Efficiency for Power-Limited SDM Submarine Transmission Systems**

Downie, J. D., Hurley, J., Liang, X., Himmelreich, J., Srinivas, H., Perin, J., Mello, D. A., Kahn, J. M., IEEE  
IEEE.2021

● **Adaptive Coding and Modulation for Robust Optical Access Networks** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

Chou, E. S., Kahn, J. M.  
2020; 38 (8): 2242–52

● **Effect of atmospheric turbulence on timing instability for partially reciprocal two-way optical time transfer links** *PHYSICAL REVIEW A*

Taylor, M. T., Belmonte, A., Hollberg, L., Kahn, J. M.  
2020; 101 (3)

● **Design of Efficient Resonator-Enhanced Electro-Optic Frequency Comb Generators** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

Buscaino, B., Zhang, M., Loncar, M., Kahn, J. M.  
2020; 38 (6): 1400–1413

● **Adapting Mach-Zehnder Mesh Equalizers in Direct-Detection Mode-Division-Multiplexed Links** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

Choutagunta, K., Roberts, I., Miller, D. B., Kahn, J. M.  
2020; 38 (4): 723–35

● **Impact of Polarization- and Mode-Dependent Gain on the Capacity of Ultra-Long-Haul Systems**

Mello, D. A., Srinivas, H., Choutagunta, K., Kahn, J. M.  
IEEE-INSTITUTION OF ELECTRICAL ENGINEERS INC.2020: 303–18

● **Two-Way Time and Frequency Transfer via Ground-to-Satellite Optical Communications Links**

Taylor, M. T., Kahn, J. M., Hollberg, L., Inst Navigat  
INST NAVIGATION.2020: 207–15

● **Data Center Links Beyond 100 Gb/s per Wavelength**

Kahn, J. M., Perin, J., Shastri, A., IEEE  
IEEE.2020

● **Impact and Mitigation of Polarization- or Mode-Dependent Gain in Ultra-Long-Haul Systems**

Srinivas, H., Chou, E. S., Mello, D. A., Choutagunta, K., Kahn, J. M., IEEE  
IEEE.2020

● **Multi-Tb/s-per-Fiber Coherent Co-Packaged Optical Interfaces for Data Center Switches** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

Buscaino, B., Taylor, B. D., Kahn, J. M.  
2019; 37 (13): 3401–12

● **Importance of Amplifier Physics in Maximizing the Capacity of Submarine Links** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

Perin, J., Kahn, J. M., Downie, J. D., Hurley, J., Bennett, K.  
2019; 37 (9): 2076–85

● **Broadband electro-optic frequency comb generation in a lithium niobate microring resonator** *NATURE*

Zhang, M., Buscaino, B., Wang, C., Shams-Ansari, A., Reimer, C., Zhu, R., Kahn, J. M., Loncar, M.  
2019; 568 (7752): 373-

● **Efficient Quantification and Simulation of Modal Dynamics in Multimode Fiber Links** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

Choutagunta, K., Roberts, I., Kahn, J. M.  
2019; 37 (8): 1813–25

● **Broadband electro-optic frequency comb generation in a lithium niobate microring resonator.** *Nature*

Zhang, M., Buscaino, B., Wang, C., Shams-Ansari, A., Reimer, C., Zhu, R., Kahn, J. M., Loncar, M.

2019

- **Mode-Multiplexed Transmission Within and Across Mode Groups of a Multimode-Fiber**

Wittek, S., Ryf, R., Fontaine, N. K., Choutagunta, K., Mazur, M., Chen, H., Alvarado-Zacarias, J., Capuzzo, M., Kopf, R., Tate, A., Safar, H., Bolle, C., Neilson, et al  
IEEE.2019

- **Coherent Co-packaged Optical Interfaces for Next-Generation Electrical Switches**

Buscaino, B., Kahn, J. M., Taylor, B. D., IEEE  
IEEE.2019

- **Modal Dynamics in Spatially Multiplexed Links**

Choutagunta, K., Ryf, R., Fontaine, N., Wittek, S., Alvarado-Zacarias, J., Mazur, M., Chen, H., Essiambre, R., Amezcu-Correa, R., Hayashi, T., Tamura, Y., Hasegawa, T., Taru, et al  
IEEE.2019

- **Scaling SDM Optical Networks Using Full-Spectrum Spatial Switching** *JOURNAL OF OPTICAL COMMUNICATIONS AND NETWORKING*

Jatoba-Neto, A. C., Mello, D. A., Rothenberg, C. E., Arik, S. O., Kahn, J. M.  
2018; 10 (12): 991–1004

- **Characterizing Mode-Dependent Loss and Gain in Multimode Components** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

Choutagunta, K., Arik, S. O., Ho, K., Kahn, J. M.  
2018; 36 (18): 3815–23

- **Data center links beyond 100 Gbit/s per wavelength** *OPTICAL FIBER TECHNOLOGY*

Perin, J., Shastri, A., Kahn, J. M.  
2018; 44: 69–85

- **Measurement-Based Optimization of Channel Powers With Non-Gaussian Nonlinear Interference Noise** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

Roberts, I., Kahn, J. M.  
2018; 36 (13): 2746–56

- **Low-Complexity Implementation of Convex Optimization-Based Phase Retrieval** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

Arik, S. O., Kahn, J. M.  
2018; 36 (12): 2358–65

- **Channel Power Optimization of WDM Systems Following Gaussian Noise Nonlinearity Model in Presence of Stimulated Raman Scattering (vol 35, pg 5237, 2017)** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

Roberts, I., Kahn, J. M., Harley, J., Boertjes, D.  
2018; 36 (11): 2309

- **DSP-Free Coherent Receivers for Data Center Links**

Perin, J., Shastri, A., Kahn, J. M., IEEE  
IEEE.2018

- **Data Center Links Beyond 100 Gbit/s per Wavelength**

Perin, J., Shastri, A., Kahn, J. M., He, S., Lee, E. H.  
SPIE-INT SOC OPTICAL ENGINEERING.2018

- **Improving the Capacity of Terrestrial and Submarine Systems via Channel Power Optimization**

Perin, J., Roberts, I., Kahn, J. M., Jaworski, M., Marciniak, M.  
IEEE.2018

- **Approaching fundamental limits to free-space communication through atmospheric turbulence**

Belmonte, A., Kahn, J. M., Dingel, B. B., Tsukamoto, K., Mikroulis, S.  
SPIE-INT SOC OPTICAL ENGINEERING.2018

- **Stable Measurement of Effective Area in Coupled Multi-core Fiber**

Chou, E. S., Hayashi, T., Nagashima, T., Kahn, J. M., Nakanishi, T., IEEE  
IEEE.2018

- **Channel Power Optimization of WDM Systems Following Gaussian Noise Nonlinearity Model in Presence of Stimulated Raman Scattering** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Roberts, I., Kahn, J. M., Harley, J., Boertjes, D. W.  
2017; 35 (23): 5237–49
- **Optical MIMO Signal Processing for Direct-Detection Mode-Division Multiplexing**  
Choutagunta, K., Arik, S. O., Moradshahi, M., Kahn, J. M., IEEE  
IEEE.2017
- **Scaling Optical Networks Using Full-Spectrum Spatial Switching**  
Jatoba-Neto, A. C., Rothenberg, C. E., Mello, D. A., Arik, S. O., Kahn, J. M., IEEE  
IEEE.2017
- **Sensitivity Improvement in 100 Gb/s-per-Wavelength Links Using Semiconductor Optical Amplifiers or Avalanche Photodiodes** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Perin, J. K., Sharif, M., Kahn, J. M.  
2016; 34 (23): 5542-5553
- **Direct-detection mode-division multiplexing in modal basis using phase retrieval** *OPTICS LETTERS*  
Arik, S. O., Kahn, J. M.  
2016; 41 (18): 4265-4268
- **Space-time reference with an optical link** *CLASSICAL AND QUANTUM GRAVITY*  
Berceau, P., Taylor, M., Kahn, J., Hollberg, L.  
2016; 33 (13)
- **Convex Channel Power Optimization in Nonlinear WDM Systems Using Gaussian Noise Model** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Roberts, I., Kahn, J. M., Boertjes, D.  
2016; 34 (13): 3212-3222
- **Group Delay Management and Multiinput Multioutput Signal Processing in Mode-Division Multiplexing Systems** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Arik, S. O., Ho, K., Kahn, J. M.  
2016; 34 (11): 2867-2880
- **Modulation Schemes for Single-Laser 100 Gb/s Links: Multicarrier** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Perin, J. K., Sharif, M., Kahn, J. M.  
2015; 33 (24): 5122-5132
- **Capacity limits of spatially multiplexed free-space communication** *NATURE PHOTONICS*  
Zhao, N., Li, X., Liu, G., Kahn, J. M.  
2015; 9 (12): 822-826
- **Delay Spread Reduction in Mode-Division Multiplexing: Mode Coupling Versus Delay Compensation** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Arik, S. O., Ho, K., Kahn, J. M.  
2015; 33 (21): 4504-4512
- **Design of flexible multi-mode fiber endoscope** *OPTICS EXPRESS*  
Gu, R. Y., Mahalati, R. N., Kahn, J. M.  
2015; 23 (21): 26905-26918
- **Modulation Schemes for Single-Laser 100 Gb/s Links: Single-Carrier** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Sharif, M., Perin, J. K., Kahn, J. M.  
2015; 33 (20): 4268-4277
- **Long-Period Fiber Gratings for Mode Coupling in Mode-Division-Multiplexing Systems** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Askarov, D., Kahn, J. M.  
2015; 33 (19): 4032-4038
- **Performance of Direct-Detection Mode-Group-Division Multiplexing Using Fused Fiber Couplers** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

- Gasulla, I., Kahn, J. M.  
2015; 33 (9): 1748-1760
- **Roles of spectral and spatial aggregation in optical network scaling** *Conference on Next-Generation Optical Communication - Components, Sub-Systems, and Systems IV*  
Arik, S. O., Ho, K. P., Kahn, J. M.  
SPIE-INT SOC OPTICAL ENGINEERING.2015
  - **Array Receivers in Downlink Coherent Lasercom** *Conference on Free-Space Laser Communication and Atmospheric Propagation XXVII*  
Belmonte, A., Kahn, J. M.  
SPIE-INT SOC OPTICAL ENGINEERING.2015
  - **MIMO signal processing in mode-division multiplexing systems** *Conference on Optical Metro Networks and Short-Haul Systems VII*  
Arik, S. O., Askarov, D., Kahn, J. M.  
SPIE-INT SOC OPTICAL ENGINEERING.2015
  - **Optical network scaling: roles of spectral and spatial aggregation** *OPTICS EXPRESS*  
Arik, S. O., Ho, K., Kahn, J. M.  
2014; 22 (24): 29868-29887
  - **Optical network scaling: roles of spectral and spatial aggregation.** *Optics express*  
Arik, S. Ö., Ho, K., Kahn, J. M.  
2014; 22 (24): 29868-29887
  - **Frequency-Derivative Measurement Technique for Dispersive Effects in Single-Mode Fiber Systems** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Askarov, D., Szafraniec, B., Baney, D. M., Kahn, J. M.  
2014; 32 (22): 3854-3861
  - **Wavelength-Selective Switches for Mode-Division Multiplexing: Scaling and Performance Analysis** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Ho, K., Kahn, J. M., Wilde, J. P.  
2014; 32 (22): 3724-3735
  - **Noise-reduction algorithms for optimization-based imaging through multi-mode fiber** *OPTICS EXPRESS*  
Gu, R. Y., Mahalati, R. N., Kahn, J. M.  
2014; 22 (12): 15118-15132
  - **Noise-reduction algorithms for optimization-based imaging through multi-mode fiber.** *Optics express*  
Gu, R. Y., Mahalati, R. N., Kahn, J. M.  
2014; 22 (12): 15118-15132
  - **Diversity-multiplexing tradeoff in mode-division multiplexing.** *Optics letters*  
Arik, S. Ö., Kahn, J. M.  
2014; 39 (11): 3258-3261
  - **Adaptive Modal Gain Equalization Techniques in Multi-Mode Erbium-Doped Fiber Amplifiers** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Mahalati, R. N., Askarov, D., Kahn, J. M.  
2014; 32 (11): 2133-2143
  - **Adaptive Frequency-Domain Equalization in Mode-Division Multiplexing Systems** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Arik, S. O., Askarov, D., Kahn, J. M.  
2014; 32 (10)
  - **Variable-Bandwidth Superchannels Using Synchronized Colorless Transceivers** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Sharif, M., Kahn, J. M.  
2014; 32 (10): 1921-1929
  - **MIMO Signal Processing for Mode-Division Multiplexing [An overview of channel models and signal processing architectures]** *IEEE SIGNAL PROCESSING MAGAZINE*  
Arik, S. O., Kahn, J. M., Ho, K.  
2014; 31 (2): 25-34

- **Coded Modulation for Fiber-Optic Networks** [Toward better tradeoff between signal processing complexity and optical transparent reach] *IEEE SIGNAL PROCESSING MAGAZINE*  
Beygi, L., Agrell, E., Kahn, J. M., Karlsson, M.  
2014; 31 (2): 93-103
- **Linear Propagation Effects in Mode-Division Multiplexing Systems** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Ho, K., Kahn, J. M.  
2014; 32 (4): 614-628
- **Optical Networking With Variable-Code-Rate Transceivers** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Mello, D. A., Barreto, A. N., de Lima, T. C., Portela, T. F., Beygi, L., Kahn, J. M.  
2014; 32 (2): 257-266
- **Rate-Adaptive Coded Modulation for Fiber-Optic Communications** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Beygi, L., Agrell, E., Kahn, J. M., Karlsson, M.  
2014; 32 (2): 333-343
- **Rate-Adaptive Coded Modulation for Fiber-Optic Communications** *J.of Lightwave Technol.*  
Beygi, L., Agrell, E., Kahn, J., M.  
2014; 32 (2): 333-343
- **Multimode Transmission Technologies** *19th OptoElectronics and Communication Conference (OECC) / 39th Australian Conference on Optical Fibre Technology (ACOFT)*  
Ip, E., Li, M., Gu, R. Y., Kahn, J.  
IEEE.2014: 237–239
- **Optical Networking with Variable-Code-Rate Transceivers** *J. of Lightwave Technol.*  
Mello, D., A. A., Barreto, A., N., Lima, T., C., Portela, T., F., Beygi, L., Kahn, J., M.  
2014; 32 (2): 257-266
- **Coupled-Core Multi-Core Fibers for Spatial Multiplexing** *IEEE PHOTONICS TECHNOLOGY LETTERS*  
Arik, S. O., Kahn, J. M.  
2013; 25 (21): 2054-2057
- **Sequential Optimization of Adaptive Arrays in Coherent Laser Communications** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Belmonte, A., Kahn, J. M.  
2013; 31 (9): 1383-1387
- **Effect of Mode Coupling on Signal Processing Complexity in Mode-Division Multiplexing** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Arik, S. O., Askarov, D., Kahn, J. M.  
2013; 31 (3): 423-431
- **Resolution limits for imaging through multi-mode fiber** *OPTICS EXPRESS*  
Mahalati, R. N., Gu, R. Y., Kahn, J. M.  
2013; 21 (2): 1656-1668
- **Mode-Division Multiplexing Systems: Propagation Effects, Performance and Complexity** *Conference on Optical Fiber Communication (OFC)/National Fiber Optic Engineers Conference (NFOEC)*  
Kahn, J. M., Ho, K.  
IEEE.2013
- **Experimental Demonstration of a Spatial Light Modulator-based Few-Mode Fiber Switch for Space-Division Multiplexing**  
Gu, R., Y., Ip, E., Li, M., J., Huang, Y., K., Kahn, J., M.  
2013
- **Adaptive Control of Mode-Dependent Gain in Multi-Mode Erbium-Doped Fiber Amplifiers**  
Mahalati, R., Nasiri, Askarov, D., Kahn, J., M.  
2013
- **Mode Coupling and its Impact on Spatially Multiplexed Systems** *Optical Fiber Telecommunications VI B: Systems and Networks*

- Ho, K., P., Kahn, J., M.  
edited by Kaminow, I., P., Li, T., Willner, A., E.  
Elsevier, Amsterdam.2013: 1
- **The Time-Reversed Twin** *Nature Photonics*  
Ip, E., Kahn, J., M.  
2013; 7: 507-508
  - **Adaptive Control of Mode-Dependent Gain in Multi-Mode Erbium-Doped Fiber Amplifiers** *IEEE-Photonics-Society Summer Topical Meeting*  
Mahalati, R. N., Askarov, D., Kahn, J. M.  
IEEE.2013: 107–108
  - **Four-Fold Resolution Increase in Scan-Free Single-Fiber Endoscopic Imaging** *SU2P Symposium, Glasgow*  
Kahn, J., M.  
2013
  - **Design of Transmission Fibers and Doped Fiber Amplifiers for Mode-Division Multiplexing** *IEEE PHOTONICS TECHNOLOGY LETTERS*  
Askarov, D., Kahn, J. M.  
2012; 24 (21): 1945-1948
  - **Delay-Spread Distribution for Multimode Fiber With Strong Mode Coupling** *IEEE PHOTONICS TECHNOLOGY LETTERS*  
Ho, K., Kahn, J. M.  
2012; 24 (21): 1906-1909
  - **Rate-Adaptive Modulation and Low-Density Parity-Check Coding for Optical Fiber Transmission Systems** *JOURNAL OF OPTICAL COMMUNICATIONS AND NETWORKING*  
Gho, G., Kahn, J. M.  
2012; 4 (10): 760-768
  - **Bandwidth-Scalable Long-Haul Transmission Using Synchronized Colorless Transceivers and Efficient Wavelength-Selective Switches** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Barros, D. J., Kahn, J. M., Wilde, J. P., Abou Zeid, T.  
2012; 30 (16): 2646-2660
  - **Adaptive control of input field to achieve desired output intensity profile in multimode fiber with random mode coupling** *OPTICS EXPRESS*  
Mahalati, R. N., Askarov, D., Wilde, J. P., Kahn, J. M.  
2012; 20 (13): 14321-14337
  - **Rate-Adaptive Modulation and Coding for Optical Fiber Transmission Systems** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Gho, G., Kahn, J. M.  
2012; 30 (12): 1818-1828
  - **Effect of fog on free-space optical links employing imaging receivers** *OPTICS EXPRESS*  
Mahalati, R. N., Kahn, J. M.  
2012; 20 (2): 1649-1661
  - **Comparison of Orthogonal Frequency-Division Multiplexing and Pulse-Amplitude Modulation in Indoor Optical Wireless Links** *IEEE TRANSACTIONS ON COMMUNICATIONS*  
Barros, D. J., Wilson, S. K., Kahn, J. M.  
2012; 60 (1): 153-163
  - **Blind Adaptation of Channel-Matched Receivers in Free-Space Coherent Laser Communication**  
Belmonte, A., Kahn, J., M.  
2012
  - **Multi-Carrier versus Single-Carrier Intensity Modulation Techniques for Indoor Optical Wireless Links**  
Kahn, J., M., Barros, Daniel, J. F., Wilson, S. K.  
2012
  - **Field Conjugation Adaptive Arrays for Reliable Space Downlink Coherent Laser Communications**  
Belmonte, A., Kahn, J., M.

2012

● **Mode Coupling Effects in Mode-Division-Multiplexed Systems**

Kahn, J., M., Ho, K., P.

2012

● **Design of Multi-Mode Erbium-Doped Fiber Amplifiers for Low Mode-Dependent Gain**

Askarov, D., Kahn, J., M.

2012

● **Mode-Coupling Effects in Multimode Fibers**

Kahn, J., M., Ho, K., P., Shemirani, M., B.

2012

● **Mode Coupling in Coherent Mode-Division-Multiplexed Systems: Impact on Capacity and Signal Processing Complexity** *46th Asilomar Conference on Signals, Systems and Computers*

Kahn, J. M., Ho, K.

IEEE.2012: 650–653

● **Frequency Diversity in Mode-Division Multiplexing Systems** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

Ho, K., Kahn, J. M.

2011; 29 (24): 3719-3726

● **Statistics of Group Delays in Multimode Fiber With Strong Mode Coupling** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

Ho, K., Kahn, J. M.

2011; 29 (21): 3119-3128

● **Field Conjugation Adaptive Arrays in Free-Space Coherent Laser Communications** *JOURNAL OF OPTICAL COMMUNICATIONS AND NETWORKING*

Belmonte, A., Kahn, J. M.

2011; 3 (11): 830-838

● **Mode-dependent loss and gain: statistics and effect on mode-division multiplexing** *OPTICS EXPRESS*

Ho, K., Kahn, J. M.

2011; 19 (17): 16612-16635

● **Comparison of Orthogonal Frequency-Division Multiplexing and ON-OFF Keying in Direct-Detection Multimode Fiber Links** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

Barros, D. J., Kahn, J. M.

2011; 29 (15): 2299-2309

● **Principal Modes in Graded-Index Multimode Fiber in Presence of Spatial- and Polarization-Mode Coupling (vol 27, pg 1248, 2009)** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

Shemirani, M. B., Mao, W., Panicker, R. A., Kahn, J. M.

2011; 29 (12): 1901-1901

● **Experimental demonstration of two methods for controlling the group delay in a system with photonic-crystal resonators coupled to a waveguide** *OPTICS LETTERS*

Huo, Y., Sandhu, S., Pan, J., Stuhrmann, N., Povinelli, M. L., Kahn, J. M., Harris, J. S., Fejer, M. M., Fan, S.

2011; 36 (8): 1482-1484

● **Rate-Adaptive Coding for Optical Fiber Transmission Systems** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

Gho, G., Klak, L., Kahn, J. M.

2011; 29 (2): 222-233

● **Rate-adaptive modulation and coding for optical fiber transmission systems** *Conference on Coherent Optical Communication - Components, Subsystems, and Systems*

Gho, G., Kahn, J. M.

SPIE-INT SOC OPTICAL ENGINEERING.2011

● **Performance Analysis of Atmospheric Field Conjugation Adaptive Arrays** *Conference on Free-Space Laser Communication Technologies XXIII*

Belmonte, A., Kahn, J. M.

SPIE-INT SOC OPTICAL ENGINEERING.2011

● **Bandwidth-Scalable OFDM Long-Haul Transmission**

Kahn, J., M.  
2011

● **System Architecture for Bandwidth-Scalable OFDM Long-Haul Transmission**

Barros, D., J. F., Kahn, J., M., Wilde, J., P., Zeid, T., Abou  
2011

● **Field Conjugation Adaptive Arrays in Atmospheric Coherent Optical Links**

Belmonte, A., Kahn, J., M.  
2011

● **Spot Formation and Scanning Microscopy via Multimode Fibers IEEE Photonics Conference (PHO)**

Boucher, K. J., Jan, C., Kahn, J. M., Wilde, J. P., Solgaard, O.  
IEEE.2011: 713–714

● **Comparison of Multi-Carrier and Single-Carrier Intensity Modulation Techniques for Indoor Optical Wireless Links IEEE Photonics Conference (PHO)**

Barros, D. J., Kahn, J. M., Wilson, S. K.  
IEEE.2011: 294–295

● **Adaptive Compensation of Multimode Fiber Dispersion by Control of Launched Amplitude, Phase, and Polarization JOURNAL OF LIGHTWAVE TECHNOLOGY**

Shemirani, M. B., Wilde, J. P., Kahn, J. M.  
2010; 28 (18): 2627-2639

● **Capacity of coherent free-space optical links using diversity-combining techniques (vol 17, pg 12601, 2009) OPTICS EXPRESS**

Belmonte, A., Kahn, J. M.  
2010; 18 (17): 17748-17748

● **Compensation of Multimode Fiber Dispersion by Optimization of Launched Amplitude, Phase, and Polarization JOURNAL OF LIGHTWAVE TECHNOLOGY**

Shemirani, M. B., Kahn, J. M.  
2010; 28 (14): 2084-2095

● **Comparison of Orthogonal Frequency-Division Multiplexing and On-Off Keying in Amplified Direct-Detection Single-Mode Fiber Systems JOURNAL OF LIGHTWAVE TECHNOLOGY**

Barros, D. J., Kahn, J. M.  
2010; 28 (12): 1811-1820

● **Hiding Single Photons with Spread Spectrum Technology PHYSICAL REVIEW LETTERS**

Belthangady, C., Chuu, C., Yu, I. A., Yin, G. Y., Kahn, J. M., Harris, S. E.  
2010; 104 (22)

● **Fiber Impairment Compensation Using Coherent Detection and Digital Signal Processing JOURNAL OF LIGHTWAVE TECHNOLOGY**

Ip, E. M., Kahn, J. M.  
2010; 28 (4): 502-519

● **Efficiency of complex modulation methods in coherent free-space optical links OPTICS EXPRESS**

Belmonte, A., Kahn, J. M.  
2010; 18 (4): 3928-3937

● **OFDM vs. OOK with MLSD for IM/DD Systems Conference on Optical Fiber Communication (OFC)/Collocated National Fiber Optic Engineers (NFOEC)**

Barros, D. J., Kahn, J. M.  
IEEE.2010

● **Modulation of Photons and Biphotos**

Harris, S., E., Belthangady, C., Chuu, C., S., Du, S., Kolchin, P., Sensarn, S., Kahn, Joseph, M.  
2010

- **Rate-Adaptive Transmission Techniques for Optical Fiber Systems**  
Kahn, J., M., Gho, G., H.  
2010
- **Understanding the performance of atmospheric free-space laser communications systems using coherent detection** *Conference on Atmospheric and Oceanic Propagation of Electromagnetic Waves IV*  
Belmonte, A., Kahn, J. M.  
SPIE-INT SOC OPTICAL ENGINEERING.2010
- **Understanding the Performance of Atmospheric Free-Space Laser Communications Systems using Coherent Detection**  
Belmonte, A., Kahn, J., M.  
2010
- **Analysis of a Field-Conjugation Adaptive Array for Coherent Free-Space Optical Links**  
Belmonte, A., Kahn, J., M.  
2010
- **Field Conjugation Adaptive Arrays in Atmospheric Coherent Optical Links**  
Belmonte, A., Kahn, J., M.  
2010
- **Principal Modes in Multimode Fiber: Modeling and Compensation of Dispersion**  
Shemirani, M., B., Kahn, J., M.  
VDM Verlag, Saarbrücken, Germany.2010: 1
- **Rate-Adaptive Coding for Optical Fiber Transmission Systems**  
Gho, G., H., Kahn, J., M.  
2010
- **Field Conjugation Adaptive Arrays in Atmospheric Coherent Optical Links** *Globecom Workshops*  
Belmonte, A., Kahn, J. M.  
IEEE.2010: 1026–1030
- **Algorithms for Compensation of Multimode Fiber Dispersion Using Adaptive Optics** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Panicker, R. A., Kahn, J. M.  
2009; 27 (24): 5790-5799
- **Experimental Comparison of Adaptive Optics Algorithms in 10-Gb/s Multimode Fiber Systems** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Panicker, R. A., Lau, A. P., Wilde, J. P., Kahn, J. M.  
2009; 27 (24): 5783-5789
- **Higher-Order Modal Dispersion in Graded-Index Multimode Fiber** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Shemirani, M. B., Kahn, J. M.  
2009; 27 (23): 5461-5468
- **Capacity of coherent free-space optical links using diversity-combining techniques** *OPTICS EXPRESS*  
Belmonte, A., Kahn, J. M.  
2009; 17 (15): 12601-12611
- **Feedforward Carrier Recovery for Coherent Optical Communications (vol25, pg 2675, 2007)** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Ip, E., Kahn, J. M.  
2009; 27 (13): 2552-2553
- **Optical Modulator Optimization for Orthogonal Frequency-Division Multiplexing** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Barros, D. J., Kahn, J. M.  
2009; 27 (13): 2370-2378
- **Principal Modes in Graded-Index Multimode Fiber in Presence of Spatial- and Polarization-Mode Coupling** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Shemirani, M. B., Mao, W., Panicker, R. A., Kahn, J. M.  
2009; 27 (10): 1248-1261

- **Capacity of coherent free-space optical links using atmospheric compensation techniques** *OPTICS EXPRESS*  
Belmonte, A., Kahn, J. M.  
2009; 17 (4): 2763-2773
- **Frequency Noise Characterization of a Widely Tunable Narrow-Linewidth DFB Laser Array Source** *Conference on Optical Fiber Communication (OFC 2009)*  
Wilde, J. P., Yoffe, G. W., Kahn, J. M.  
IEEE.2009: 348–350
- **Principles of Digital Coherent Receivers for Optical Communications**  
Kahn, J., M., Ip, E.  
2009
- **Nonlinear Impairment Compensation using Backpropagation** *Optical Fibre, New Developments*  
Ip, E., Kahn, J., M.  
edited by Lethien, C.  
In-Tech, Vienna Austria.2009: 1
- **Fundamental Limits on Diversity Coherent Reception on Atmospheric Optical Channels**  
Belmonte, A., Kahn, J., M.  
2009
- **Addendum to: Feedforward Carrier Recovery for Coherent Optical Communications** *J. of Lightwave Technol.*  
Ip, E., Kahn, J., M.  
2009; 27 (13): 2552-2553
- **Principal Modes in Graded-Index Multimode Fibers**  
Shemirani, M., B., Kahn, J., M.  
2009
- **Effects of Atmospheric Compensation Techniques on the Performance of Synchronous Receivers**  
Belmonte, A., Kahn, J., M.  
2009
- **Coherent detection in optical fiber systems (vol 16, pg 753, 2008)** *OPTICS EXPRESS*  
Ip, E., Lau, A. P., Barros, D. J., Kahn, J. M.  
2008; 16 (26): 21943-21943
- **Compensation of Dispersion and Nonlinear Impairments Using Digital Backpropagation** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Ip, E., Kahn, J. M.  
2008; 26 (17-20): 3416-3425
- **Performance of synchronous optical receivers using atmospheric compensation techniques** *OPTICS EXPRESS*  
Belmonte, A., Kahn, J. M.  
2008; 16 (18): 14151-14162
- **On the Statistics of Intrachannel Four-Wave Mixing in Phase-Modulated Optical Communication Systems** *Conference on Optical Fiber Communications/ National Fiber Optic Engineers Conference*  
Lau, A. P., Rabbani, S., Kahn, J. M.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2008: 2128–35
- **Lattice codes for amplified direct-detection optical systems** *IEEE TRANSACTIONS ON COMMUNICATIONS*  
Mao, W., Kahn, J. M.  
2008; 56 (7): 1137-1145
- **Optimized Dispersion Compensation Using Orthogonal Frequency-Division Multiplexing** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Barros, D. J., Kahn, J. M.  
2008; 26 (13-16): 2889-2898
- **Compensation of multimode fiber dispersion using adaptive optics via convex optimization** *JOURNAL OF LIGHTWAVE TECHNOLOGY*

- Panicker, R. A., Kahn, J. M., Boyd, S. P.  
2008; 26 (9-12): 1295-1303
- **Coherent detection in optical fiber systems** *OPTICS EXPRESS*  
Ip, E., Lau, A. P., Barros, D. J., Kahn, J. M.  
2008; 16 (2): 753-791
  - **QPSK Transmission over Free-Space Link at 3.8 mu m using Coherent Detection with Wavelength Conversion** *34th European Conference on Optical Communication (ECOC)*  
Ip, E., Buechter, D., Langrock, C., Kahn, J. M., Herrmann, H., Sohler, W., Fejer, M. M.  
IEEE.2008
  - **Performance of Synchronous or Nonsynchronous Receivers Using Atmospheric Compensation Techniques**  
Belmonte, A., Kahn, J., M.  
2008
  - **Compensation of Dispersion and Nonlinearity in WDM Transmission using Simplified Digital Backpropagation**  
Ip, E., Lau, A., P. T., Barros, D., J. F., Kahn, J., M.  
2008
  - **Communication Techniques and Coding for Atmospheric Turbulence Channels** *Free-Space Laser Communications: Principles and Advances*  
Zhu, X., Kahn, J., M.  
edited by Majumdar, A., K., Ricklin, J., C.  
Springer, New York.2008: 1
  - **Compensation of Chromatic Dispersion and Nonlinearity using Simplified Digital Backpropagation**  
Ip, E., Lau, A., P. T., Barros, D., J. F., Kahn, J., M.  
2008
  - **Increasing Optical Fiber Transmission Capacity Beyond Next-Generation Systems**  
Ip, E., Kahn, J., M.  
2008
  - **Performance of Synchronous Receivers using Atmospheric Compensation Techniques** *Optics Express*  
Belmonte, A., Kahn, J., M.  
2008; 16 (18): 14151-14162
  - **Compensation of Dispersion and Nonlinearity in WDM Transmission using Simplified Digital Backpropagation** *IEEE/LEOS Summer Topical Meetings*  
Ip, E., Lau, A. P., Barros, D. J., Kahn, J. M.  
IEEE.2008: 123–124
  - **On the statistics of intra-channel four-wave mixing in phase-modulated systems** *Conference on Optical Fiber Communications/National Fiber Optic Engineers Conference*  
Lau, A. P., Rabbani, S., Kahn, J. M.  
OPTICAL SOC AMERICA.2008: 154–156
  - **Signal design and detection in presence of nonlinear phase noise** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Lau, A. P., Kahn, J. M.  
2007; 25 (10): 3008-3016
  - **Feedforward carrier recovery for coherent optical communications** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Ip, E., Kahn, J. M.  
2007; 25 (9): 2675-2692
  - **Digital equalization of chromatic dispersion and polarization mode dispersion** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Ip, E., Kahn, J. M.  
2007; 25 (8): 2033-2043
  - **10 x 10 Gb/s DWDM transmission through 2.2-km multimode fiber using adaptive optics** *IEEE PHOTONICS TECHNOLOGY LETTERS*  
Panicker, R. A., Wilde, J. P., Kahn, J. M., Welch, D. F., Lyubomirsky, I.

2007; 19 (13-16): 1154-1156

- **Advanced Modulation Formats and Digital Signal Processing in Optical Communications** *Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference*  
Kahn, J. M., Ip, E.  
IEEE.2007: 199–200
- **Compensating Multimode Fiber Dispersion using Adaptive Optics**  
Kahn, J., M.  
2007
- **Spectral Efficiency Limits and How to Approach Them** *Panel Presentation at IEEE LEOS Summer Topical on Advanced Digital Signal Processing in Next-Generation Fiber-Optic Transmission, Portland, OR*  
Kahn, J., M.  
2007
- **16-QAM signal design and detection in presence of nonlinear phase noise** *IEEE LEOS Summer Topical Meeting 2007*  
Lau, A. P., Kahn, J. M.  
IEEE.2007: 53–54
- **Power profile optimization in phase-modulated systems in presence of nonlinear phase noise** *IEEE PHOTONICS TECHNOLOGY LETTERS*  
Lau, A. P., Kahn, J. M.  
2006; 18 (21-24): 2514-2516
- **Design of inline amplifier gains and spacings to minimize the phase noise in optical transmission systems** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Lau, A. P., Kahn, J. M.  
2006; 24 (3): 1334-1341
- **Power spectra of return-to-zero optical signals** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Ip, E., Kahn, J. M.  
2006; 24 (3): 1610-1618
- **Scanning micromirrors fabricated by an SOI/SOI wafer-bonding process** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*  
Zhou, L. X., Kahn, J. M., Pister, K. S.  
2006; 15 (1): 24-32
- **Coherent Optical Communications: Fundamentals and Future Prospects**  
Kahn, J., M., Kazovsky, L., G.  
2006
- **Modulation and Detection Techniques for Optical Communication Systems**  
Kahn, J., M.  
2006
- **Non-Optimality of Distributed Amplification in Presence of Nonlinear Phase Noise**  
Lau, A., P. T., Kahn, J., M.  
2006
- **Electronic Compensation of Linear and Nonlinear Impairments in Phase-Modulated Systems**  
Ho, K., P., Kahn, J., M.  
2006
- **Carrier synchronization for 3-and 4-bit-per-symbol optical transmission** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Ip, E., Kahn, J. M.  
2005; 23 (12): 4110-4124
- **Compensation for multimode fiber dispersion by adaptive optics** *OPTICS LETTERS*  
Shen, X. L., Kahn, J. M., Horowitz, M. A.  
2005; 30 (22): 2985-2987
- **Linewidth measurements of MEMS-based tunable lasers for phase-locking applications** *IEEE PHOTONICS TECHNOLOGY LETTERS*

- Ip, E., Kahn, J. M., Anthon, D., Hutchins, J.  
2005; 17 (10): 2029-2031
- **Principal modes in multimode waveguides** *OPTICS LETTERS*  
Fan, S. H., Kahn, J. M.  
2005; 30 (2): 135-137
  - **Modulation and detection techniques for DWDM systems** *Topical Meeting on Optical Communication Theory and Techniques*  
Kahn, J. M., Ho, K. P.  
SPRINGER.2005: 13–20
  - **Dispersion limitations in optical systems using offset DPSK modulation** *Topical Meeting on Optical Communication Theory and Techniques*  
Wang, J., Kahn, J. M.  
SPRINGER.2005: 173–179
  - **Electronic Compensation of Nonlinear Phase Noise for Phase-Modulated Signals**  
Ho, K., P., Kahn, J., M.  
2005
  - **Spectral Efficiency Limits in DWDM Systems**  
Kahn, J., M., Ho, K., P.  
2005
  - **Compensation of Multimode Fiber Dispersion using Adaptive Optics**  
Shen, X., Kahn, J., M., Horowitz, M., A.  
2005
  - **Accurate bit-error-ratio computation in nonlinear CRZ-OOK and CRZ-DPSK systems** *IEEE PHOTONICS TECHNOLOGY LETTERS*  
Wang, J., Kahn, J. M.  
2004; 16 (9): 2165-2167
  - **Conventional DPSK versus symmetrical DPSK: Comparison of dispersion tolerances** *IEEE PHOTONICS TECHNOLOGY LETTERS*  
Wang, J., Kahn, J. M.  
2004; 16 (6): 1585-1587
  - **Performance of electrical equalizers in optically amplified OOK and DPSK systems** *IEEE PHOTONICS TECHNOLOGY LETTERS*  
Wang, J., Kahn, J. M.  
2004; 16 (5): 1397-1399
  - **Spectral efficiency limits and modulation/detection techniques for DWDM systems** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*  
Kahn, J. M., Ho, K. P.  
2004; 10 (2): 259-272
  - **Electronic compensation technique to mitigate nonlinear phase noise** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Ho, K. P., Kahn, J. M.  
2004; 22 (3): 779-783
  - **Spectrum of externally modulated optical signals** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Ho, K. P., Kahn, J. M.  
2004; 22 (2): 658-663
  - **Free-space heterochronous imaging reception of multiple optical signals** *IEEE TRANSACTIONS ON COMMUNICATIONS*  
Mao, W., Kahn, J. M.  
2004; 52 (2): 269-279
  - **Impact of chromatic and polarization-mode dispersions on DPSK systems using interferometric demodulation and direct detection** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Wang, J., Kahn, J. M.  
2004; 22 (2): 362-371

- **Free-space Heterochronous Imaging Reception of Multiple Optical Signals** *IEEE Trans. on Commun.*  
Mao, W., Kahn, J., M.  
2004; 52 (2): 269-279
- **Equalization of modal dispersion in multimode fiber using spatial light modulators** *IEEE Global Telecommunications Conference (GLOBECOM 04)*  
Alon, E., Stojanovic, V., Kahn, J. M., Boyd, S., Horowitz, M.  
IEEE.2004: 1023–1029
- **Dispersion Limitations in Optical Systems using Offset DPSK Modulation**  
Wang, J., Kahn, J., M.  
2004
- **Modulation and Detection Techniques for DWDM Systems**  
Kahn, J., M., Ho, K., P.  
edited by Forestieri, E.  
Optical Communication Theory and Techniques.2004
- **Dispersion Limitations in Optical Systems using Offset DPSK Modulation**  
Wang, J., Kahn, J., M.  
edited by Forestieri, E.  
Optical Communication Theory and Techniques.2004
- **Equalization of Modal Dispersion in Multimode Fiber using Spatial Light Modulators**  
Alon, E., Stojanović, V., Kahn, J., M., Boyd, S., P., Horowitz, M., A.  
2004
- **Performance bounds for coded free-space optical communications through atmospheric turbulence channels** *IEEE International Conference on Communication*  
Zhu, X. M., Kahn, J. M.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2003: 1233–39
- **Corner-cube retroreflectors based on structure-assisted assembly for free-space optical communication** *JOURNAL OF MICROELECTROMECHANICAL SYSTEMS*  
Zhou, L. X., Kahn, J. M., Pister, K. S.  
2003; 12 (3): 233-242
- **Queueing models of optical delay lines in synchronous and asynchronous optical packet-switching networks** *OPTICAL ENGINEERING*  
Zhu, X. M., Kahn, J. M.  
2003; 42 (6): 1741-1748
- **Mitigation of turbulence-induced scintillation noise in free-space optical links using temporal-domain detection techniques** *IEEE PHOTONICS TECHNOLOGY LETTERS*  
Zhu, X. M., Kahn, J. M., Wang, J.  
2003; 15 (4): 623-625
- **Markov chain model in maximum-likelihood sequence detection for free-space optical communication through atmospheric turbulence channels** *IEEE TRANSACTIONS ON COMMUNICATIONS*  
Zhu, X. M., KAHN, J. A.  
2003; 51 (3): 509-516
- **Two-axis scanning mirror for free-space optical communication between UAVs** *IEEE/LEOS International Conference on Optical MEMS*  
Zhou, L., Last, M., Milanovic, V., Kahn, J. M., Pister, K. S.  
IEEE.2003: 157–158
- **Communication techniques to mitigate atmospheric turbulence in free-space optical links** *16th Annual Meeting of the IEEE Lasers and Electro-Optics Society*  
Zhu, X. M., Kahn, J. M.  
IEEE.2003: 89–90
- **Queueing Models of Optical Delay Lines in Synchronous and Asynchronous Optical Packet-Switching Networks** *Optical Engineering*  
Zhu, X., Kahn, J., M.

2003; 42 (6): 1741-1748

- **Mitigation of Turbulence-Induced Scintillation Noise in Free-Space Optical Links using Temporal-Domain Detection Techniques** *IEEE Photon. Technol. Lett.*  
Zhu, X., Kahn, J., M., Wang, J.  
2003; 15 (4): 623-625
- **Performance Bounds for Coded Free-Space Optical Communications through Atmo-spheric Turbulence Channels** *IEEE Trans. on Commun.*  
Zhu, X., Kahn, J., M.  
2003; 51 (8): 1233-1239
- **Markov Chain Model in Maximum-Likelihood Sequence Detection for Free-Space Opti-cal Communication through Atmospheric Turbulence Channels** *IEEE Trans. on Commun.*  
Zhu, X., Kahn, J., M.  
2003; 51 (3): 509-516
- **Towards a 1 mm<sup>3</sup> Camera: The Field Stitching Micromirror**  
Last, M., Zhou, L., Milanović, V., Kahn, J., M., Pister, K., S. J.  
2003
- **Communication Techniques to Mitigate Atmospheric Turbulence in Free-Space Optical Links**  
Zhu, X., Kahn, J., M.  
2003
- **MEMS for Free-Space Optical Communications**  
Kahn, J., M., Pister, K., S. J., Solgaard, O.  
2003
- **Two-Axis Scanning Mirror for Free-Space Optical Communication between UAVs**  
Zhou, L., Last, M., Milanovic, V., Kahn, J., M., Pister, K., S. J.  
2003
- **Free-space optical communication through atmospheric turbulence channels** *IEEE Global Telecommunications Conference (GLOBECOM 00)*  
Zhu, X. M., Kahn, J. M.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2002: 1293–1300
- **Upper-bounding the capacity of optical IM/DD channels with multiple-subcarrier modulation and fixed bias using trigonometric moment space method** *IEEE TRANSACTIONS ON INFORMATION THEORY*  
You, R., Kahn, J. M.  
2002; 48 (2): 514-523
- **Secure Free-Space Optical Communication Between Moving Platforms**  
Kahn, J., M.  
2002
- **Power-efficient multiple-subcarrier modulation scheme for optical wireless communications** *Conference on Optical Wireless Communications V*  
Yu, B., Kahn, J. M., You, R.  
SPIE-INT SOC OPTICAL ENGINEERING.2002: 41–53
- **Optical modeling of MEMS corner cube retroreflectors with misalignment and nonflatness** *IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS*  
Zhu, X. M., Hsu, V. S., Kahn, J. M.  
2002; 8 (1): 26-32
- **Pilot-symbol assisted modulation for correlated turbulent free-space optical channels** *Conference on Free-Space Laser Communication and Laser Imaging*  
Zhu, X. M., Kahn, J. M.  
SPIE-INT SOC OPTICAL ENGINEERING.2002: 138–145
- **Advanced modulation and signal processing techniques for Gb/s optical transmission systems** *1st Annual Conference on Optical Transmission Systems and Equipment for WDM Networking*  
Ralston, J. D., Kahn, J. M., Ho, K. P.

SPIE-INT SOC OPTICAL ENGINEERING.2002: 24–31

- **Advanced modulation and signal processing techniques for 40 Gb/s optical transmission systems** *Conference on Active and Passive Optical Components for WDM Communications II*

Ralston, J. D., Kahn, J. M., Ho, K. P.

SPIE-INT SOC OPTICAL ENGINEERING.2002: 600–607

- **The role of electronic modulation and signal processing in next generation fiber transport** *15th Annual Meeting of the IEEE-Lasers-and-Electro-Optics-Society*

Ralston, J. D., Kahn, J. M., Ho, K. P.

IEEE.2002: 432–433

- **The Role of Electronic Modulation and Signal Processing in Next-Generation Fiber Transport**

Ralston, J., D., Kahn, J., M., Ho, K., P.

2002

- **An Autonomous 16 mm<sup>3</sup> Solar-Powered Node for Distributed Wireless Sensor Networks**

Warneke, B., A., Scott, M., D., Liebowitz, B., S., Zhou, L., Bellew, C., L., Chediak, J., A., Kahn, Joseph, M.  
2002

- **Minimization of Acquisition Time in Short-Range Free-Space Optical Communication** *Applied Optics*

Wang, J., Kahn, J., M., Lau, K., Y.  
2002; 41 (12): 7592-7602

- **Ultimate Spectral Efficiency Limits in DWDM Systems** *Optical Fiber Commun. Conf.*

Kahn, J., M.  
2002

- **Optical Modeling of MEMS Corner Cube Retroreflectors with Misalignment and Non-flatness** *IEEE. J. on Sel. Topics in Quantum Electron.*

Zhu, X., Hsu, V., S., Kahn, J., M.  
2002; 8 (1): 26-32

- **Free-Space Optical Communication through Atmospheric Turbulence Channels** *IEEE Trans. on Commun.*

Zhu, X., Kahn, J., M.  
2002; 50 (8): 1293-1300

- **Acquisition in Short-range Free-Space Optical Communication**

Wang, J., Kahn, J., M.  
2002

- **Channel Capacity of WDM Systems Using Constant-Intensity Modulation Formats**

Ho, K., P., Kahn, J., M.  
2002

- **Queueing Models of Optical Delay Lines in Synchronized Optical Packet-Switching Networks with Non-Uniform Traffic**

Zhu, X., Kahn, J., M.  
2002

- **Upper-Bounding the Capacity of Optical IM/DD Channels with Multiple-Subcarrier Modulation and Fixed Bias using Trigonometric Moment Space Method** *IEEE Trans. on Information Theory*

You, R., Kahn, J., M.  
2002; 48: 514-523

- **Spectral Efficiency and Coherent Detection in Optical Communications** *Defense Sciences Research Council Workshop on Novel Applications of Optical Coherence, Arlington, VA*

Kahn, J., M.  
2002

- **Assembled corner-cube retroreflector quadruplet** *15th IEEE International Conference on Micro Electro Mechanical Systems (MEMS 2002)*

Zhou, L. X., Pister, K. S., Kahn, J. M.  
IEEE.2002: 556–559

- **Ultimate Spectral Efficiency Limits in DWDM Systems**  
Kahn, J., M., Ho, K., P.  
2002
- **Power-Efficient Multiple-Subcarrier Modulation Scheme for Optical Wireless Communications**  
Yu, B., Kahn, J., M., You, R.  
2002
- **Capacity Scaling in MIMO Wireless Systems Under Correlated Fading** *IEEE Trans. on Information Theory*  
Chuah, C., Tse, D., Kahn, J., M., Valenzuela, R., A.  
2002; 48: 637-650
- **Spectrally Efficient and Impairment-Robust Modulation Techniques for 40 Gb/s Optical Transmission Systems**  
Ralston, J., D., Kahn, J., M., Ho, K., P.  
2002
- **Average power reduction techniques for multiple-subcarrier intensity-modulated optical signals** *IEEE International Conference on Communications*  
You, R., Kahn, J. M.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2001: 2164-71
- **Pairwise Codeword Error Probability for Coded Free-Space Optical Communication through Atmospheric Turbulence Channels**  
Zhu, X., Kahn, J., M.  
2001
- **Capacity bound of optical IM/DD channels using multiple-sub carrier modulation with fixed bias** *2001 IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS, VOLS 1-10, CONFERENCE RECORD*  
You, R., Kahn, J. M.  
2001: 2757-2762
- **Pairwise codeword error probability for coded free-space optical communication through atmospheric turbulence channels** *2001 IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS, VOLS 1-10, CONFERENCE RECORD*  
Zhu, X. M., Kahn, J. M.  
2001: 161-164
- **Free-space heterochronous Imaging reception of multiple optical signals** *35th Asilomar Conference on Signals, Systems and Computers*  
Mao, W., Kahn, J. M.  
IEEE.2001: 18-22
- **Capacity Bound of Optical IM/DD Channels Using Multiple-Subcarrier Modulation with Fixed Bias**  
You, R., Kahn, J., M.  
2001
- **Pilot-Symbol Assisted Modulation for Correlated Turbulent Free-Space Optical Channels**  
Zhu, X., Kahn, J., M.  
2001
- **Free-space Heterochronous Imaging Reception of Multiple Optical Signals**  
Mao, W., Kahn, J., M.  
2001
- **Computing Insertion Loss in MEMS Optical Switches Caused By Non-Flat Mirrors**  
Zhu, X., Kahn, J., M.  
2001
- **Average Power Reduction Techniques for Multiple-Subcarrier Intensity-Modulated Optical Signals** *IEEE Trans. on Commun.*  
You, R., Kahn, J., M.  
2001; 49: 2164-2171
- **A Bottleneck for Optical Fibres** *Nature*  
Kahn, J., M., Ho, K., P.

2001; 411: 1007-1010

- **Analysis of infrared wireless links employing multibeam transmitters and imaging diversity receivers** *IEEE International Conference on Global Communications (GLOBECOM)*

Djahani, P., Kahn, J. M.

IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.2000: 2077-88

- **Emerging challenges: Mobile networking for "Smart Dust"** *JOURNAL OF COMMUNICATIONS AND NETWORKS*

Kahn, J. M., Katz, R. H., Pister, K. S.

2000; 2 (3): 188-196

- **Angle diversity for nondirected wireless infrared communication** *IEEE TRANSACTIONS ON COMMUNICATIONS*

Carruthers, J. B., Kahn, J. M.

2000; 48 (6): 960-969

- **Capacity Scaling in Dual Antenna Array Wireless Systems**

Tse, D., Chuah, C., Kahn, J. M.

2000

- **Average power reduction techniques for multiple-subcarrier intensity-modulated optical signals** *ICC 2000: IEEE INTERNATIONAL CONFERENCE ON COMMUNICATIONS, CONFERENCE RECORD, VOLS 1-3*

You, R., Kahn, J. M.

2000: 1620-1627

- **Maximum-likelihood spatial-diversity reception on correlated turbulent free-space optical channels** *IEEE Global Telecommunications Conference (GLOBECOM 00)*

Zhu, X. M., Kahn, J. M.

IEEE.2000: 1237-1241

- **Maximum-Likelihood Spatial-Diversity Reception on Correlated Turbulent Free-Space Optical Channels**

Zhu, X., Kahn, J., M.

2000

- **Analysis of Infrared Wireless Links Employing Multi-Beam Transmitters and Imaging Diversity Receivers** *IEEE Trans. on Commun.*

Djahani, P., Kahn, J., M.

2000; 48 (12): 2077-2088

- **Performance of Turbo Codes with Two-Branch Diversity and Correlated Fading**

Ohtsuki, T., Kahn, J., M.

2000

- **Capacity Growth of Multi-Ele-ment Arrays in Indoor and Outdoor Wireless Channels**

Chuah, C., Foschini, G., J., Valenzuela, R., A., Chizhik, D., Ling, J., Kahn, J., M.

2000

- **Angle Diversity for Nondirected Wireless Infrared Communication** *IEEE Trans. on Commun.*

Carruthers, J., B., Kahn, J., M.

2000; 48 (6): 960-969

- **Fading Correlation and its Effect on the Capacity of Multi-Ele-ment Antenna Systems** *IEEE Trans. on Commun.*

Shiu, D., Foschini, G., Gans, M., J., Kahn, J., M.

2000; 48: 502-513

- **Average Power Reduction Techniques for Multiple-Subcarrier Intensity-Modulated Opti-cal Signals**

You, R., Kahn, J., M.

2000

- **Emerging Challenges: Mobile Networking for ‘Smart Dust’** *J. of Com-mun. and Networks*

Kahn, J., M., Katz, R., H., Pister, K., S.J.

2000; 2 (3): 188-196

- **Performance Analysis of Linear Binary Block-Coded Optical PPM CDMA Systems with Soft-Decision Decoding**  
Ohtsuki, T., Kahn, J., M.  
2000
- **Capacity Scaling in Dual Antenna Array Wireless Systems**  
Tse, D., Chuah, C., Kahn, J., M.  
2000
- **Turbo-Coded Optical PPM CDMA Systems**  
Ohtsuki, T., Kahn, J., M.  
2000
- **Transfer Function Bounds on Performance of Binary Turbo Coding Followed by M- ary Orthogonal Signal Mapping through Interleaver**  
Ohtsuki, T., Kahn, J., M.  
2000
- **BER Performance of Turbo-Coded PPM CDMA Systems on Optical Fiber** *J. Lightwave Technol.*  
Ohtsuki, T., Kahn, J., M.  
2000; 18 (12): 1776-1784
- **Decision-feedback equalization of pulse-position modulation on measured nondirected indoor infrared channels** *ICC 96 Meeting*  
Audeh, M. D., Kahn, J. M., Barry, J. R.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1999: 500–503
- **Coding and equalization for PPM on wireless infrared channels** *IEEE TRANSACTIONS ON COMMUNICATIONS*  
Lee, D. C., Kahn, J. M.  
1999; 47 (2): 255-260
- **Differential Pulse-Position Modulation for Power-Efficient Optical Communication** *IEEE Trans. on Commun.*  
Shiu, D., Kahn, J., M.  
1999; 47 (8): 1201-1210
- **Analysis of infrared wireless links employing multi-beam transmitters and imaging diversity receivers** *IEEE Global Communications Conference (GLOBECOM 99)*  
Djahani, P., Kahn, J. M.  
IEEE.1999: 497–504
- **Effect of Non-Reciprocity on Infrared Wireless Local-Area Networks**  
Chow, F., Kahn, J., M.  
1999
- **Analysis of Infrared Wireless Links Employing Multi-Beam Transmitters and Imaging Diversity Receivers**  
Djahani, P., Kahn, J., M.  
1999
- **Transfer Function Bounds on Performance of Turbo Codes for M-ary Orthogonal Signals**  
Ohtsuki, T., Kahn, J., M.  
1999
- **Effect of Non-Reciprocity on Infrared Wireless Local-Area Networks**  
Chow, F., Kahn, J., M.  
1999
- **Decision-Feedback Equalization of Pulse-Position Modulation on Measured Non-Directed Indoor Infrared Channels** *IEEE Trans. on Commun.*  
Audeh, M., D., Kahn, J., M., Barry, J., R.  
1999; 47: 500-503
- **Layered Space-Time Codes for Wireless Communications using Multiple Transmit Antennas**  
Shiu, D., Kahn, J., M.  
1999

- **Average-Power Reduction Techniques for Multiple-Subcarrier Optical Intensity Modulation**  
You, R., Kahn, J., M.  
1999
- **Scalable Layered Space-Time Codes for Wireless Communications: Performance Analysis and Design Criteria**  
Shiu, D., Kahn, J., M.  
1999
- **Mobile Networking for ‘Smart Dust’**  
Kahn, J., M., Katz, R., H., Pister, K., S.J.  
1999
- **Coding and Equalization for PPM on Wireless Infrared Channels** *IEEE Trans. on Commun.*  
Lee, D., C., Kahn, J., M.  
1999; 47 (2): 255-260
- **Rate-Adaptive Modulation Techniques for Infrared Wireless Communications**  
Diana, L., Kahn, J., M.  
1999
- **Shaping and Non-Equiprobable Signaling for Intensity-Modulated Signals** *IEEE Trans. on Information Theory*  
Shiu, D., Kahn, J., M.  
1999; 45: 2661-2668
- **Imaging diversity receivers for high-speed infrared wireless communication** *IEEE COMMUNICATIONS MAGAZINE*  
Kahn, J. M., You, R., Djahani, P., Weisbin, A. G., Teik, B. K., Tang, A.  
1998; 36 (12): 88-94
- **Joint design of a channel-optimized quantizer and multicarrier modulation** *IEEE International Conference on Communications*  
Ho, K. P., Kahn, J. M.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1998: 1254–57
- **Experimental 25-Mb/s Wireless Infrared Link Using 4-PPM with Scalar Decision- Feedback Equalization**  
Lee, D., C., Kahn, J., M.  
1998
- **Experimental 25-Mb/s wireless infrared link using 4-PPM with scalar decision-feedback equalization** *IEEE International Conference on Communications*  
Lee, D. C., Kahn, J. M.  
IEEE.1998: 26–30
- **Coding and equalization for PPM on wireless infrared channels** *IEEE Global Telecommunications Conference (GLOBECOM 98)*  
Lee, D. C., Kahn, J. M.  
IEEE.1998: 201–206
- **Angle diversity for nondirected wireless infrared communication** *IEEE International Conference on Communications*  
Carruthers, J. B., Kahn, J. M.  
IEEE.1998: 1665–1670
- **Differential Pulse-Position Modulation for Power-Efficient Optical Communication**  
Shiu, D., Kahn, J., M.  
1998
- **Coding and Equalization for PPM on Wireless Infrared Channels**  
Lee, D., C., Kahn, J., M.  
1998
- **Capacity of Multi-Antenna Array Systems in Indoor Wireless Environment**  
Chuah, C., Tse, D., Kahn, J., M.  
1998

- **Joint Design of Channel-Optimized Quantizer and Multicarrier Modulation** *IEEE Trans. on Commun.*  
Ho, K., P., Kahn, J., M.  
1998; 46 (10): 1254-1257
- **Imaging Diversity Receivers for High- Speed Infrared Wireless Communications** *IEEE Communications Magazine*  
Kahn, J., M., Djahani, P., Weisbin, A., G., Beh, K., T., Tang, A., P., You, R.  
1998; 36 (12): 88-94
- **Angle Diversity for Nondirected Wireless Infrared Communication**  
Carruthers, J., B., Kahn, J., M.  
1998
- **Shaping and Non-Equiprobable Signaling for Intensity-Modulated Signals**  
Shiu, D., Kahn, J., M.  
1998
- **Fading Correlation and its Effect on the Capacity of Multi-Ele-ment Antenna Systems**  
Shiu, D., Foschini, G., Gans, M., J., Kahn, J., M.  
1998
- **Modeling of nondirected wireless infrared channels** *IEEE ICC 96 Meeting*  
Carruthers, J. B., Kahn, J. M.  
IEEE-INST ELECTRICAL ELECTRONICS ENGINEERS INC.1997: 1260-68
- **Channel reuse strategies for indoor infrared wireless communications** *IEEE TRANSACTIONS ON COMMUNICATIONS*  
Marsh, G. W., Kahn, J. M.  
1997; 45 (10): 1280-1290
- **Trellis-coded pulse-position modulation for indoor wireless infrared communications** *IEEE TRANSACTIONS ON COMMUNICATIONS*  
Lee, D. C., Kahn, J. M., Audeh, M. D.  
1997; 45 (9): 1080-1087
- **Wireless infrared communications** *PROCEEDINGS OF THE IEEE*  
Kahn, J. M., Barry, J. R.  
1997; 85 (2): 265-298
- **Channel Reuse Strategies for Indoor Infrared Wireless Communications** *IEEE Trans. on Commun.*  
Marsh, G., W., Kahn, J., M.  
1997; 45 (10): 1280-1290
- **Image transmission over noisy channels using multicarrier modulation** *SIGNAL PROCESSING-IMAGE COMMUNICATION*  
Ho, K. P., Kahn, J. M.  
1997; 9 (2): 159-169
- **Wireless Infrared Communications**  
Kahn, J., M., Barry, J., R.  
1997
- **Image Transmission Over Noisy Channels Using Multicarrier Modulation** *Signal Processing: Image Communication*  
Ho, K., P., Kahn, J., M.  
1997; 9 (2): 159-169
- **Infrared Wireless Communications: Recent Results** *DIMACS (Center for Discrete Mathematics and Theoretical Computer Science) Workshop on Network Switching, Princeton, NJ*  
Kahn, J., M.  
1997
- **Modeling of Nondirected Wireless Infrared Channels** *IEEE Trans. on Com-mun.*  
Carruthers, J., B., Kahn, J., M.  
1997; 45 (10): 1260-1268

- **Effect of electronic-ballast fluorescent lighting on wireless infrared links** *IEE PROCEEDINGS-OPTOELECTRONICS*  
Narasimhan, R., Audeh, M. D., Kahn, J. M.  
1996; 143 (6): 347-354
- **Transmission of analog signals using multicarrier modulation: A combined source-channel coding approach** *IEEE TRANSACTIONS ON COMMUNICATIONS*  
Ho, K. P., Kahn, J. M.  
1996; 44 (11): 1432-1443
- **Performance evaluation of experimental 50-Mb/s diffuse infrared wireless link using on-off keying with decision-feedback equalization** *IEEE TRANSACTIONS ON COMMUNICATIONS*  
Marsh, G. W., Kahn, J. M.  
1996; 44 (11): 1496-1504
- **Optimal predistortion of gaussian inputs for clipping channels** *IEEE TRANSACTIONS ON COMMUNICATIONS*  
Ho, K. P., Kahn, J. M.  
1996; 44 (11): 1505-1513
- **Performance of pulse-position modulation on measured non-directed indoor infrared channels** *IEEE TRANSACTIONS ON COMMUNICATIONS*  
Audeh, M. D., Kahn, J. M., Barry, J. R.  
1996; 44 (6): 654-659
- **Methods for crosstalk measurement and reduction in dense WDM systems** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Ho, K. P., Kahn, J. M.  
1996; 14 (6): 1127-1135
- **Multiple-subcarrier modulation for nondirected wireless infrared communication** *IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS*  
Carruthers, J. B., Kahn, J. M.  
1996; 14 (3): 538-546
- **Effect of electronic-ballast fluorescent lighting on wireless infrared links** *1996 IEEE International Conference on Communications - Converging Technologies for Tomorrows Applications (ICC 96)*  
Narasimhan, R., Audeh, M. D., Kahn, J. M.  
IEEE.1996: 1213-1219
- **Channel reuse strategies for indoor infrared wireless communications** *IEEE GLOBECOM 1996 - Communications: The Key to Global Prosperity*  
Marsh, G. W., Kahn, J. M.  
IEEE.1996: 1597-1602
- **Combined source-channel coding using channel-optimized quantizer and multicarrier modulation** *1996 IEEE International Conference on Communications - Converging Technologies for Tomorrows Applications (ICC 96)*  
Ho, K. P., Kahn, J. M.  
IEEE.1996: 1323-1327
- **Modeling of nondirected wireless infrared channels** *1996 IEEE International Conference on Communications - Converging Technologies for Tomorrows Applications (ICC 96)*  
Carruthers, J. B., Kahn, J. M.  
IEEE.1996: 1227-1231
- **On models of clipping distortion for lightwave CATV systems** *IEEE PHOTONICS TECHNOLOGY LETTERS*  
Ho, K. P., Kahn, J. M.  
1996; 8 (1): 125-126
- **Wireless infrared communication links using multi-beam transmitters and imaging receivers** *1996 IEEE International Conference on Communications - Converging Technologies for Tomorrows Applications (ICC 96)*  
Tang, A. P., Kahn, J. M., Ho, K. P.  
IEEE.1996: 180-186
- **Transmission of Analog Signals using Multicarrier Modulation: a Combined Source- Channel Coding Approach** *IEEE Trans. on Commun.*  
Ho, K., P., Kahn, J., M.

1996; 44 (11): 1432-1443

● **Multiple-Subcarrier Modulation for Non-Directed Wireless Infrared Communication** *IEEE J. Sel. Areas in Commun.*

Carruthers, J., B., Kahn, J., M.

1996; 14: 538-546

● **Decision-feedback equalization of pulse-position modulation on measured non-directed indoor infrared channels** *1996 IEEE International Conference on Communications - Converging Technologies for Tomorrow's Applications (ICC 96)*

Audeh, M. D., Kahn, J. M., Barry, J. R.

IEEE.1996: 1220-1226

● **Diffractive Spot-Array Generation Using Multimode Surface-Emitting Lasers and Light-Emitting Diodes**

Hoch, J., S., Grot, A., Kahn, J., M.

1996

● **Optimal Predistortion of Gaussian Inputs for Clipping Channels** *IEEE Trans. on Commun.*

Ho, K., P., Kahn, J., M.

1996; 44 (11): 1505-1513

● **On Models of Clipping Distortion for Lightwave CATV Systems** *IEEE Photon. Technol. Lett.*

Ho, K., P., Kahn, J., M.

1996; 8 (1): 125-126

● **Trellis-coded pulse-position modulation for indoor wireless infrared communications** *7th IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC 96)*

Lee, D. C., Kahn, J. M., Audeh, M. D.

IEEE.1996: 349-353

● **Modeling of Non-Directed Wireless Infrared Channels**

Carruthers, J., B., Kahn, J., M.

1996

● **Performance Evaluation of Experimental 50-Mb/s Diffuse Infrared Wireless Link using On-Off Keying with Decision-Feedback Equalization** *IEEE Trans. on Commun.*

Marsh, G., W., Kahn, J., M.

1996; 44 (11): 1496- 1504

● **Methods for Crosstalk Measurement and Reduction in Dense WDM Systems** *J. Lightwave Technol.*

Ho, K., P., Kahn, J., M.

1996; 14: 1127-1135

● **Combined Source-Channel Coding Using Channel-Optimized Quantizer and Multicarrier Modulation**

Ho, K., P., Kahn, J., M.

1996

● **Channel Reuse Strategies for Indoor Infrared Wireless Communications**

Marsh, G., W., Kahn, J., M.

1996

● **Wireless Infrared Communication Links using Multi-Beam Transmitters and Imaging Receivers**

Tang, A., P., Kahn, J., M., Ho, K., P.

1996

● **EXACT PROBABILITY-DENSITY FUNCTION FOR PHASE-MEASUREMENT INTERFEROMETRY** *JOURNAL OF THE OPTICAL SOCIETY OF AMERICA A-OPTICS IMAGE SCIENCE AND VISION*

Ho, K. P., Kahn, J. M.

1995; 12 (9): 1984-1989

● **LINK DESIGN FOR NONDIRECTED WIRELESS INFRARED COMMUNICATIONS** *APPLIED OPTICS*

Barry, J. R., Kahn, J. M.

1995; 34 (19): 3764-3776

- **PERFORMANCE EVALUATION OF BASEBAND OOK FOR WIRELESS INDOOR INFRARED LANS OPERATING AT 100 MB/S** *IEEE TRANSACTIONS ON COMMUNICATIONS*  
Audeh, M. D., Kahn, J. M.  
1995; 43 (6): 2085-2094
- **COMPOUND PARABOLIC CONCENTRATORS FOR NARROW-BAND WIRELESS INFRARED RECEIVERS** *OPTICAL ENGINEERING*  
Ho, K. P., Kahn, J. M.  
1995; 34 (5): 1385-1395
- **EXPERIMENTAL CHARACTERIZATION OF NON-DIRECTED INDOOR INFRARED CHANNELS** *IEEE TRANSACTIONS ON COMMUNICATIONS*  
Kahn, J. M., Krause, W. J., Carruthers, J. B.  
1995; 43 (2-4): 1613-1623
- **High-Speed Wireless Infrared Communications** *presented at 19th IEEE Computer Elements Work-shop, Vail, CO*  
Kahn, J., M.  
1995
- **Crosstalk measurement and reduction in dense WDM systems using subcarrier tone channel identification and linear cancellation** *1995 IEEE International Conference on Communications - Communications: Gateway to Globalization*  
Ho, K. P., Kahn, J. M.  
IEEE.1995: 287-291
- **Exact Probability Density Function for Phase-Measurement Interferometry** *J. Opt. Soc. Am. A*  
Ho, K., P., Kahn, J., M.  
1995; 12 (9): 1984-1989
- **Transmission of DCT-Coded Images by Multicarrier Modulation for Noisy Channels**  
Ho, K., P., Kahn, J., M.  
1995
- **Crosstalk Measurement and Reduction in Dense WDM Systems Using Subcarrier Tone Channel Identification and Linear Cancellation**  
Ho, K., P., Kahn, J., M.  
1995
- **Performance of pulse-position modulation with trellis-coded modulation on non-directed indoor infrared channels** *IEEE Global Telecommunications Conference*  
Lee, D. C., Audeh, M. D., Kahn, J. M.  
IEEE.1995: 1830-1834
- **Crosstalk Cancellation in Dense WDM Systems Using Filter-Bank Receiver** *Tech. Digest of Optical Fiber Commun. Conf.*  
Ho, K., P., Kahn, J., M.  
1995: 35-36
- **Combined Source-Channel Coding Using Multicarrier Modulation**  
Ho, K., P., Kahn, J., M.  
1995
- **Link Design for Non-Directed Wireless Infrared Communications** *Applied Optics*  
Barry, J., R., Kahn, J., M.  
1995; 34 (19): 3764-3776
- **Performance of PPM with maximum-likelihood sequence detection on measured non-directed indoor infrared channels** *1995 IEEE International Conference on Communications - Communications: Gateway to Globalization*  
Audeh, M. D., Kahn, J. M., Barry, J. R.  
IEEE.1995: 1177-1181
- **Performance Evaluation of Experimental 50-Mb/s Diffuse Infrared Wireless Link using On-Off Keying with Decision-Feedback Equalization**  
Marsh, G., W., Kahn, J., M.  
1995

● **Performance of L-Pulse-Position Modulation with Trellis-Coded Modulation on Non-Directed Indoor Infrared Channels**

Lee, D., C., Audeh, M., D., Kahn, J., M.  
1995

● **Experimental Characterization of Non-Directed Indoor Infrared Channels** *IEEE Trans. on Commun*

Kahn, J., M., Krause, W., J., Carruthers, J., B.  
1995; 43: 1613-1623

● **Compound Parabolic Concentrators for Narrow-Band Wireless Infrared Receivers** *Optical Engineering*

Ho, K., P., Kahn, J., M.  
1995; 34 (5): 1385-1395

● **PERFORMANCE EVALUATION OF L-PULSE-POSITION MODULATION ON NON-DIRECTED INDOOR INFRARED CHANNELS** *1994 IEEE International Conference on Communications (SUPERCOMM/ICC 94): Serving Humanity Through Communications*

Audeh, M. D., Kahn, J. M.  
IEEE.1994: 660–664

● **50-MB/S DIFFUSE INFRARED FREE-SPACE LINK USING ON-OFF KEYING WITH DECISION-FEEDBACK EQUALIZATION** *5th IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC 94)*

Marsh, G. W., Kahn, J. M.  
I O S PRESS.1994: 1086–1089

● **50-MB/S DIFFUSE INFRARED FREE-SPACE LINK USING ON-OFF KEYING WITH DECISION-FEEDBACK EQUALIZATION** *28th Asilomar Conference on Signals, Systems and Computers*

Marsh, G. W., Kahn, J. M.  
IEEE COMPUTER SOC.1994: 74–77

● **MUTLIPLE-SUBCARRIER MODULATION FOR NON-DIRECTED WIRELESS INFRARED COMMUNICATION** *1994 IEEE GLOBECOM - Communications, the Global Bridge*

Carruthers, J. B., Kahn, J. M.  
IEEE.1994: 1055–1059

● **Channel Compression in Subcarrier-Multiplexed Lightwave Systems**

Ho, K., P., Kahn, J., M.  
1994

● **Non-Directed Infrared Links for High-Capacity Wireless LANs** *IEEE Pers. Commun. Mag.*

Kahn, J., M., Barry, J., R., Audeh, M., D., Carruthers, J., B., Krause, W., J.  
1994; 1 (2): 12-25

● **50-Mb/s Diffuse Infrared Free-Space Link Using On-Off Keying with Decision Feedback Equalization** *IEEE Photon. Technol. Lett.*

Marsh, G., W., Kahn, J., M.  
1994; 6 (10): 1268-1270

● **Design of Non-Directed Infrared Links for High-Speed Wireless Networks**

Barry, J., R., Kahn, J., M.  
1994

● **Multiple-Subcarrier Modulation for Non-Directed Wireless Infrared Communication**

Carruthers, J., B., Kahn, J., M.  
1994

● **50-Mb/s Diffuse Infrared Free-Space Link Using On-Off Keying with Decision Feedback Equalization**

Marsh, G., W., Kahn, J., M.  
1994

● **50-Mb/s Diffuse Infrared Free-Space Link Using On-Off Keying with Decision Feedback Equalization**

Marsh, G., W., Kahn, J., M.  
1994

- **EQUALIZATION TECHNIQUE TO REDUCE CLIPPING-INDUCED NONLINEAR DISTORTION IN SUBCARRIER-MULTIPLEXED LIGHTWAVE SYSTEMS** *IEEE PHOTONICS TECHNOLOGY LETTERS*  
Ho, K. P., Kahn, J. M.  
1993; 5 (9): 1100-1103
- **EXTERNAL OPTICAL FEEDBACK EFFECTS ON INTENSITY NOISE OF VERTICAL-CAVITY SURFACE-EMITTING LASERS** *IEEE PHOTONICS TECHNOLOGY LETTERS*  
Ho, K. P., Walker, J. D., Kahn, J. M.  
1993; 5 (8): 892-895
- **OPTICAL FREQUENCY COMB GENERATOR USING PHASE MODULATION IN AMPLIFIED CIRCULATING LOOP** *IEEE PHOTONICS TECHNOLOGY LETTERS*  
Ho, K. P., Kahn, J. M.  
1993; 5 (6): 721-725
- **SIMULATION OF MULTIPATH IMPULSE-RESPONSE FOR INDOOR WIRELESS OPTICAL CHANNELS** *IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS*  
Barry, J. R., Kahn, J. M., Krause, W. J., Lee, E. A., Messerschmitt, D. G.  
1993; 11 (3): 367-379
- **Simulation of Multipath Impulse Response for Wireless Optical Channels** *IEEE J. Sel. Areas in Commun.*  
Barry, J., R., Kahn, J., M., Krause, W., J., Lee, E., A.  
1993; 11 (3): 367-379
- **REDUCTION OF FEEDBACK-INDUCED INTENSITY NOISE IN VERTICAL-CAVITY SURFACE-EMITTING LASER BY SUPERPOSITION OF HIGH-FREQUENCY CURRENT** *6th Annual Meeting of the IEEE Lasers-and-Electro-Optics-Society (LEOS 93)*  
Ho, K. P., Walker, J. D., Kahn, J. M.  
IEEE.1993: 554-555
- **Reduction of Feedback-Induced Intensity Noise in Vertical-Cavity Surface-Emitting Laser by Superposition of High-Frequency Current**  
Ho, K., P., Walker, J., D., Kahn, J., M.  
1993
- **Optical Frequency Comb Generator Using Phase Modulation in Amplified Circulating Loop** *IEEE Photon. Technol. Lett.*  
Ho, K., P., Kahn, J., M.  
1993; 5 (6): 721-725
- **Equalization Technique to Reduce Laser Clipping-Induced Distortion in Subcarrier-Multiplexed Lightwave Systems** *IEEE Photon. Technol. Lett.*  
Ho, K., P., Kahn, J., M.  
1993; 5 (9): 1100-1103
- **DESIGN OF HIGH-SPEED WIRELESS LINKS USING NON-DIRECTIONAL INFRARED RADIATION** *3RD WORKSHOP ON THIRD GENERATION WIRELESS INFORMATION NETWORKS*  
Kahn, J. M., Barry, J. R., Audeh, M. D., Lee, E. A., Messerschmitt, D. G.  
KLUWER ACADEMIC PUBLISHERS.1993: 109-126
- **External Optical Feedback Effects on Intensity Noise of Vertical-Cavity Surface-Emitting Lasers** *IEEE Photon. Technol. Lett.*  
Ho, K., P., Walker, J., D., Kahn, J., M.  
1993; 5 (8): 892-895
- **Stabilization of Millimeter- Wave Frequencies from Passively Mode-Locked Semiconductor Lasers Using an Opto-Electronic Phase-Locked Loop** *IEEE Photon. Technol. Lett.*  
Buckman, L., A., Georges, J., B., Park, J., Vassilovski, D., Kahn, J., M., Lau, K., Y.  
1993; 5 (10): 1137-1140
- **Experimental Characterization of Multipath Free-Space Infrared Channels for Wireless In-Building Networks** *Tech. Digest of 19th Euro. Conf. on Opt. Commun.*  
Kahn, J., M., Krause, W., J.  
1993: 397-400

- **Heterodyne Detection of 310-Mb/s Quadrature-Shift Keying Using Fourth-Power Optical Phase-Locked Loop** *Tech. Digest of Optical Fiber Commun. Conf.*  
Porter, A., M., Kahn, J., M., Padan, U.  
1993
- **Simulation Tools for Free-Space Optical Interconnects Based on Computer-Generated Holograms**  
Kahn, J., M., Hoch, J., S.  
1993
- **CARRIER SYNCHRONIZATION FOR HOMODYNE AND HETERODYNE-DETECTION OF OPTICAL QUADRIPHASE-SHIFT KEYING** *JOURNAL OF LIGHTWAVE TECHNOLOGY*  
Barry, J. R., Kahn, J. M.  
1992; 10 (12): 1939-1951
- **Carrier Synchronization for Homodyne and Heterodyne Detection of Optical Quad-riphase-Shift Keying** *J. Lightwave Technol.*  
Barry, J., R., Kahn, J., M.  
1992; 10: 1939-1951
- **HIGH-SPEED NON-DIRECTIONAL INFRARED COMMUNICATION FOR WIRELESS LOCAL-AREA NETWORKS** *26TH ASILOMAR CONF ON SIGNALS, SYSTEMS AND COMPUTERS*  
Kahn, J. M., Barry, J. R., Krause, W. J., Audeh, M. D., Carruthers, J. B., Marsh, G. W., Lee, E. A., Messerschmitt, D. G.  
I E E E, COMPUTER SOC PRESS.1992: 83-87
- **Fourth-Power Phased-Locked Loop for Heterodyne Detection of Optical Quadrature Phase-Shift Keying** *Tech. Digest of Optical Fiber Commun. Conf.*  
Barry, J., R., Audeh, M., D., Porter, A., M.  
1992: 292
- **Wireless Communications: Future Directions** *Design of High-Speed Wireless Links Using Non-Directional Infrared Radiation*  
Kahn, J., M., Barry, J., R., Audeh, M., D., Lee, E., A., Messerschmitt, D., G.  
Kluwer Academic.1992: 109-126
- **Heterodyne Detection of 310-Mb/s Quadriphase-Shift Keying Using Fourth-Power Optical Phase-Locked Loop** *IEEE Photon. Technol. Lett.*  
Kahn, J., M., Porter, A., M., Padan, U.  
1992; 4: 1397-1400
- **Free-Space Infrared Communication for Wireless Indoor Networks**  
Kahn, J., M.  
1992
- **Design of High-Speed Wireless Links Using Non-Directional Infrared Radiation**  
Kahn, J., M., Barry, J., R., Audeh, M., D., Lee, E., A., Messerschmitt, D., G.  
1992
- **Performance Simulation of Baseband OOK Modulation for Wireless Infrared LANs at 100 Mb/s**  
Audeh, M., D., Kahn, J., M.  
1992
- **Free-Space Infrared Communication for Wireless Indoor Networks**  
Kahn, J., M.  
1992
- **Polarization Effects on Ultra-Long Distance Signal Transmission in Amplified Optical-Fiber Loops** *Tech. Digest of 17th Euro. Conf. on Opt. Commun.*  
Giles, C., R., Kahn, J., M., Korotky, S., K., Veselka, J., J., Burrus, C., A., Perino, J., S.  
1991: 385-388
- **Modeling of Indoor Free-Space Infrared Propagation**  
Barry, J., R., Kahn, J., M., Lee, E., A., Messerschmitt, D., G.  
1991
- **High-Speed Nondirective Optical Communication for Wireless Networks** *IEEE Network Magazine*

- Barry, J., R., Kahn, J., M., Lee, E., A.  
1991; 44-54
- **Polarization Effects on Ultra-Long Distance Signal Transmission in Amplified Optical-Fiber Loops** *IEEE Photon. Technol. Lett.*  
Giles, C., R., Kahn, J., M., Korotky, S., K., Veselka, J., J., Burrus, C., A., Perino, J., S.  
1991; 3: 948-951
  - **4 Gbit/s PSK Homodyne Transmission System Using Phase-Locked Semiconductor Lasers** *ech. Digest of Postdeadline Papers, Optical Fiber Com-mun. Conf.*  
Kahn, J., M., Gnauck, A., H., Veselka, J., J., Korotky, S., K., Kasper, B., L.  
1990: PD10/1-PD10/4
  - **Homodyne Detection of Phase-Shift-Keying for Multi-Gigabit Lightwave Transmission** *Tech. Digest of Optical Fiber Commun. Conf.*  
Kahn, J., M.  
1990: 211
  - **4 Gbit/s Heterodyne Transmission Experiments Using ASK, FSK, and DPSK Modulation** *IEEE Photon. Technol. Lett.*  
Gnauck, A., H., Reichmann, K., C., Kahn, J., M., Korotky, S., K., Veselka, J., J., Koch, T., L.  
1990; 2: 908-910
  - **4 Gbit/s PSK Homodyne Transmission System Using Phase-Locked Semiconductor Lasers** *IEEE Photon. Technol. Lett.*  
Kahn, J., M., Gnauck, A., H., Veselka, J., J., Korotky, S., K., Kasper, B., L.  
1990; 2: 285-287
  - **BPSK Homodyne Detection Experiment Using Balanced Optical Phase-Locked Loop with Quantized Feedback** *IEEE Photon. Technol. Lett.*  
Kahn, J., M.  
1990; 2: 840-843
  - **BPSK Homodyne Detection Experiment Using Balanced Optical Phase-Locked Loop with Quantized Feedback** *Tech. Digest of Postdeadline Papers, 16th Euro. Conf. on Opt. Commun.*  
Kahn, J., M.  
1990: 991-994
  - **1 Gbit/s PSK Homodyne Transmission System Using Phase-Locked Semiconductor Lasers** *IEEE Photon. Technol. Lett.*  
Kahn, J., M.  
1989; 1: 340-342
  - **PSK Homodyne Lightwave Transmission Using Semiconductor Lasers** *Tech. Digest of 15th Euro. Conf. on Opt. Commun.*  
Kahn, J., M., Kasper, B., L.  
1989
  - **Optical Phaselock Receiver with Multi-Gigahertz Signal Bandwidth** *Electron. Lett.*  
Kahn, J., M., Kasper, B., L., Pollock, K., J.  
1989; 25: 626-627
  - **Optical Phaselock Receiver with Multigigahertz Signal Bandwidth** *Tech. Digest of Seventh Intl. Conf. on Integ. Optics and Opt. Fiber Commun.*  
Kahn, J., M., Kasper, B., L., Pollock, K., J.  
1989
  - **High-Stability 1.5 μm External-Cavity Lasers for Phase-Lock Applications** *IEEE Photon. Technol. Lett.*  
Kahn, J., M., Burrus, C., A., Raybon, G.  
1989; 1: 159-161
  - **1 Gbit/s Integrate-and-Dump Filter for Digital Communication Systems** *Electron. Lett.*  
Giles, C., R., Kahn, J., M.  
1989; 25: 212-214
  - **1 Gbit/s Zero-IF DPSK Coherent Optical System Using a Single Photodetector** *Tech. Digest of Optical Fiber Commun. Conf.*  
Kahn, J., M., Habbab, I., M. I., Giles, C., R.  
1989: 72

- **1 Gbit/s Zero-IF DPSK Coherent Optical System Using a Single Photodetector** *Electron. Lett.*  
Kahn, J., M., Habbab, I., M. I., Giles, C., R.  
1988; 24: 1455-1456
- **Phase-Insensitive Zero-IF Coherent Optical System Using Phase Switching** *Electron. Lett.*  
Habbab, I., M. I., Kahn, J., M., Greenstein, L., J.  
1988; 24: 974-975
- **Trigonal Hydrogen-Related Acceptor Complexes in Germanium** *Phys. Rev. B*  
Kahn, J., M., McMurray Jr., R., E., Haller, E., E., Falicov, L., M.  
1987; 36: 8001-8014
- **Hydrogen-Related Complexes in Silicon and Germanium: Static or Dynamic Defects?** *Gordon Res. Conf. on Point Defects, Line Defects and Interfaces in Semicond., Plymouth, NH*  
Kahn, J., M.  
1987
- **Trigonal Hydrogen-Related Acceptor Complexes in Germanium** *Bull. Am. Phys. Soc. Ser. II*  
Kahn, J., M., McMurray, R., E., Haller, E., E., Falicov, L., M.  
1987; 32: 841
- **Beryllium-Hydrogen and Zinc-Hydrogen Shallow Acceptor Complexes in Germanium** *Solid State Commun.*  
McMurray Jr., R., E.  
1987; 61: 27-32
- **Copper-Dihydrogen Acceptors in High-Purity Germanium**  
Kahn, J., M., Haller, E., E., Falicov, L., M.  
1986
- **Isotope-Induced Symmetry Change in Dynamic Semiconductor Defects** *Phys. Rev. Lett.*  
Kahn, J., M., Falicov, L., M., Haller, E., E.  
1986; 57: 2077-2080
- **Copper-Dihydrogen Complex Shallow Acceptors in High-Purity Germanium** *Bull. Am. Phys. Soc. Ser. II*  
Kahn, J., M., Haller, E., E., Falicov, L., M.  
1986; 31: 695
- **A Shallow Hydrogen-Zinc Acceptor in Germanium** *Solid State Commun.*  
McMurray Jr., R., E., Haegel, N., M., Kahn, J., M., Haller, E., E.  
1985; 53: 1137
- **Low Temperature Atomic Hydrogen Diffusivity in Si and Ge** *Bull. Am. Phys. Soc. Ser. II*  
Kahn, J., M., Pearton, S., J., Haller, E., E.  
1984; 29: 208
- **Hydrogenation of Gold-Related Levels in Silicon by Electrolytic Doping** *J. Appl. Phys.*  
Pearton, S., J., Hansen, W., L., Haller, E., E., Kahn, J., M.  
1984; 55: 1221-1223
- **The Nature of the Dominant Gamma-Induced Defects in High-Purity Germanium** *Rad. Effects*  
Pearton, S., J., Tavendale, A., J., Kahn, J., M., Haller, E., E.  
1984; 81: 293-308
- **Deep Level Impurities in Germanium and Silicon: Low Temperature Passivation or Removal Techniques** *IEEE Trans. Nucl. Sci.*  
Pearton, S., J., Tavendale, A., J., Kahn, J., M., Haller, E., E.  
1984; NS-31: 326-330
- **A Shallow Hydrogen-Zinc Acceptor in Germanium,**  
McMurray Jr., R., E., Haegel, N., M., Kahn, J., M., Haller, E., E.  
1984

- **Quenched-In Deep Acceptors in Germanium** *J. Phys. C*  
Pearston, S., J., Haller, E., E., Kahn, J., M.  
1984; 17: 2375-2379
- **Deuterium in Germanium: Interaction with Point Defects** *J. Appl. Phys.*  
Pearston, S., J., Kahn, J., M., Hansen, W., L., Haller, E., E.  
1984; 55: 1464-1471
- **Deep Level Effects in Silicon and Germanium after Plasma Hydrogenation** *J. Electron. Mats.*  
Pearston, S., J., Kahn, J., M., Haller, E., E.  
1983; 12: 1003-1014
- **Dislocations in Germanium: Effects of Plasma Hydrogenation** *Phys. Stat. Solidi A*  
Pearston, S., J., Kahn, J., M.  
1983; 78: K65-K69
- **Linear Propagation Effects in Mode-Division Multiplexing Systems** *J. of Lightwave Technol. (Invited Paper)*.  
Ho, K., P., Kahn, J., M.
- **MIMO Signal Processing for Mode-Division Multiplexing** *IEEE Signal Processing Magazine (Invited Paper)*.  
Arık, S., Ö., Kahn, J., M., Ho, K., P.
- **Coded Modulation for Fiber-Optic Networks** *IEEE Signal Processing Magazine*.  
Beygi, L., Agrell, E., Kahn, J., M.