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Curriculum vitae
for
Assoc. Prof. Mads Peter Sørensen

1. Professional Activities

Master of Science in Mechanical engineering, January 1982, at the Technical University of Denmark.

From February 1, 1982, to August 30, 1984, Ph.D. student with P.L. Christiansen and O. Skovgaard as supervisors, at the Laboratory of Applied Mathematical Physics (LAMF), The Technical University of Denmark, Bldg. 303, DK-2800 Lyngby. Until December 31, 1984, research associate at LAMF.

From January 1, 1985, to December 31, 1985, post doctoral fellow at IBM Zürich Research Laboratory, Saümerstrasse 4, CH-8803 Rüschlikon, Switzerland.

From January 1, 1986, to December 31, 1988, post doctoral fellow at LAMF. Hereafter research associate and teaching assistant until June 30, 1989.

Post doctoral fellow at IBM Zürich Research Laboratory, July 1, 1989, to June 30, 1990. Hereafter associate professor at LAMF.

From September 1, 1993, associate professor at the Department of Mathematical Modelling (IMM), The Technical University of Denmark.

2. Publications

1 "Perturbation Theories for Sine-Gordon Soliton Dynamics". (M. Salerno, M.P. Soerensen, P.L. Christiansen and O. Skovgaard). Wave Motion, Vol. 5, No. 2, April 1983, pp. 49-58.
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2 "Subharmonic Generation in Josephson Junction Fluxon Oscillators Biased on Fiske Steps". (M.P. Soerensen, P.L. Christiansen, R.D. Parmentier and O. Skovgaard). Applied Physics Letters, 42 (8), 15 April 1983, pp. 739-741.
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3 "Solitary Waves on Nonlinear Elastic Rods I". (M.P. Soerensen, P.L. Christiansen and P.S. Lomdahl). J. Acoust. Soc. Am. 76 (3), September 1984, pp. 871-879.
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4 "Solitary Waves on Nonlinear Elastic Rods II". (M.P. Soerensen, P.L. Christiansen, P.S. Lomdahl, and O. Skovgaard). J. Acoust. Soc. Am. 81 (6), June 1987, pp. 1718-1722.
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5 "Intermittent Switching between Soliton Dynamics States in a Perturbed Sine-Gordon Model". (M.P. Soerensen, N. Arley, P.L. Christiansen, R.D. Parmentier and O. Skovgaard). Physical Review Letters, Vol. 51, 14 November 1983, pp. 1919-1922.
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6 "Fluxon Dynamics on the Circular Josephson Oscillator". (F. If, M.P. Soerensen, P.L. Christiansen). Physics Letters, Vol.100 A, No. 2, January 1984, pp. 68-70.
P169

7 "Magnetic Field Dependence of Microwave Radiation in Intermediate-Length Josephson Junctions". (M.P. Soerensen, R.D. Parmentier, P.L. Christiansen, O. Skovgaard, B. Dueholm, E. Joergensen, V.P. Koshelets, O.A. Levring, R. Monaco, J. Mygind, N.F. Pedersen and M.R. Samuelsen). Physical Review B, 30, 1984, pp. 2640-2648.
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8 "On the Low-Dimensional Chaos in RF SQUID'S ". (M.P. Soerensen, M. Bartuccelli, P.L. Christiansen, and A.R. Bishop). Physics Letters, 109A, 1985, pp. 347-351.
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9 "Simulation Studies of Radiation Linewidth in Circular Josephson-Junction Fluxon Oscillators". (F. If, P.L. Christiansen, R.D. Parmentier, O. Skovgaard, and M.P. Soerensen). Physical Review B, 32, 1985, pp. 1512-1518.
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10 "Prediction of Chaos in a Josephson Junction by the Melnikov Function Technique". (M. Bartuccelli, P.L. Christiansen, N.F. Pedersen, and M. P. Soerensen). Physical Review B, vol. 33 (7), 1 April 1986, pp. 4686-4691.
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11 "Switching between Dynamic States in Intermediate-Length Josephson Junctions". (S. Pagano, M.P. Soerensen, R.D. Parmentier, P.L. Christiansen, O. Skovgaard, J. Mygind, N.F. Pedersen, and M.R. Samuelsen). Physical Review B, vol. 33 (1), 1 January 1986, pp. 17 4-182.
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12 "Langevin Simulations of Quantum Systems". (R. Badii, T. Schneider, and M.P. Soerensen). Physical Review B, vol. 35 (1), 1 January 1987, pp. 297-304.
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13 "Relationship between Classical Diffusion, 1/f Noise and the Motion of a Quantum Particle". (T. Schneider, M.P. Soerensen, E. Tosatti, and M. Zannetti). Europhysics Letters, vol. 2 (3), 1 August 1986, pp. 167-174.
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14 "Relationship between Classical Motion in Random Media and Quantum Localization". (T. Schneider, M.P. Soerensen, A. Politi, and M. Zannetti). Physical Review Letters, vol. 56 (22), 2 June 1986, pp. 2341-2343.
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15 "Chaotic Behaviour of a Pendulum with Variable Length" (M. Bartuccelli, P.L. Christiansen, V. Muto, M.P. Soerensen, and N.F. Pedersen). Il Nuovo Cimento, vol. 100 B (2), August 1987, pp. 229-249.
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16 "Diffusion on a one-Dimensional Lattice and Quantum Localization". (T. Schneider, A. Politi, and M.P. Soerensen). Physical Review A, vol. 37 (3), 1. February 1988, pp. 948-959.
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17 "Electromagnetic Wave Propagation in Quasiperiodic Stratified Media". (D. Würtz, T. Schneider, and M.P. Soerensen). Physica 148 A, 1988, pp. 343-355.
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18 "Quasiperiodic Kronig-Penney Model on a Fibonacci Superlattice". (D. Würtz, M.P. Soerensen, and T. Schneider). Helvetica Physica Acta, vol. 61 (3), May 1988, pp. 345-362.
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19 "Stability of Fluxon Motion in Long Josephson Junctions at High Bias". (S. Pagano, M.P. Soerensen, P.L. Christiansen, and R.D. Parmentier). Physical Review B, vol. 38 (7), September 1988, pp. 4677-4687.
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20 "Crisis in a Driven Josephson Junction studied by Cell Mapping". (M.P. Soerensen, A. Davidson, N.F. Pedersen, and S. Pagano). Physical Review A, vol. 38 (10), November 1988, pp. 5384-5390.
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21 "Gap Structures in the Phonon Spectrum of a Linear Chain with Varying Masses". (M.P. Soerensen and T. Schneider). Physica B 153, 1988, pp. 147-158.
P282

22 "Numerical Evidence for Global Bifurcations Leading to Switching Phenomena in Long Josephson Junctions". (M.G. Forest, S. Pagano, R.D. Parmentier, P.L. Christiansen, M.P. Soerensen, and S-P. Sheu). Wave Motion 12, 1990, 213-226.
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23 "Level Spacing Statistics for the Anderson Model in One and Two Dimensions". (M.P. Soerensen and T. Schneider). Zeitschrift für Physik B-Condensed Matter 82, 1991, pp.115-119.
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24 "Superconductivity in Hubbard Models Coupled to non-Fermionic Degrees of Freedom". (H. De Raedt, T. Schneider, and M.P. Soerensen). Zeitschrift für Physik B-Condensed Matter 79, 1990, pp. 327-332.
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25 "Single Particle Tunneling and Photoemission Spectra in Anisotropic Layered High-Temperature Superconductors". (T. Schneider, and M.P. Soerensen). Zeitschrift für Physik B-Condensed Matter 80, 1990, pp. 331-337.
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26 "Correlation between the Hall Coefficient, Penetration Depth, Transition Temperature, Gap Anisotropic and Hole Concentration in Layered High-Temerature Superconductors". (T. Schneider, and M.P. Soerensen). Zeitschrift für Physik B-Condensed Matter 81, 1990, pp. 3-12.
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27 "Perturbed Bifurcations in the BCS Gap Equation". (P.N. Spathis, M.P. Soerensen, P.L. Christiansen and N. Lazarides). Physical Review B, vol 45(13), 1992, pp. 7360-7367.
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28 "Nonequilibrium-to-Equilibrium Mappings Applied to Nonlinear Partial Differential Equations". (R. Eykholt, A.R. Bishop, and M.P. Soerensen). Submitted to Journal of Statistical Physics.

29 "Dynamics of Additive-Pulse Mode-Locked Fibre Lasers". (M.P. Soerensen, K.A. Shore, T. Geisler, P.L. Christiansen, J. Moerk, and J. Mark). Optics Communications, vol 90, 1992, pp. 65-69.
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30 "Nonlinear Fibre External Cavity Modelocking of Erbium Doped Fibre Lasers". T. Geisler, K.A. Shore, M.P. Soerensen, P.L. Christiansen, J. Moerk, and J. Mark). Journal of the Optical Society of America B, vol. 10(7), pp. 1166-1174, 1993.
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31 "Double Phase Transition in High-Tc Superconductors". (T. Pavlopoulos, P.L. Christiansen, and M.P. Soerensen). Zeitschrift für Physik B91, Condensed Matter, 1993, pp.43-46.
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32 "Multilayer High Temperature Superconductors". (N. Lazarides, T. Schneider, and M.P. Soerensen). PHYSICA C 210, 1993, pp. 228-234.
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33 "On the Switching between Soliton Dynamics States in Long Josephson Junctions". (G. Filatrella, R.D. Parmentier, S. Pagano, P.L. Christiansen, and M.P. Soerensen). Physics Letters A172, 1992, pp.127-130.
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34 "Soliton Propagation in Three Coupled Nonlinear Schrödinger Equations". (R.M. Abrarov, P.L. Christiansen, S.A. Darmanyan, A.C. Scott, and M.P. Soerensen). Physics Letters A171, 1992, pp.298-302.
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35 "Modulational Instability in Optical Fibers Near the Zero Dispersion Point". (F.Kh. Abdullaev, S. Bischoff, P.L. Christiansen, S. Darmanyan, and M.P. Soerensen). Optics Communications **108**, 1994, pp.60-64.
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36 "The Ring Laser Configuration Studied by Collective Coordinates". (J.G. Caputo, N. Flytzanis, and M.P. Sørensen). Journal of the Optical Society of America B, **12**(1), 1995, pp.139-145.
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37 "Soliton Bunching in Annular Josephson Junction". (I.V. Vernik, N. Lazarides, M.P. Soerensen, A.V. Ustinov, N.F. Pedersen, and V.A. Oboznov). Journal of Applied Physics, **79**(10), 1996, pp.7854-7860.
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39 "Solitons in Fiber Lasers and Mode-locked Systems". (P. Nguyen, P. Skovgaard, M.P. Soerensen, and P.L. Christiansen). To appear in Chaos, Solitons & Fractals (special issue), **5**, 1995.
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40 "Evolution of Randomly Perturbed Korteweg-de Vries Solitons". (F.Kh. Abdullaev, S.A. Darmanyan, M.R. Djumaev, A.J. Majid, and M.P. Sørensen). Physical Review E, 52(4), 1995, pp.3577-3583.
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41 "Colliding-Pulse Mode-Locked Multiple Quantum Well Lasers". (S. Bischoff, M.P. Sørensen, J. Mørk, S.D. Brorson, L. Olofsson, J.M. Nielsen, and A. Møller-Larsen) To be submitted.

42 "Tunnel Currents in SIS Anisotropy Josephson Junctions". (N. Lazarides and M.P. Soerensen). Submitted to PHYSICA C.

43 "Modulational Instability of Electromagnetic Waves in Media with Varying Nonlinearity". (F.Kh. Abdullaev, S.A. Darmanyan, S. Bischoff and M.P. Sørensen). Journal of the Optical Society of America B, **14**(1), 1997, pp.27-33.
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44 "Pulse-Shaping Mechanism in Colliding-Pulse Mode-Locked Laser Diodes". (S. Bischoff, M.P. Sørensen, J. Mørk, S.D. Brorson, T. Franck, J.M. Nielsen, and A. Møller-Larsen). Applied Physics Letters, vol 67(26), 1995, pp 1-3? .
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45 "Characterization of Wavelength Chirping in Modelocked Monolithic CPM Lasers". (S.D. Brorson, Z. Wang, T. Franck, S. Bischoff, A. Møller-Larsen, J.M. Nielsen, J. Mørk and M.P. Sørensen). IEEE Photonics Technology Letters, vol 7(10), 1995, pp 1148-1150.
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46 "Anomalous Superconductivity in the tJ Model: Moment Approach". (M.P. Sørensen and J.J. Rodríguez-Núñez). PHYSICA C, 274, 1997, pp 323-330.
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3. Conference Proceedings.

1 "Josephson Junction Dynamics by Multimode Theory and Numerical Simulation". (M.P. Soerensen, R.D. Parmentier). Proc. of the LT-17 conference, eds. U. Eckern, A. Schmid, W. Weber, and H. Wühl, North-Holland, Amsterdam, August 1984, pp. 707-708.
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2 "X-Band Radiation from Josephson Junctions in Magnetic Field". (M.P. Soerensen, R.D. Parmentier, P.L. Christiansen, O. Skovgaard, B. Dueholm, E. Joergensen, V.P. Koshelets, O.A. Levring, R. Monaco, J. Mygind, N.F. Pedersen, and M.R. Samuelsen). IEEE Transactions on Magnetics, Vol. MAG-21, No. 2, March 1985, pp. 629-631.
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3 "Numerical Studies of Fluxon Dynamics in Annular Josephson Junction Oscillators". (F. If, P.L. Christiansen, R.D. Parmentier, O. Skovgaard, M.P. Soerensen). SQUID '85. Proceedings of the third International Conference on Superconducting Quantum Devices, eds. H.D. Hahlbohm and H. Lübbig, Walter de Gruyter, Berlin, 1985.
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4 "Fluxon Oscillations in Intermediate-Length Josephson Junctions". (S. Pagano, R.D. Parmentier, M.P. Soerensen, P.L. Christiansen, O. Skovgaard, N.F. Pedersen, J. Mygind, and M.R. Samuelsen). SQUID '85. Proceedings of the third International Conference on Superconducting Quantum Devices, eds. H.D. Hahlbohm and H. Lübbig, Walter de Gruyter, Berlin, 1985.
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5 "Switching between Dynamic States in Josephson Tunnel Junctions". (P.L. Christiansen, J. Mygind, S. Pagano, R.D. Parmentier, N.F. Pedersen, M.R. Samuelsen, O. Skovgaard, and M.P. Soerensen). Proceedings of Excitations Non Lineaires, R.C.P. 759, Seminaires Dijon 1985, Universite de Dijon (1985).
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6 "Numerical Results on the Relationship between Classical Diffusion and Quantum Systems". (M.P. Soerensen, T. Schneider, A. Politi, E. Tosatti, and M. Zannetti). Proceedings of the MIDIT workshop, eds. P.L. Christiansen and R.D. Parmentier, Manchester University Press, Manchester, 1989, pp. 517-521.
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7 "Melnikov Theory Applied to a Variable Length Pendulum". (V. Muto, M. Bartuccelli, and M.P. Soerensen). Proceedings of the MIDIT workshop, eds. P.L. Christiansen and R.D. Parmentier, Manchester University Press, Manchester, 1989, pp. 503-509.
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8 "Global Analysis of the Josephson Junction Dynamics Using Cell Mapping". (M.P. Soerensen, A. Davidson, N.F. Pedersen, and S. Pagano). Proceedings of the conference on Singular Behaviour and Nonlinear Dynamics, held on Samos, Greece, August 18-26, 1988. World Scientific Publishing co. Eds. St. Pnevmatikos, T. Bountis, and Sp. Pnevmatikos. pp. 539-554.
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9 "Solitary Waves on Nonlinear Elastic Rods". (P.L. Christiansen, V. Muto, and M.P. Soerensen). Proceedings of the Second I.U.T.A.M.-I.U.P.A.P. Symposium on Elastic Wave Propagation. Eds. M.F. McCarthy, M.A. Hayes, in Applied Mathematics and Mechanics 35, Elsevier Science Publisher, North Holland, 1989, pp. 167-172.
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10 "A Boundary Crisis in the Josephson Junction Studied by Cell Mapping". (M.P. Soerensen, and N.F. Pedersen). Proceedings of the Second Workshop on Stimulated Nonlinear Effects in Josephson Devices, held on Capri, Italy, September 27-30, 1988. World Scientific Publishing co., 1990. Eds. M. Russo and G. Costabile. pp. 292-308.
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11 "BCS-Theory Extended to Anisotropic and Layered High-Temperature Superconductors". (T. Schneider, M. Frick, and M.P. Soerensen). Proceedings of the NATO Workshop on Dynamics of Magnetic Fluctuations in High- Temperature Superconductors, held in Aghia Pelaghia, Italy, October 10-14, 1989. Plenum Press, New York, 1991. Eds. G. Reiter et al. pp. 219-231.

12 "The Route to Chaos in Semiconductor Lasers with Optical Feedback". (J. Moerk, B. Tromborg, D. Salech, and M.P. Soerensen). Submitted to IQEC '90.

13 "Nonlinear Properties of the BCS Gap equation". (M.P. Soerensen, T. Schneider, and M. Frick). Proceedings of the NATO A.R.W. on "Microscopic Aspect of Non-Linearity in Condensed Matter", Florence, Italy, June 7-13, 1990, eds. A.R. Bishop, V.L. Pokrovsky and V. Tognetti. Plenum Press, New York, 1991, NATO ASI Series B: Physics, vol. 264, pp. 315-327.
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14 "Chaos in the Driven Damped Pendulum Studied by a Nonequilibrium-to-Equilibrium Mapping". (M.P. Soerensen). Proceedings of the NATO A.R.W. on "Microscopic Aspect of Non-Linearity in Condensed Matter", Florence, Italy, June 7-13, 1990, ed. A.R. Bishop, V.L. Pokrovsky and V. Tognetti. Plenum Press, New York, 1991, NATO ASI Series B: Physics, vol. 264, pp. 101-104.
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15 "Application of the Bäcklund-Transformation in the Sine-Gordon System". (M.G. Forest, E.A. Overman II, P.L. Christiansen, M.P. Soerensen, N. Grønbech-Jensen, R. Flesch, D.W. McLaughlin, R.D. Parmentier and S. Pagano). Proceedings of the NATO A.R.W. on Nonlinear Superconductive Electronics and of the Second Workshop

on Josephson Devices, held September 3-7, 1990, Capri, Italy, Eds. G. Costabile, S. Pagano, N.F. Pedersen, and M. Russo, Plenum Press, New York, 1991, pp. 403-413.
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16 "Bifurcations and Nonlinear Properties of the BCS Gap Equation". (M.P. Soerensen) Proceedings of the NATO A.R.W. on Nonlinear Superconductive Electronics and of the Second Workshop on Josephson Devices, held September 3-7, 1990, Capri, Italy, Eds. G. Costabile, S. Pagano, N.F. Pedersen, and M. Russo,Plenum Press, New York, 1991, pp. 427-436.
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17 "Dynamics of Fibre Laser with Nonlinear External Cavity". (M.P. Soerensen, K.A. Shore, T. Geisler, P.L. Christiansen, J. Mark, and J. Moerk). Proceedings of the NATO ASI on "Chaotic Dynamics: Theory and Practice", Ed. T. Bountis, Patras, July 11-20, 1991. Plenum Publishing Corporation, pp.243-251, 1992.
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18 "Numerical Study of Bifurcations in the BCS Gap Equation". (T. Pavlopoulos, P.L. Christiansen, M.P. Soerensen, N. Lazarides, and P. Spathis). Proceedings of the NATO ASI on "Chaotic Dynamics: Theory and Practice", Ed. T. Bountis, Patras, July 11-20, 1991. Plenum Publishing Corporation, pp. 233-242, 1992.
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19 "Dynamics of a Fibre Laser Coupled to a Nonlinear Fibre Cavity". (M.P. Soerensen, T. Geisler, K.A. Shore, P.L. Christiansen, J. Mørk and J. Mark). Proceedings of the NATO-MIDIT ASI on "Future Directions of Nonlinear Dynamics in Physical and Biological Systems", Eds. P.L. Christiansen, J.C. Eilbeck, and R.D. Parmentier, July 23 - August 1, 1992, Lyngby, Denmark. Plenum Publishing Corporation, pp.421-424, 1993.
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20 "Nonlinearity in BCS Models of High-Tc Superconductors". (T. Pavlopoulos, N. Lazarides, P.L. Christiansen, M.P. Soerensen, and P.N. Spathis). Proceedings of the NATO-MIDIT ASI on "Future Directions of Nonlinear Dynamics in Physical and Biological Systems", Eds. P.L. Christiansen, J.C. Eilbeck, and R.D. Parmentier, July 23 - August 1, 1992, Lyngby, Denmark. Plenum Publishing Corporation, pp.359-362, 1993.
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21 "Soliton Bunching in Annular Josephson Junction". (M.P. Soerensen, B.A. Malomed, A.V. Ustinov, and N.F. Pedersen). Proceedings of the NATO-MIDIT ASI on "Future Directions of Nonlinear Dynamics in Physical and Biological Systems", Eds. P.L. Christiansen, J.C. Eilbeck, and R.D. Parmentier, July 23 - August 1, 1992, Lyngby, Denmark. PHYSICA D 68(1), pp.38-40, 1993.
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22 "Simulation of a Fiber Ring Laser Using the Split-step Fourier Method". (A.J. Majid and M.P. Soerensen). Proceedings of the Third IMACS International Conference on Computational Physics, Eds. P.L. Christiansen and E. Mosekilde, August 1-4, 1994, Lyngby, Denmark. IMACS, Rutgers University, Piscataway, NJ 08855, U.S.A. pp.107-112.
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23 "Effect of Gap Anisotropiy on the Josephson Tunnel Currents". (N. Lazarides and M.P. Soerensen). Proceedings of the Third IMACS International Conference on Computational Physics, Eds. P.L. Christiansen and E. Mosekilde, August 1-4, 1994, Lyngby, Denmark. IMACS, Rutgers University, Piscataway, NJ 08855, U.S.A. pp.160-165.
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24 "Josephson Tunneling and Gap Anisotropy". (M.P. Sørensen and N. Lazarides). Proceedings of the Seventh International Symposium on Weak Superconductivity, Eds. Š. Beňačka, P. Seidel, and V. Štrbik, June 6-10, 1994, Smolenice Castle, Slovakia. Published by Department of Cryoelectronics, Institute of Electrical Engineering, Slovak Akademy of Sciences, 842 39 Bratislava, Dúbravská cesta 9, Slovak Republic. ISBN 80-900506-3-8. pp.37-47.
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25 "Josephson Tunneling in SIS Junctions Made of Anisotropic Superconductors". (N. Lazarides and M.P. Sørensen). Proceedings of the international conference on Nonlinear Superconducting Devices and High-T_c Materials, Capri, Italy, October 8-13, 1994. World Scientific, Singapore, 1995, pp.91-99.
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26 "Collective Coordinate Model of a Ring Laser". (J.G. Caputo, N. Flytzanis, and M.P. Sørensen). Proceedings of the European COST Workshop 94, Optical Telecommunications, University of Nice, Nice, France, April 17-21, 1994. pp.256-259.
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27 "Verification of Soliton Bunching in Annular Josephson Junctions". (I.V. Vernik, N. Lazarides, M.P. Sørensen, A.V. Ustinov, N.F. Pedersen and V.A. Oboznov). Proceedings of EUCAS'95 conference on Applied Superconductivity 1995, Edited by D.Dew-Hughes, IOP Publishing Ltd., London, 1995, pp.753-756.
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28 "Physics of colliding-pulse mode-locked quantum-well lasers". (S. Bischoff, M.P. Sørensen, J. Mørk, S.D. Brorson, J.M. Nielsen, A. Møller-Larsen and L. Olofsson). Proceedings CLEO, Baltimore, USA, 1995, Technical digest conference on lasers and electro-optics, vol. 15, 1995, pp.316-317.
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29 "Gap anisotropy and tunneling currents". (N. Lazarides and M.P. Sørensen). Mathematics and Computers in Simulation, vol. 40, 1996, pp.271-280.
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30 "Modelling and characterization of colliding pulse mode-locked (CPM) quantum well lasers". (S. Bischoff, S.D. Brorson, T. Franck, M. Hofmann, L. Prip, M.P. Sørensen and J. Mørk). Proceedings of the SPIE conference, San Jose, California, USA, 29 January - 2 February, 1996, SPIE proceedings series, vol. 2693, 1996, pp.477-488.
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7. Other

1 "Edb-grafik ved LAMF på DTH". (O. Skovgaard, P.L. Christiansen and M.P. Soerensen). Tema: Grafik, NEUCC, RECAU, RECKU, 1984, pp. 125-129, (in Danish).
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2 "Brugererfaring med vektorprocessor CRAY-1". (O. Skovgaard, F. If, L. MacNeil, M.P. Sørensen, og P.L. Christiansen). NEUCC NYT, Nr. 167, marts 1983, pp. 26-27.
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3 "Nonlinear Properties of the BCS Gap Equation". (M.P. Soerensen, P.L. Christiansen, T. Pavlopoulos, and N. Lazarides). UNI-C Supercomputing Annual Report 1991. Published by UNI-C, The Technical University of Denmark, pp.25-27.
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4 "Multilayer High Temperature Superconductors". (M.P. Soerensen, N. Lazarides and P.L. Christiansen). UNI-C Supercomputing Annual Report 1992, Published by UNI-C, The Technical University of Denmark, pp.46-48.
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5 "Supercomputing models of fiber lasers" (M.P. Soerensen, P.L. Christiansen, T. Geisler, K.A. Shore, J. Mørk and J. Mark) UNI-C Supercomputing Annual Report 1993, Published by UNI-C, The Technical University of Denmark, pp.65-67.
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6 "Biological Thin Films" (K. Ø. Rasmussen, P. L. Christiansen and M. P. Sørensen) UNI-C Supercomputing Annual Report 1994, Published by UNI-C, The Technical University of Denmark.

8. Participation in International Conferences

1 "International Conference on Solitons in Real Systems". June 17-26, 1982, in Nice and Cargese, France. Lecture: "Nonlinear Dispersive Waves on Elastic Rods", Poster: "Nonlinear Elastic Waves".

2 "Scott Russell Centenary Conference, Solitons '82". August 22-27, 1982, on Heriot-Watt University, Edinburgh, Scotland. Poster: "Nonlinear Elastic Waves".

3 "Numerical Simulation in Physical Research". July 17-22, 1983, in Grassau, West Germany. Lecture: "Sine-Gordon Solitons".

4 "LT-17 XVII, International Conference on Low Temperature Physics". August 15-22, 1984, in Karlsruhe, West Germany. Poster: "Josephson Junction Dynamics by Multimode Theory and Numerical Simulation".

5 "XVI'th International Congress of Theoretical and Applied Mechanics". August 19-25, 1984, Lyngby, Denmark. Lecture: "Solitons and Chaos in Dynamical Systems".

6 "Third Workshop on Nonlinear Evolution Equations and Dynamical Systems". June 20 - July 5, 1985, Baia Verde, Gallipoli, Italy. Lecture: "Stochastic Simulation of Quantum Systems".

7 "Second University of California Conference on Statistical Mechanics". March 26-29, 1986, Davis, California, U.S.A. Lecture: "On Low Dimensional Chaos in RF-SQUIDs".

8 "March Meeting of the American Physical Society". 31 March - 4 April, 1986, Las Vegas, Nevada, U.S.A.

9 "Symposium on Quantum Chaos. Adriatico Research Conference". June 17-20, 1986, Trieste, Italy.

10 "Fractals: Materials and Dynamics". June 30 - July 4, 1986, Oberlech, Austria. Lecture: "Relationship between Classical Diffusion, 1/f Noise and the Motion of a Quantum Particle".

11 "MIDIT 1986 Workshop on Structure, Coherence and Chaos in Dynamical Systems". August 12-16, 1986, Lyngby, Denmark. Posters: "Relationship between Classical Diffusion, 1/f Noise and the Motion of a Quantum Particle". "Subharmonic and Heteroclinic Bifurcations in a Pendulum with Variable Length". "Stability of Dynamical States in Josephson Junctions".

12 "E.E.C. Josephson Project". May 20-22, 1987, in La Brigue, France. Lecture: "Stability of Fluxon Motion in Long Josephson Junction at High Bias".

13 "The 12'th Summerschool in Mathematical Physics". September 14-26, 1987, in Ravello, Italy.

14 "IBM International Scientific Symposium on Computational Physics". November 24-26, 1987, in Bad Neuenahr, West Germany.

15 "Singular Behaviour and Nonlinear Dynamics". August 18-26, 1988, on Samos, Greece. Lecture: "Crisis in a Driven Josephson Junction Studied by Cell Mapping". Poster: "Stability of Fluxon Motion in Long Josephson Junctions".

16 "Second Workshop on Stimulated Nonlinear Effects in Josephson Devices". September 27-30, 1988, on Capri, Italy. Lectures: "Stability of Sine-Gordon Solitons", and "Crisis in a Driven Josephson Junction Studied by Cell Mapping".

17 "Third Workshop on Stimulated Nonlinear Effects in Josephson Devices". May 22-25, 1989, on Crete, Greece. Lecture: "Driven Sine-Gordon Systems with Noise".

18 "NATO A.R.W. on Microscopic Aspect of Non-Linearity in Condensed Matter". June 7-13, 1990, Florence, Italy. Poster: "Chaos in the Driven Damped Pendulum Studied by a Nonequilibrium- to-Equilibrium Mapping".

19 "NATO A.R.W. on Superconducting Electronics and 2nd Workshop on Josephson Devices". September 3-7, 1990, on Capri, Italy. Lecture: "Bifurcations and Nonlinear Properties of the BCS Gap Equation".

20 "Dynamics Days". June 12-15, 1991, Berlin, Germany. Poster: "Pulse Compression in a Fibre Laser Coupled to a Nonlinear External Cavity".

21 "Chaotic Dynamics: Theory and Practice". NATO ASI, July 11-20, 1991, Patras, Greece. Lecture: "Dynamics of Fibrelaser with Nonlinear External Cavity". Poster: "Asymmetric Pairing Interaction in the BCS Gap Equation".

22 "Future Directions of Nonlinear Dynamics in Physical and Biological Systems". NATO-MIDIT ASI, July 23 - August 1, 1992, Lyngby, Denmark. Poster: "Dynamics of a Fibre Laser Coupled to a Nonlinear Fibre Cavity". Poster: "Nonlinearity in BCS Models of High-Tc Superconductors". Poster: "Douple Phase Transition in High Tc Superconductors". Poster: "Soliton Bunching in Annular Josephson Junction".

23 "Two Days Contractors Workshop on Ec Activities in High Temperature Superconductivity", Strasbourg, November 2-3, 1992. Poster: "Nonlinear Models of High-Tc Superconductivity".

24 "EC Workshop on Josephson Junctions", Iraklion, Greece, April 29 - May 2, 1993. Lecture: "The Influence of Anisotropy of the Energy Gap on Josephson Tunneling".

25 "Fourth Nordic Symposium on Superconductivity", Varberg, Sweden, May 25-28, 1994.

26 "Weak Superconductivity Symposium WSS'94", Smolenice, Slovakia, June 6-10, 1994. Lecture: "Josephson Tunneling and Gap Anisotropy".

27 "Third IMACS International Conference on Computational Physics", Lyngby, Denmark, August 1-4, 1994. Poster: "Simulation of a Fiber Ring Laser Using the Split-step Fourier Method" Poster: "Effect of Gap Anisotropiy on the Josephson Tunnel Currents".

28 "The Seventh ECMI Modelling week", DTU, Lyngby, Denmark, August 14-21, 1994. Main organizer.

29 "8th Conference of the European Consortium for Mathematics in Industry", Kaiserslautern, Germany, September 6-10, 1994.

30 "Nonlinear Superconducting Devices and High-T_c Materials", Capri, Italy, October 8-13, 1994. Coorganizer.

31 "Ninth ECMI modelling week", (summerschool), Dept. of Mathematics, University of Strathclyde, Glasgow, Scotland, September 3-11, 1995. Acted as instructor on *Optical Fibers for Communication Systems*.

32 "Complex Dynamics in Spatially Extended Systems", Niels Bohr Institute, Copenhagen, Denmark, September 27-30, 1995. Poster: "Modulational Instability of Electromagnetic Waves in Media with Temporally Varying Nonlinearity".

33 "High-Performance Computing in Numerical Simulations", UNI-C and Institute of Mathematical Modelling, Technical University of Denmark, Lyngby, Denmark, December 18-19, 1995.

34 "9th Conference of the European Consortium for Mathematics in Industry", Technical University of Denmark, Lyngby, Denmark, June 25-29, 1996. Coorganizer.

35 "Ninth ECMI modelling week", (summerschool) University of Jyväskylä, Department of Mathematics, Jyväskylä, Finland, August 23 - September 1, 1996. Acted as instructor on *Temperature distribution in an oven for calibrating thermometers*.

36 "Fluctuations, Nonlinearity and Disorder", University of Crete and Research Center of Crete, Heraklion, Crete, Greece, September 30 - October 4, 1996. Lecture: "Generation of Short Optical Pulses".

37 "ECMI Workshop", Charles University, Praha, Czech Republic, December 14 - 15, 1996. Lecture: "Nonlinear Optical Communication".

38 "Solitons and Coherent Structures in Physics and Biology (SOLP HYS)", Technical University of Denmark, Friday May 30 - Tuesday June 3, 1997. Coorganizer.

39 "10th ECMI modelling week", (summerschool) Dresden University of Technology, Department of Mathematics, Germany, September 6 - September 15, 1997. Acted as instructor on *Control of a robot*.

9. Participation in national Conferences

1 "Spring meeting of the Danish Physical Society". Helsingiør, May 29-30, 1984. Poster: "Magnetic Tuning of Josephson Oscillators".

2 "Non-linear Dynamics and Chaos". 22 April 1987, The Niels Bohr Institute, Copenhagen. Lecture: "Fibonacci Superlattices Studied by Transfer Matrix Technique".

3 "1st Topsøe Summer School on Superconductivity". Risø, Roskilde, June 20-24, 1988. Poster: "Magnetic Properties of Weakly Coupled Superconducting Grains".

4 "Topical meeting in the Danish Physical Society". Århus University, Århus, March 14-15, 1989. Lecture: "Crisis in a Driven Josephson Junction Studied by Cell Mapping".

5 "Spring meeting of the Danish Physical Society". Nyborg Strand, Nyborg, May 18-19, 1989. Coorganizer.

6 "Spring meeting of the Danish Physical Society". Nyborg Strand, Nyborg, May 21-22, 1991. Coorganizer. Poster: "Nonlinear Properties of the BCS Gap Equation".

7 "Danish Physical Society Topical Meeting on Nonlinear Physics". The Niels Bohr Institute, Copenhagen, October 14, 1991. Coorganizer.

8 "Joint Nordic Spring Meeting '92". Nyborg Strand, Nyborg, May 7-10, 1992.

9 "Annual meeting of the Danish Optical Society and the Danish Physical Society". The Technical University of Denmark, Lyngby, November 26-27, 1992. Poster: "Nonlinear Fibre External Cavity Modelocking of Erbium Doped Fibre Lasers".

10 "Spring meeting of the Danish Physical Society". Lalandia, Rødby Havn, May 16-18, 1993. Coorganizer. Poster: "Optical Wavelet Transform". Poster: "Numerical Simulation of Colliding Pulse Modelocked Quantum Well Lasers". Poster: "Multilayer High Temperature Superconductors".

11 "Spring meeting of the Danish Physical Society". University of Odense, Odense, June 2-3, 1994. Coorganizer. Poster: "Josephson Tunneling Currents and Anisotropic Superconductors".

12 "Annual meeting of the Danish Optical Society". The Technical University of Denmark, Lyngby, November 24, 1994. Poster: "Simulations of Colliding Pulse Mode-Locked Quantum Well Lasers". Poster: "The Ring Laser Configuration Studied by Collective Coordinates".

13 "Annual meeting of the Danish Physical Society". University of Odense, Odense, May 31 - June 2, 1995. Coorganizer. Poster: "The Ring Laser Configuration Studied by Collective Coordinates".

14 "Annual meeting of the Danish Physical Society". Hotel Nyborg Strand, Nyborg, May 23 - 24, 1996. Coorganizer.

10. Visits to Research Centres

1 Max-Planck Institut für Plasmaphysik, Garching bei München, December 4-12, 1982, October 15-23 and December 5-10, 1983. (Implementation of a program solving the sine-Gordon equation on a Cray-1 vectorprocessor)- Reported in NEUCC nyt nr. 167, March 1983.

2 IBM Zürich Research Laboratory, Rüschlikon, Switzerland. June 19-20, 1984. Lecture: "Soliton Dynamic Configurations in Perturbed Sine-Gordon Models".

3 Dipartimento di Fisica, Universita degli Studi di Salerno, I-84100 Salerno, Italy. November 25-29, 1985. Lecture: "Sine-Gordon Systems".

4 IBM Zürich Research Laboratory, Rüschlikon, Switzerland. February 3-7 and June 23-27, 1986. (Joint research project between IBM and LAMF on "stochastic simulation of Quantum systems").

5 IBM T.J. Watson Research Center, Yorktown Heights, N.Y., U.S.A. November 17, 1986.

6 Los Alamos National Laboratory, Los Alamos, New Mexico, U.S.A. November 18 - December 19, 1986. Lecture: "Relationship between Classical Motion in Random Media and Quantum Localization".

7 IBM Zürich Research Laboratory, Rüschlikon, Switzerland. January 5 - April 3, 1987. (Joint research project between IBM and LAMF). Lecture: "Propagation of Light in Layered Media". October 26-30 1987.

8 IBM Zürich Research Laboratory, Rüschlikon, Switzerland. February 29 - May 31, 1988. (Joint research project between IBM and LAMF).

9 Dipartimento di Fisica, Universita degli Studi di Salerno, I-84100 Salerno, Italy. October 3-7, 1988. Lecture: "Spectral Analysis of Transients in Long Josephson Junction Models."

10 Dipartimento di Fisica, Universita degli Studi di Salerno, I-84100 Salerno, Italy. September 10-14, 1990. Lecture: "The BCS Gap Equation Applied to High-Tc Superconductors."

11 University of Crete, Iraklion, Greece, October 18-25, 1992, and University of Patras, Patras, Greece, October 26-29, 1992. Lecture: "Nonlinear Properties of the BCS Gap Equation."

12 LMI-INSA, University of Rouen, F-76131 Mont-Saint-Aignan, France, June 17 - July 1, 1993. (Joint research project.)

13 Theoretical Division of Physical-Technical Institute, Uzbek Academy of Sciences, Tashkent, Uzbekistan, August 12-24, 1993. Lecture: "Generation of Short Optical Pulses".

14 LMI-INSA, University of Rouen, F-76131 Mont-Saint-Aignan, France, July 3 - July 10, 1994. (Joint research project.)

15 Institut of Solid State Physics, Friedrich Schiller University, Jena, Germany, March 26 - April 5, 1995. (Joint research project and EU TMR proposal within high-T_c superconductivity.) Lecture (March 30, 1995): "Crisis in a driven Josephson junction studied by cell mapping".

16 Department of Mathematical Sciences, The Norwegian Institute of Technology, University of Trondheim, Norway, April 21 - April 23, 1995. Participation in ECMI educational committee meeting.

17 Dept. of Math. & Comput. Sciences, University of Surrey, Guildford, UK and Crystallography Department, Birkbeck College, London, UK, September 11-14, 1995.

18 LMI-INSA, University of Rouen, F-76131 Mont-Saint-Aignan, France, November 26 - December 7, 1995. (Joint research project.)

19 Fachbereich Mathematik, Universitaet Kaiserslautern, Kaiserslautern, Germany, January 12-14, 1996. Participation in ECMI educational committee meeting.

20 University of Graz, Graz, Austria, November 8-10, 1996. Participation in ECMI educational committee meeting.

21 Federal Institute for Materials Research and Testing (BAM), Berlin, Germany, September 15, 1997.

11. Other activities

Member of the Danish Physical Society. Reviewer for Physical Review, Physica Scripta, Physics Letters, and the Arabic Golf Journal of Scientific Research.

Board member of the educational committee of the European Consortium for Mathematics in Industry.