

# Fedor M. Mitschke

## List of Scientific Publications

As of February 2022

### Textbooks

1. F. Mitschke,  
„Glasfasern. Physik und Technologie“,  
Spektrum / Elsevier (2005)
2. F. Mitschke,  
„Fiber Optics. Physics and Technology“,  
1<sup>st</sup> edn., Springer (2009)
3. same, corrected and updated. 2<sup>nd</sup> edn., Springer (2016)

### Refereed Publications (peer review)

Items 26), 51), 98), 103) and 133) are book chapters.

Items 4), 5), 14), 18), 19), 29), 39), 43), 44), 61), 81), 96), 122), 123) are papers in conference proceedings volumes.

All others are articles in scientific journals.

1. J. Mlynek, F. Mitschke, R. Deserno, W. Lange,  
„Optical Bistability by transverse optical pumping“,  
Applied Physics B **28**, 135 (1982)
2. F. Mitschke, R. Deserno, J. Mlynek, W. Lange,  
„Transients in all-optical bistability using transverse optical pumping: Observation of critical slowing down“,  
Optics Communications **46**, 135 (1982)
3. F. Mitschke, J. Mlynek, W. Lange,  
„Observation of magnetically-induced optical self-pulsing in a Fabry-Perot resonator“,  
Physical Review Letters **50**, 1660 (1983)
4. J. Mlynek, F. Mitschke, E. Köster, W. Lange,  
„Intracavity and usual phase conjugation through resonant degenerate 4-wave mixing in a 3-level medium“,  
in: „Coherence and Quantum Optics V“, L. Mandel, E. Wolf (Eds.),  
Plenum Press, New York 1983
5. J. Mlynek, F. Mitschke, W. Lange,  
„Critical Slowing Down and magnetically-induced self-pulsing in a sodium-filled Fabry-Perot resonator“,  
in: „Optical Bistability II“, C.M. Bowden, H. M. Gibbs, S. L. McCall (Eds.),  
Plenum Press, New York 1983
6. J. Mlynek, F. Mitschke, R. Deserno, W. Lange,  
„Optical Bistability from three-level atoms with the use of a coherent nonlinear mechanism“,  
Physical Review A **29**, 1297 (1984)

7. F. Mitschke, N. Flüggen,  
„Chaotic behaviour of a hybrid optical bistable system without a time delay“,  
Applied Physics B **35**, 59 (1984)
8. E. Köster, J. Kolbe, F. Mitschke, J. Mlynek, W. Lange,  
„Intracavity resonant degenerate 4-wave mixing in atomic sodium vapor: multistabilities in  
phase conjugation“,  
Applied Physics B **35**, 201 (1984)
9. W. Lange, F. Mitschke, R. Deserno, J. Mlynek,  
„Sodium atoms in Fabry-Perot resonators: studies of static and dynamic behaviour in trans-  
verse magnetic fields“,  
Philosophical Transactions of the Royal Society of London A **313**, 421 (1984)
10. W. Lange, F. Mitschke, R. Deserno, J. Mlynek,  
„Magnetically induced relaxation oscillations in a sodium-filled Fabry-Perot resonator“,  
Journal of the Optical Society of America **1**, 468 (1984)
11. F. Mitschke, R. Deserno, J. Mlynek, W. Lange,  
„Transients in Optical Bistability: Experiments with External Noise“,  
IEEE Journal of Quantum Electronics **QE-21**, 1435 (1985)
12. W. Lange, F. Mitschke, R. Deserno, J. Mlynek,  
„Study of fluctuations in transient optical bistability“,  
Physical Review A **32**, 1271 (1985)
13. W. Lange, R. Deserno, F. Mitschke, J. Mlynek,  
„Experimental studies of fluctuations in transient optical bistability“,  
in: „Optical Bistability **III**“, H. M. Gibbs, P. Mandel, N. Peyghambarian, S. D. Smith  
(Eds.), p. 213, Springer 1985
14. W. Lange, F. Mitschke, R. Deserno, J. Mlynek,  
„Experimental studies of transient noise-induced bistability“,  
in: Optical Instabilities, R.W. Boyd, M. G. Raymer, L. M. Narducci (Eds.), p. 364, Cam-  
bridge University Press (1985)
15. F. Mitschke, R. Deserno, J. Mlynek, W. Lange,  
„Magnetically induced optical self-pulsing in a nonlinear resonator“,  
Physical Review A **33**, 3219 (1986)
16. R. Deserno, R. Kumme, F. Mitschke, W. Lange, J. Mlynek,  
„Noise effects in transient optical bistability“,  
Proceedings SPIE **700**, 83 (1986)
17. F. Mitschke, L. F. Mollenauer,  
„Stabilizing the Soliton Laser“,  
IEEE Journal of Quantum Electronics **QE-22**, 2242 (1986)
18. F. Mitschke, L. F. Mollenauer,  
„The stabilized Soliton laser“,  
in: „Ultrafast Phenomena **V**“, G.R. Fleming, A.E. Siegman (Eds.), Springer 1986
19. F. Mitschke, L. F. Mollenauer,  
„The Soliton Self Frequency Shift“,  
in: „Ultrafast Phenomena **V**“, G.R. Fleming, A.E. Siegman (Eds.), Springer 1986
20. F. Mitschke, L. F. Mollenauer,  
„Discovery of the soliton self frequency shift“,  
Optics Letters **11**, 659 (1986)
21. P. M. Downey, J. E. Bowers, C. A. Burrus, F. Mitschke, L.F. Mollenauer,  
„High-speed, hybrid InGaAs p-i-n/photoconductor circuit“,  
Applied Physics Letters **49**, 430 (1986)

22. J. E. Bowers, C.A. Burrus, F. Mitschke,  
„Millimetre-waveguide-mounted InGaAs photodetectors“,  
Electronics Letters **22**, 633 (1986)
  23. F. Mitschke, L. F. Mollenauer, J.P. Gordon,  
„Discovery of the soliton self frequency shift“,  
Physics Today **S-26**, January (1987)
  24. F. Mitschke, L. F. Mollenauer,  
„Ultrashort pulses from the soliton laser“,  
Optics Letters **12**, 407 (1987)
- This paper is reprinted in:*
- Selected Papers on Color-Center Lasers, K. J. Teegarden (Ed.), SPIE Press 2003
25. F. Mitschke, L. F. Mollenauer,  
„Experimental observation of interaction forces between solitons in optical fibers“,  
Optics Letters **12**, 355 (1987)
  26. W. Lange, R. Deserno, R. Kumme, F. Mitschke, J. Mlynek,  
„Dynamics of a bistable optical device in the presence of noise“,  
**Book chapter** in: „From optical bistability towards optical computing“, The EJOB Report, P. Mandel, S. D. Smith, B. S. Wherrett (Eds.), North Holland 1987
  27. F. Mitschke,  
„Solitonen in Glasfasern: Lichtpulse mit erstaunlichen Eigenschaften“,  
Laser und Optoelektronik **4**, 393 (1987)
  28. F. Mitschke, M. Möller, W. Lange,  
„Measuring filtered chaotic signals“,  
Physical Review A **37**, 4518 (1988)
  29. M. Möller, F. Mitschke, W. Lange,  
„On Systematic Errors in Characterizing Chaos“,  
in: „Optical Bistability **IV**“, W. Firth, N. Peyghambarian, A. Tallet (Eds.), Journal de Physique Colloque C2, supplement au n°6, C2-397 (1988)
  30. F. Mitschke, G. Ankerhold, W. Lange,  
„Low threshold bistability in TiO<sub>2</sub> – SiO<sub>2</sub> interference filters“,  
Proceedings SPIE **1017**-38 (1988)
  31. G. Ankerhold, D. Frerking, F. Mitschke, D. Ristau, J. Mlynek, W. Lange,  
„Hard coatings for optical bistable interference filters“,  
Applied Physics B **48**, 101 (1989)
  32. F. Mitschke, C. Boden, W. Lange,  
„Relaxation from a marginal state in optical bistability“,  
Physical Review A **39**, 3690 (1989)
  33. F. Mitschke, G. Ankerhold, W. Lange,  
„Analysis of optical bistability by water desorption“,  
Applied Physics B **48**, 467 (1989)
  34. F. Mitschke, C. Boden, W. Lange, P. Mandel,  
„Exploring the unstable branch of bistable systems“,  
Optics Communications **71**, 385 (1989)
  35. M. Möller, W. Lange, F. Mitschke, N. B. Abraham, U. Hübner,  
„Errors from Digitizing and Noise in Estimating Attractor Dimensions“,  
Physics Letters A **138**, 176 (1989)

36. F. Mitschke,  
„A new fiber-optic humidity sensor“,  
Optics Letters **14**, 967 (1989)
37. F. Mitschke,  
„Ein faseroptischer Sensor für Luftfeuchte“,  
Sensor Report **5**, 28 (1989)
38. J. Nalik, W. Lange, F. Mitschke,  
„Complexity out of a simple structure: the intricate multistable behaviour of a nonlinear resonator filled with sodium vapor“,  
Applied Physics B **49**, 191 (1989)
39. F. Mitschke, C. Boden, C. Henning, I. Roloff,  
„Observation of Chaos in a Passive Nonlinear Resonator“,  
in: „Coherence and Quantum Optics VI“, J. H. Eberly, L. Mandel, and E. Wolf (Eds.), p. 759, Plenum Press, New York 1989
40. F. Mitschke,  
„Acausal Filters for Chaotic Signals“,  
Physical Review A **41**, 1169 (1990)
41. C. Boden, F. Mitschke, P. Mandel,  
„Nonlinear Control: Bistability with modulated input“,  
Optics Communications **76**, 178 (1990)
42. F. Mitschke,  
„Licht steuert Licht: Photonik“,  
Physikalische Blätter **12**, 463 (1990)
43. F. Mitschke, M. Dämmig,  
„Acausal Filters for Chaotic Signals“,  
in: „OSA Proceedings on Nonlinear Dynamics in Optical Systems“,  
N. B. Abraham, E. M. Garmire, P. Mandel (Eds.), Optical Society of America, Washington DC 1991, Vol. 7, p. 522
44. C. Boden, I. Roloff, F. Mitschke, H. Welling,  
„Transition from deterministic to stochastic behaviour in bistable systems“,  
in: „Nonlinear Dynamics and Quantum Phenomena in Optical Systems“, R. Corbalan, R. Vilaseca (Eds.), p. 298, Springer 1991
45. K. Möllmann, F. Mitschke, H. Welling, W. Gellermann,  
„Synchronously Pumped Mode Locked 1.73 - 2.10  $\mu\text{m}$  Tunable Laser Operation of  $(\text{F}_2^+)_{\text{AH}}$  Centers in  $\text{KCl} : \text{Na}^+ : \text{O}_2^-$  Crystals“,  
in: „Proceedings International Conference On Laser '90“, STS Press, McLean, VA 1991 p. 96-102
46. K. Möllmann, F. Mitschke, W. Gellermann,  
„Optical Properties and Synchronously Pumped Mode Locked 1.73 - 2.10  $\mu\text{m}$  Tunable Laser Operation of  $(\text{F}_2^+)_{\text{AH}}$  Centers in  $\text{KCl} : \text{Na}^+ : \text{O}_2^-$  Crystals“,  
Optics Communications **83**, 177 (1991)

*This paper is reproduced in:*

Selected Papers on Color-Center Lasers, K. J. Teegarden (Ed.), SPIE Press 2003

47. C. Boden, I. Roloff, F. Mitschke,  
„Transition from deterministic to stochastic behaviour in bistable systems“,  
Physical Review A **43**, 6558 (1991)

48. F. Mitschke,  
„Die Welt, das Chaos, und die Physik“,  
Conturen **7/I**, 40 (1992), Institut für Wirtschaft und Politik, Wien
49. F. Mitschke,  
„Chaos in der Quantenoptik“,  
Die Naturwissenschaften **3**, 97 (1991)
50. C. Boden, M. Dämmig, F. Mitschke,  
„Light shift induced chaos in a nonlinear optical resonator“,  
Physical Review A **45**, 6829 (1992)
51. F. Mitschke, G. Steinmeyer, H. Welling,  
„Coupled Nonlinear Cavities: New Avenues to Ultrashort Pulses“,  
**Book chapter** in: „Frontiers in Nonlinear Optics - The Sergei Akhmanov Memorial Volume“, H. Walther, N. Koroteev, M. Scully (Eds.), p. 240, IOP Publishing 1993
52. M. Dämmig, C. Boden, F. Mitschke,  
„On the Detection of Deterministic Structures in Irregular Signals“,  
Applied Physics B **55**, 121 (1992)
53. F. Mitschke, M. Dämmig,  
„Chaos versus Noise in Experimental Data“,  
International Journal of Bifurcations and Chaos **3**, 693 (1993)
54. M. Dämmig, F. Mitschke,  
„Estimation of Lyapunov exponents from time series: the stochastic case“,  
Physics Letters A **178**, 385 (1993)
55. K. Prank, H. Harms, M. Dämmig, G. Brabant, F. Mitschke, R.-D. Hesch,  
„Is there low-dimensional chaos in pulsatile secretion of parathyroid hormone in normal human subjects?“,  
American Journal of Physiology **266**, E653 (1994)

*This paper is reprinted as:*

- K. Prank, H. Harms, M. Dämmig, G. Brabant, F. Mitschke, R.-D. Hesch,  
„Nonlinear Dynamics in pulsatile secretion of parathyroid hormone in normal human subjects“,  
in: „Dynamical Disease - Mathematical Analysis of Human Illness“, J. Belair, L. Glass, U. a. d. Heiden, and J. Milton (Eds.), AIP Press, Williston,VT 1995
56. F. Mitschke, G. Steinmeyer, M. Ostermeyer, C. Fallnich, H. Welling,  
„Additive Pulse Mode Locked Nd:YAG Laser: An Experimental Account“,  
Applied Physics B **56**, 335 (1993)
  57. M. Dämmig, G. Zinner, F. Mitschke, H. Welling,  
„Stimulated Brillouin Scattering in fibers with and without external feedback“,  
Physical Review A **48**, 3301 (1993)
  58. G. Steinmeyer, U. Morgner, M. Ostermeyer, F. Mitschke, H. Welling,  
„Subpicosecond pulses around 1.9  $\mu\text{m}$  from a synchronously pumped color center laser“,  
Optics Letters **18**, 1544 (1993)

*This paper is reproduced in:*

- Selected Papers on Color-Center Lasers, K. J. Teegarden (Ed.), SPIE Press 2003
59. F. Mitschke,  
„Scattering in Fibers: Is there Chaos?“,  
Proceedings SPIE **2039**, 122 (1993)

60. G. Steinmeyer, D. Jaspert, F. Mitschke,  
„Observation of a period-doubling sequence in a nonlinear optical fiber ring cavity near zero dispersion“,  
Optics Communications **104**, 379 (1993)
61. F. Mitschke, G. Steinmeyer, A. Buchholz, M. Hänsel,  
„Chaos in a synchronously driven optical Resonator“,  
in: „Proceedings of the Second Experimental Chaos Conference“, W. L. Ditto, L. Pecora, S. T. Vohra, M. Shlesinger, M. L. Spano (Eds.), p. 53 World Scientific, Singapore 1995
62. G. Steinmeyer, U. Morgner, M. Ostermeyer, F. Mitschke,  
„Subpicosecond Pulse Generation around 1.9  $\mu\text{m}$  by Synchronous Pumping of  $\text{KCl} : \text{Na}^+ : \text{O}_2^-$  Colour Centre Laser“,  
Lietuvos fizikos zurnalas **33**, 260 (1993)
63. M. Dämmig, F. Mitschke,  
„Velocity of pulse propagation in media with amplitude nonlinearity“,  
Applied Physics B **59**, 345 (1994)
64. M. Dämmig, F. Mitschke,  
„Brillouinstreuung in Glasfasern“,  
Physikalische Blätter **12**, 1129 (1994)
65. K. Prank, H. Harms, M. Dämmig, G. Brabant, F. Mitschke, R.-D. Hesch,  
„Nonlinear Dynamics in pulsatile secretion of parathyroid hormone in normal human subjects“,  
Chaos **5**, 76 (1995)
66. G. Steinmeyer, A. Buchholz, M. Hänsel, M. Heuer, A. Schwache, F. Mitschke,  
„Dynamical pulse shaping in a nonlinear resonator“,  
Physical Review A **52**, 830 (1995)
67. G. Steinmeyer, F. Mitschke,  
„Longitudinal Structure Formation in a Nonlinear Resonator“,  
Applied Physics B **62**, 367 (1996)
68. F. Mitschke, U. Morgner, G. Steinmeyer,  
„On the Pulse Width of Synchronously Pumped Lasers“,  
Applied Physics B **62**, 375 (1996)
69. F. Mitschke, G. Steinmeyer, M. Heuer, A. Schwache, I. Klopsch,  
„Solitonlike Structures in a Chaotic Ring Resonator“,  
in: „Coherence and Quantum Optics 7“, J. Eberly, L. Mandel and E. Wolf (Eds.), p. 457, Plenum Press 1996
70. F. Mitschke, G. Steinmeyer, A. Schwache,  
„Generation of One-Dimensional Optical Turbulence“,  
Physica D **96**, 251 (1996)

*This paper was reprinted in:*

‘Measures of Spatio-Temporal Dynamics’, Proceedings of the workshop on Measures of Spatio-Temporal Dynamics, Bryn Mawr College 1995, p. 251, A. M. Albano, P. E. Rapp, N. B. Abraham and A. Passamante (Eds.), North-Holland/Elsevier 1996

71. G. Steinmeyer, A. Schwache, F. Mitschke,  
„Quantitative Characterization of Turbulence in an Optical Experiment“,  
Physical Review E **53**, 5399 (1996)
72. U. Morgner, L. Rolefs, F. Mitschke,  
„Dynamical Instabilities in an Additive-Pulse Modelocked Nd:YAG Laser“,  
Optics Letters **21**, 1265 (1996)

73. U. Morgner, F. Mitschke,  
„Nonlinear Dynamics of Additive-Pulse Modelocked Lasers in Four Cavity Topologies“,  
Physical Review A **55**, 3124 (1997)
74. A. Schwache, F. Mitschke,  
„Properties of an Optical Soliton Gas“,  
Physical Review E **55**, 7720 (1997)
75. U. Morgner, G. Steinmeyer, F. Mitschke,  
„Systematic Evaluation and Prediction of the Pulse Width of Synchronously Pumped Lasers“,  
Applied Physics B **66**, 145 (1998)
76. D. Jacob, A. Oberdorfer, F. Mitschke,  
„Self-Stabilizing Additive-Pulse Modelocking due to Thermo-optical Nonlinearity in an Optical Fiber“,  
Applied Physics B **66**, 271 (1998)
77. F. Mitschke,  
„Pseudo-Incommensurate Two-Stimulus Generator“,  
Rev. Sc. Instr. **68**, 3236 (1997)
78. U. Morgner, L. Rolefs, F. Mitschke,  
„A Study of the Nonlinear Dynamics of an Additive-Pulse-Modelocked Nd:YAG Laser“,  
Europhysics Letters **39**, 497 (1997)
79. F. Mitschke, I. Halama, A. Schwache,  
„Soliton Gas“,  
Chaos, Solitons, and Fractals **10**, 913 (1999)
80. J. Hüve, A. Knief, D. Ströker, F. Mitschke,  
„Structure Formation in an Erbium-doped Fiber Ring Laser“,  
Chaos, Solitons, and Fractals **10**, 921 (1999)
81. F. Mitschke, I. Halama, A. Schwache,  
„Optical Chaos, Turbulence, Soliton Gas“,  
in: „Proc. Exp. Chaos Conference“, M. Ding, W. Ditto, L. Pecora, M. Spano, S. Vohra (Eds.), p. 75, World Scientific, Singapore 1998
82. U. Morgner, F. Mitschke,  
„Drift Instabilities in the Pulses from CW Modelocked Lasers“,  
Physical Review E **58**, 187 (1998)
83. U. Morgner, F. Mitschke,  
„The Temporal Talbot Effect“,  
Optics & Photonics News **9**, 45 (1998)
84. B. Malomed, A. Schwache, F. Mitschke,  
„Soliton Lattice and Gas in Passive Fiber Ring Resonators“,  
Fiber and Integrated Optics **17**, 267 (1998)
85. U. Morgner, F. Mitschke,  
„Dynamic Instabilities in the Pulses from CW Modelocked Lasers“,  
Asian Journal of Physics **7**, 521 (1998)

*This paper was reprinted in:*

СВЕДСКЕ ФИЗИЧКИХ НАУКА (Sweske Fisitschkich Nauka)  
Series A: Conference Proceedings, M. R. Belic (Ed.),  
SFIN, year XIII, No. A1 (2000) p. 63

86. F. Mitschke, A. Schwache,  
„Soliton Ensembles in a Nonlinear Ring Resonator“,  
Quantum & Semiclassical Optics **10**, 779 (1998)
87. H. U. Voss, A. Schwache, J. Kurths, F. Mitschke,  
„Equations of motion from experimental data by nonlinear time series analysis: a driven  
optical fiber ring resonator“,  
Physics Letters A **256**, 47 (1999)
88. D. Ströker, J. Hüve, F. Mitschke,  
„Superluminal pulse propagation in an Erbium fiber laser“,  
Applied Physics B **69**, 323 (1999)
89. S. Rutz, F. Mitschke,  
„Towards Thermodynamics of Solitons: Cooling“,  
J. Optics B: Quant. Semiclass. Opt. **2**, 364 (2000)
90. F. Mitschke, M. Böhm,  
„Solitonen in Glasfasern“,  
Physikalische Blätter Februar 2000 S. 25 und Titelbild
91. S. Rutz, T. Körösi, F. Mitschke,  
„Manipulation of Soliton Ensembles“,  
Applied Physics B **72**, 101 (2001)
92. T.-M. Voigt, M. O. Lenz, F. Mitschke,  
„The Risken-Nummedal-Graham-Haken instability finally confirmed experimentally“,  
Proc. SPIE **4429**, 112 (2001)
93. M. Stratmann, M. Böhm, F. Mitschke,  
„Stable propagation of dark solitons in dispersion maps of either sign of path-average  
dispersion“,  
Electronics Letters **37**, 1182 (2001)
94. A. K. Komarov, K. P. Komarov, F. Mitschke,  
„Phase-modulation bistability and threshold self-start of passive mode-locking“,  
Physical Review A **65**, 053803 (2002)
95. E. Roldan, G. J. de Valcarcel, F. Mitschke,  
„Role of field losses on the Risken-Nummedal-Graham-Haken laser instability: application  
to erbium-doped fibre lasers“,  
Applied Physics B **76**, 741 (2003)
96. F. M. Mitschke, A. K. Komarov., K. P. Komarov,  
„Dispersion phase-modulation bistability of passive mode-locked lasers“,  
SPIE Proceedings **4751**, 478-485 (2002)
97. T. Voigt, M. O. Lenz, F. M. Mitschke, E. Roldan, G. J. de Valcarcel,  
„Experimental Investigation of Risken-Nummedal-Graham-Haken laser instability in fiber  
ring lasers“,  
Applied Physics B **79**, 175 (2004)
98. E. Roldan, G. J. de Valcarcel, F. Prati, F. Mitschke, T. Voigt,  
„Multilongitudinal mode emission in ring cavity class B lasers“  
**Book chapter** in: „Trends in Spatiotemporal Dynamics in Lasers. Instabilities, Pola-  
rization Dynamics, and Spatial Structures“ (O. G. Calderon and J. M. Guerra, Eds.);  
Research Signpost, Trivandrum, Kerala (India) (2005) p. 1-80

The manuscript is available online from the Los Alamos database „arXiv“ at  
[http://arxiv.org/PS\\_cache/physics/pdf/0412/0412071.pdf](http://arxiv.org/PS_cache/physics/pdf/0412/0412071.pdf)



99. M. Stratmann, T. Pagel, F. M. Mitschke,  
 „Experimental Observation of Temporal Soliton Molecules“,  
 Physical Review Letters **95**, 143902 (2005)
- This article was adopted by
- Virtual Journal of Ultrafast Science **4** (10: Oct. 2005)  
<http://www.vjultrafast.org/ultrafast/about.jsp>
100. M. Böhm, F. M. Mitschke,  
 „Soliton Propagation in a Dispersion Map with Deviation from Periodicity“,  
 Applied Physics B **81**, 983 (2005)
101. M. Stratmann, F. Mitschke,  
 „Chains of temporal dark solitons in dispersion-managed fiber“,  
 Physical Review E **72**, 066616 (2005)
102. M. Böhm, F. Mitschke,  
 „Soliton-Radiation Beat Analysis“  
 Physical Review E **73**, 066615 (2006)
103. F. Mitschke,  
 „Compounds of Fiber-Optic Solitons“,  
**Book chapter** in: Dissipative Solitons: From Optics to Biology and Medicine  
 Series: Lecture Notes in Physics , Vol. 751  
 Akhmediev, Nail; Ankiewicz, Adrian (Eds.)2008, XIII, 477 p. 349 illus.
104. M. Böhm, F. Mitschke,  
 „Soliton content of arbitrarily shaped light pulses in fibers analysed using a soliton-radiation  
 beat pattern“  
 Applied Physics B **86**, 407-411 (2007)
105. A. Hause, H. Hartwig, B. Seifert, H. Stolz, M. Böhm, F. Mitschke,  
 „Phase structure of soliton molecules“,  
 Physical Review A **75**, 063836 (2007)
106. M. Böhm, F. Mitschke,  
 „Solitons in Lossy Fibers“,  
 Physical Review A **76**, 063822 (2007)
107. A. Hause, H. Hartwig, M. Böhm, F. Mitschke  
 „Binding mechanism of temporal soliton molecules“,  
 Phys. Rev. A **78**, 063817 (2008)
108. M. Böhm, M. Tasche, B. Seifert, F. Mitschke  
 „Trim-to-Coherence Fourier Transform“,  
 Journal of Computational Physics **228**, 2906 (2009)
109. A. Hause, F. Mitschke  
 „Reduced soliton interaction by Raman self frequency shift“  
 Phys. Rev. A **80**, 063824 (2009)
110. Ch. Mahnke, F. Mitschke  
 Applied Physics B **99**, 241-245 (2010)
111. H. Hartwig, M. Böhm, A. Hause, F. Mitschke  
 „Slow oscillations of dispersion-managed solitons“  
 Phys. Rev. A **81**, 033810 (2010)
112. J. Bethge, A. Husakou, F. Noack, U. Griebner, G. Steinmeyer, J. Herrmann, F. Mitschke  
 „Two-octave supercontinuum generation in a water-filled photonic crystal fiber“  
 Optics Express **18**, 6230-6240 (2010)

113. B. Seifert, A. Hause, F. Mitschke  
„A fibre Mach-Zehnder interferometer for the unique phase retrieval of ultrafast pulses with a 1 THz gap“  
Applied Physics B **99**, 423-426 (2010)
114. A. Hause, Truong X. Tran, F. Biancalana, A. Podlipensky, P. St. J. Russell, F. Mitschke  
„Understanding Raman-shifting multipeak states in photonic crystal fibers: two convergent approaches“  
Optics Letters **35**, 2167-2169 (2010)
115. A. Hause, F. Mitschke  
„Soliton Trains in Motion“  
Physical Review A **82**, 043838 (2010)
116. A. Hause, H. Hartwig, F. Mitschke  
„Self-similar interaction of slowly oscillating dispersion-managed solitons“  
Physical Review A **82**, 053833 (2010)
117. R. Driben, N. Zhavoronkov, F. Mitschke  
„Cascaded interactions between Raman induced solitons and dispersive waves in photonic crystal fibers at the advanced stage of supercontinuum generation“  
Optics Express Vol.**18**, 25993-25998 (2010)
118. Ch. Mahnke, F. Mitschke  
„Possibility of an Akhmediev breather decaying into solitons“  
Physical Review A **82**, 033808 (2012)
119. A. Demircan, Sh. Amiranashvili, C. Brée, Ch. Mahnke, F. Mitschke, G. Steinmeyer  
„Rogue events in the group velocity horizon“  
Scientific Reports **2**:850 (2012)
120. P. Rohrmann, A. Hause, F. Mitschke  
„Solitons Beyond Binary: Possibility of Fibre-Optic Transmission of Two Bits per Clock Period“  
Scientific Reports **2**:866 (2012)
121. F. D. Hanke, L. Miersch, E. J. Warrant, F. Mitschke, G. Dehnhardt  
„Are harbour seals (*phoca vitulina*) able to perceive and use polarized light?“  
Journal of Comparative Physiology A: DOI 10.1007/s00359-012-0762-x (2012)
122. F. Mitschke, A. Hause, Ch. Mahnke, P. Rohrmann  
„Recent Insights about Solitons in Optical Fibers“  
Nonlinear Phenomena in Complex Systems **15**, 369 (2012)  
Also in: Proc. Foundations and Advances in Nonlinear Science Conference & Advances in Nonlinear Photonics Conference (FANS & ANPh) 2012
123. A. Demircan, Sh. Amiranashvili, C. Brée, F. Mitschke, G. Steinmeyer  
„From optical rogue waves to optical transistors“  
Nonlinear Phenomena in Complex Systems **16**, 24 (2012)  
Also in: Proc. Foundations and Advances in Nonlinear Science Conference & Advances in Nonlinear Photonics Conference (FANS & ANPh) 2012
124. P. Rohrmann, A. Hause, F. Mitschke  
„Two-soliton and three-soliton molecules in optical fibers“  
Physical Review A **87**, 043834 (2013)
125. A. Demircan, Sh. Amiranashvili, C. Brée, Ch. Mahnke, F. Mitschke, G. Steinmeyer  
„Rogue wave formation by accelerated solitons at an optical event horizon“  
Appl. Phys. B **115**, 343-354 (2013)

126. Ch. Mahnke, F. Mitschke  
„Ultrashort Light Pulses Generated from Modulation Instability: Background Removal and Soliton Content“  
Appl. Phys. B **116**, 15 (2013)
127. S. Gholami, Ph. Rohrmann, A. Hause, F. Mitschke  
„Optimization strategy to find shapes of soliton molecules“  
Appl. Phys. B **116**, 43 (2013)
128. A. Hause, F. Mitschke  
„Higher-order equilibria of temporal soliton molecules in dispersion-managed fibers“  
Phys. Rev. A **88**, 063843 (2013)
129. F. Mitschke  
„Soliton Molecules: Experiments and Optimization“  
Proc. International Conference of Computational Methods in Sciences and Engineering 2014 (ICCMSE 2014), AIP Conf. Proc. **1618**, 403 (2014)
130. A. Hause, S. Kraft, P. Rohrmann, F. Mitschke  
„Reliable multiple pulse reconstruction from second-harmonic generation frequency-resolved optical gating spectrograms“  
JOSA B **32**, 868 (2015)
131. F. Mitschke, A. Hause, Ch. Mahnke  
„Soliton molecules for advanced optical telecommunications“  
Eur. Phys. J. Special Topics **225**, 2453 (2016)
132. F. Mitschke, Ch. Mahnke, A. Hause,  
„Soliton Content of Fiber-Optic Light Pulses“  
Appl. Sciences **7**, 635 (2017)
133. F. Mitschke  
„A Brief History of Fiber-Optic Soliton Transmission“  
**Book chapter** in: Handbook of Optical Fibers, Gang-Ding Peng (Ed.), Springer 2019
134. F. Mitschke, A. Hause, Ch. Mahnke  
„Solitons in fibers with loss beyond small perturbation“  
Phys. Rev. A **96**, 013826 (2017)
135. Ch. Mahnke, A. Hause, F. Mitschke  
„On the Creation of Solitons in Amplifying Optical Fibers“  
Int. Journal of Optics 9452540 (2018)
136. A. Hause, Ch. Mahnke, F. Mitschke  
„Impact of Fiber Loss on Two-Soliton States: Substantial Changes in Eigenvalue Spectrum“  
Phys. Rev. A **98**, 033814 (2018)
137. O. Melchert, S. Willms, S. Bose, A. Yulin, B. Roth, F. Mitschke, U. Morgner, I. Babushkin, A. Demircan  
„Soliton molecules with two frequencies“.  
Physical Review Letters **123**, 243905 (2019)