1 PUBLICATIONS

C. Ringhofer, 01-29-2013

BOOKS, BOOK CHAPTERS AND REVIEW ARTICLES:

1. P. Markowich,C. Schmeiser, C. Ringhofer: 'Mathematical Models for Semiconductor Devices', Springer Verlag (1990).

2. A. Anile, W. Allegretto, C. Ringhofer: Mathematical Problems in Semiconductor Physics, Springer Lecture Notes in Mathematics (2003).

3. D. Ferry,C. Ringhofer: 'Wigner Function Modeling of Resonant Tunneling Devices' chapter in 'Quantum Transport in Semiconductors',C.Jacoboni ed., Plenum Press (1992) .

4. C. Ringhofer: 'Computational Methods for Semiclassical and Quantum Transport in Semiconductor Devices', Review Article, 'Acta Numerica' vol. 3,pp.485-521 (1997).

5. C. Ringhofer, C. Gardner, D. Vasileska: Effective Potentials and Quantum Fluid Models: A Thermodynamic Approach, Inter. J. on High Speed Electronics and Systems 13,pp. 771-803, 2003.

6. C. Ringhofer: Traffic flow models and service rules for complex production systems, to appear in'Decision Policies for Production Networks', K. Kempf, D. Armbruster ed., Springer 2011.

7. S. Goettlich, M. Herty,C. Ringhofer: Optimal order and distribution strategies in production networks. to appear in 'Decision Policies for Production Networks', K. Kempf, D. Armbruster ed., Springer 2010.

ARTICLES: (sorted by research area)

Networks and Games:

8. P. Degond, J.G. Liu, C, Ringhofer, Evolution of the Distribution of Wealth in an Economic Environment Driven by Local Nash Equilibria, Journal of Statistical Physics (2013).published online
http://www.springerlink.com/openurl.asp?genre=article& id=doi:10.1007/s10955-013-0888-4

9. M. Herty, C. Ringhofer, Averaged kinetic models for flows on unstructured networks, Kinetic and Related Models, 4(4)1081:1096, 2011.

10. P. Degond, J.G. Liu, C, Ringhofer, Large-Scale Dynamics of Mean-Field Games Driven by Local Nash Equilibria, Journal of Nonlinear Science (2013). published online http://www.springerlink.com/openurl.asp?genre=article& id=doi:10.1007/s00332-013-9185-2

Supply Chain and Network Modeling:

11. M. Herty, C. Ringhofer, Feedback controls for continuous priority models in supply chain management, Computational methods in applied mathematics, 11(2)203-213, 2012.

12. S. Göttlich, M. Herty, C. Ringhofer and U. Ziegler, Production Systems with Limited Repair Capacity, Optimization 61 (8) : 915-948, 2012.

13. M. La Marca D. Armbruster, M. Herty C. Ringhofer, Control of continuum models of production systems, IEEE Transactions on Automatic Control 55 (11) 2511-2526, 2010.

14. C. Ringhofer, A level set approach to modeling general service rules in supply chains, Communications in Mathematical Sciences 8(4):909-930, 2010.

15. A. Unver, C. Ringhofer, D. Armbruster, A hyperbolic relaxation model for product flow in complex production networks, AIMS J. Discrete and continuous dynamical systems Supplement 2009 pp. 791-800, 2009.

16. S. Goettlich, M. Herty, C. Ringhofer, Optimization of order policies in supply networks, European journal of operations research, 202 (2):456-465, 2010.

17. D. Armbruster, D. Marthaler, C. Ringhofer: Kinetic and Fluid Model Hierarchies for Supply Chains, SIAM J. Multiscale Modeling and Simulation 2-1:43-61 (2004).

18. D. Marthaler, D. Armbruster, C. Ringhofer: 'A mesoscopic approach to the simulation of semiconductor supply chains', in: Proceedings of the International Conference on Modeling and Analysis of Semiconductor Manufacturing (MASM2002), G. Mackulak et al, eds, pp.: 365 - 369 (2002).

19. D. Marthaler, D. Armbruster, C. Ringhofer: 'Modeling a re-entrant factory' to appear, Operations Research (submitted 2002).

20. Armbruster, D.; Marthaler, D.; Ringhofer, C.: 'Efficient simulations of supply chains' Winter Simulation Conference, Proceedings of the , Volume: 2 , 2002 Page(s): 1345 -1348,(2002).

21. D. Armbruster, C. Ringhofer: "Thermalized kinetic and fluid models for re-entrant supply chains" SIAM J. Multiscale Modeling and Simulation 3:782-800, 2005.

22. D. Armbruster,P. Degond, C. Ringhofer: "Kinetic and fluid models for supply chains supporting policy attributes" Bulletin of the Inst. Math., Academica Sinica 2:433-460, 2007.

23. D. Armbruster, P. Degond, C. Ringhofer: A Model for the Dynamics of large Queuing Networks and Supply Chains, SIAM J. Applied Mathematics 66:896-920, 2006.

24. D. Armbruster, P Degond, C. Ringhofer: 'Continuum models for interacting machines', to appear in: 'Interacting machines: Industrial production systems and biological cells" A. Mikhailov et al ed. World Sientific , 2005.

25. D. Armbruster, C. de Beer, M. Freitag, T. Jagalski, C. Ringhofer: "Autonomous Control of Production Networks using a Pheromone Approach" PHYSICA A, 363(1):104-114, 2006..

26. M. Herty, C. Ringhofer: "Optimization For Supply Chain Models With Policies", PHYSICA A 380:651-664, 2007.

27. P. Degond, C. Ringhofer: "STOCHASTIC DYNAMICS OF LONG SUPPLY CHAINS WITH RANDOM BREAKDOWNS" SIAM J. Applied Mathematics 68(1):59-79, 2007.

28. S. Goettlich, M. Herty, C. Ringhofer, Time-dependent order and distribution policies in supply networks, to appear, proceeding of ECMI conference, London, GB, 2008, submitted, 2008.

29. D. Armbruster, M. Herty, C. Ringhofer: A continuum description for a DES control problem, Accepted, Invited Session Paper, 51st IEEE Conference on Decision and Control, Hawai, 2012

Homogenization, Sensors , Biological Systems and CVD

30. Steven M. Baer, Shaojie Chang, Sharon M. Crook, Carl L. Gardner, Jeremiah R. Jones, Ralph F. Nelson, Christian Ringhofer, and Dritan Zela, A computational study of background-induced flicker enhancement and feedback mechanisms in cat outer retina: temporal properties, Submitted, J. Neurophysiology (2013).

31. Clemens Heitzinger, Christian Ringhofer: A transport equation for confined structures derived from the boltzmann equation, Communications in Mathematical Sciences 9(3):829-857, 2011.

32. C. Heitzinger, C. Ringhofer: Multiscale modeling of fluctuations in stochastic elliptic pde models of nanosensors, Submitted, Comm. Math. Sci 2012.

33. C, Heitzinger , N. Mauser , C. Ringhofer , Multi-scale modeling of planar and nanowire field-effect biosensors, accepted, SIAM J. Appl. Math. 70, 1634 (2010) .

34. Clemens Heitzinger AND Rick Kennell AND Gerhard Klimeck AND Norbert Mauser AND Michael McLennan AND Christian Ringhofer: "Modeling and Simulation of Field-Effect Biosensors (BioFETs) and Their Deployment on the nanoHUB", Journal of Physics: Conference Series (Proc. BIRS Workshop on Low Dimensional Semiconductor Nanostructures) 107:012004: 1-12, 2009.

35. Clemens Heitzinger AND Norbert Mauser AND Christian Ringhofer: "Homogenized Interface Conditions for Multi-Scale Modeling of Field-Effect Biosensors by the Poisson–Boltzmann Equation", SIAM J. Multiscale Modeling and Simulation, submitted, 2007.

36. Clemens Heitzinger AND Christian Ringhofer AND Siegfried Selberherr: "Investigations of the Potential Jump at the Surface of BioFETs Using a Multi-Scale Model" Proc. 211th Meeting of the Electrochemical Society (ECS) pp: 947ff, 2007.

37. C. Ringhofer, C. Heitzinger, Multi - Scale Modeling and Simulation of Field-Effect Biosensors, Transactions of the Electrochemical Society, 14 (1): 11-19 , 2008.

38. T. Windbacher, V. Sverdlov, S. Selberherr, C. Heitzinger, N. Mauser, C.Ringhofer, Study of the Properties of Biotin-streptavidin Sensitive BioFETs. Proceeding of: BIODEVICES 2009, Proceedings of the International Conference on Biomedical Electronics and Devices, Porto, Portugal, January 14-17(2009), appeared 2012.

39. Clemens Heitzinger, Yang Liu, Norbert J. Mauser, Christian Ringhofer, and Robert W. Dutton, Calculation of fluctuations in boundary layers of nanowire field-effect biosensors. J. Comput. Theor. Nanosci., 7(12) 426-432, 2010.

40. M. Gobbert, C. Ringhofer: 'An asymptotic analysis for a model of chemical vapor deposition on a micro structured surface' SIAM Journal on Applied Mathematics 58, pp. 737-752 (1998).

41. T. Cale, M. Gobbert, C. Ringhofer: 'One approach to combining equipment scale and feature scale models', In M. Meyyappan, D. J. Economou, and S. W. Butler, editors, Process Control, Diagnostics, and Modeling in Semiconductor Manufacturing, pages 553–563. Electrochemical Society, (1995).

42. T. Cale, M. Gobbert, C. Ringhofer: 'The combination of equipment scale and feature scale models for chemical vapor deposition via a homogenization technique', VLSI Design vol. 3 pp.1-7, (1997).

43. T. Cale, M. Gobbert, C. Ringhofer: 'Mesoscopic scale modeling of microloading during LPCVD', Journal of the Electrochemical Society, vol. 143, no.8, pp. 2624-2631 (1996).

44. M. Gobbert, C. Ringhofer: "A homogenization technique for the Boltzmann equation for low pressure chemical vapor deposition" SIAM J. Applied Mathematics 64, pp.:196-216 (2003).

45. M. Gobbert,C. Ringhofer: 'Mesoscopic Scale Modeling for Chemical Vapor Deposition in Semiconductor Manufacturing' accepted, IMA Volumes in Mathematics and its Applications (2001).

Quantum Hydrodynamics

46. P. Degond, F. Mehats, C. Ringhofer: Quantum Energy-Transport and Drift-Diffusion models, Journal Stat. Phys. 118:625-667, 2005.

47. P. Degond, F. Mehats, C. Ringhofer: "Quantum hydrodynamic models derived from the entropy principle" to appear, Contemporary Mathematics. 2004.

48. J.-P. Bourgade, P. Degond, F. Mehats, C. Ringhofer: On quantum extensions to classical Spherical Harmonics Expansion / Fokker-Planck models, Journal of Mathematical Physics 47: 043302 (1-26) , 2006.

49. J. P. BOURGADE, P. DEGOND. MAUSER, C. RINGHOFER: Quantum Corrections to Semiclassical Transport in Nanoscale Devices Using Entropy Principles, Journal of Comp. Electronics 6(1-3):117-120, 2007.

50. P. Degond, C. Ringhofer: Quantum moment hydrodynamics and the entropy principle, Journal Stat. Phys. 112(3): 587-628, 2003.

51. Degond, C. Ringhofer: A note on quantum moment hydrodynamics and the entropy principle Compte Rendu Acad. Sci. Paris Ser. I 335, pp. 967-972, 2003.

52. C. Gardner, C. Ringhofer, G. Klimeck, R. Bowen: 'Smooth Quantum Hydrodynamic Model vs. NEMO Simulation of a Resonant Tunneling Diode', *Journal of Computational Electronics*, to appear (2004).

53. P. Degond, C. Ringhofer: A note on binary quantum collision operators conserving mass, momentum and energy, Compte Rendu Acad. Sci Paris, Ser I, 336, pp. 785–790, 2003.

54. C. Ringhofer: 'A Study of a Small MESFET Using Quantum Mechanical Moment Equations', 'Numerical Analysis of Semiconductor Processes and Devices,J.J.H. Miller ed. pp 232-250, (1991).

55. P. Markowich,C. Ringhofer: 'Quantum Hydrodynamics in the High Field Case', Appl. Math. Letters 6, pp.43-47 (1995).

56. C. Gardner, C. Ringhofer: 'The smooth quantum potential for the hydrodynamic model' , Phys. Rev. E 53, pp.157-167 (1996).

57. I. Gasser and P. Markowich, C. Ringhofer: 'Closure conditions for classical and quantum moment hierarchies in the small temperature limit' Transport Theory and Statistical Physics 25, pp.409-423 (1996).

58. C. Gardner, C. Ringhofer: 'The Quantum Hydrodynamic Smooth Effective Potential' VLSI Design 6 17-20, (1998).

59. C. Gardner, C. Ringhofer: 'The Chapman-Enskog Expansion and the Quantum Hydrodynamic Model for Semiconductor Devices', VLSI Design 10, pp. 415-435 (2000).

60. C. Gardner, C. Ringhofer: 'Smooth Quantum Hydrodynamic Model Simulation of the Resonant Tunneling Diode', VLSI Design 8, pp. 143-146 (1998).

61. C. Gardner, C. Ringhofer: 'Numerical Simulation of the Smooth Quantum Hydrodynamic Model for Semiconductor Devices', Computer Methods in Applied Mechanics and Engineering 181 393-401. (2000).

62. C. Gardner, C. Ringhofer: 'Theory and Simulation of the Smooth Quantum Hydrodynamic Model', VLSI Design 9 351-356 (1999).

63. C. Gardner, C. Ringhofer: 'Resonant Tunneling in the Smooth Quantum Hydrodynamic Model for Semiconductor Devices', Transport Theory and Statistical Physics 29, pp. 563-570 (2000).

64. C. Gardner, C. Ringhofer: 'The Smooth Quantum Hydrodynamic Model for Semiconductor Devices', submitted IEEE Trans. Electr. Dev. (1999).

65. C. Gardner, C. Ringhofer: Dispersive/Hyperbolic Hydrodynamic Models for Quantum Transport in Semiconductor Devices in *Dispersive Transport Equations and Multiscale Models*, IMA Volumes in Mathematics and its Applications, Volume 136, pp. 91–107. New York: Springer-Verlag, (2003).

66. N. BenAbdallah,C. Gardner, O. Pinaud, C. Ringhofer: 'A Comparison of Resonant Tunneling Based on Schrö dinger's Equation and Quantum Hydrodynamics', VLSI Design 15, pp.695–700 (2002).

Quantum Kinetic Equations:

67. S. Ahmed, C. Ringhofer, D. Vasileska : An Effective Potential Approach to Modelling 25nm MOSFET Devices, Journal of Computational Electronics 2:113-117 (2004) .

68. S. Ahmed, C. Ringhofer, D. Vasileska : "Modeling Mosfets using effective potentials", Superlattices and Microstructures 34: 311-317, 2004.

69. H.Kosina, M.Nedjalkov, C. Ringhofer, S. Selberherr: Semi-classical approximation of electron-phonon scattering beyond Fermi's Golden Rule" SIAM J. Appl. Math. 64: 1933-1953 (2004).

70. M. Nedjalkov, R. Kosik, H. Kosina, S.Selberherr: A Wigner equation for nanometer and femtosecond transport regime, Proceedings of the 2001 First IEEE Conference on Nanotechnology, (Maui, Hawaii), pp. 277–281, IEEE, Oct. 2001.

71. M. Nedjalkov, H. Kosina, S. Selberherr, C. Ringhofer, D. Ferry: A unified particle approach to Wigner - Boltzmann transport in small semiconductor devices, Phys. Rev. B 70 : 115319 (2004).

72. C. Heitzinger S. Ahmed, C. Ringhofer, D. Vasileska : "Accurate three dimensional simulation of electron mobility including electron - electron and electron - dopant interactions" submitted, J. Electrochemical Soc. (2004)

73. D. VASILESKA, H.R. KHAN, S.S. AHMED, C. RINGHOFER, C. HEITZINGER: QUANTUM AND COULOMB EFFECTS IN NANODEVICES, Int. Journal of Nanoscience 4:305-361, 2005.

74. M. Nedjalkov, D. Vasileska, D. Ferry, C. Jacoboni, C. Ringhofer, I. Dimov, V. Palankovski: Wigner Transport models for electron phonon kinetics in quantum wires, Phys. Rev. B 74: 035311, 2006.

75. C. Heitzinger, C. Ringhofer: An Effective Quantum Potential for Particle-Particle Interactions in Three-dimensional Semiconductor Device Simulations, J. Comp. Electronics 6(4):xx, 2007.

76. P. Markowich, C. Ringhofer: 'An Analysis of the Quantum Liouville Equation' Zeitschrift fuer Angewandte Mathematik und Mechanik 69, pp121-127 (1989).

77. D. Ferry, N. Kluksdahl,C. Ringhofer: 'Intrinsic Bistability in the Resonant Tunneling Diode' Superlattices and Microstructures 5, pp 397-401 (1989) .

78. C. Ringhofer: 'Numerical Simulation of Quantum Tunneling Phenomena' Proceedings, Oberwolfach Conference on 'Mathematical Modelling of Electronic Circuits and devices' Birkhaeuser (1989).

79. D. Ferry,N. Kluksdahl,C. Ringhofer: 'Quantum Tunneling Effects from a Wigner Function Study' Solid State Electr. 31, Nr. 3, pp. 743-746 (1988).

80. D. Ferry,C. Ringhofer: 'Absorbing Boundary Conditions for the Simulation of Tunneling Effects in Semiconductors' Transp. Equtns. Stat. Phys. 18, pp 331 - 346 (1989).

81. C. Ringhofer: 'A Spectral Method for the Numerical Solution of the Quantum Liouville Equation' SIAM J. Num. Anal. 27, pp 32 - 51 (1990).

82. C. Ringhofer: 'A Spectral - Collocation Technique for the Solution of the Wigner - Poisson Problem', SIAM J. Num. Anal. 29, pp 679-701 (1992).

83. D. Ferry, A. Kriman,C. Ringhofer: 'Self Consistent Study of the Resonant Tunneling Diode' Phys. Rev. B vol. 39, pp 7720 - 7735 (1989) .

84. C. Ringhofer: 'Numerical Methods for Quantum Transport Simulations Using the Wigner Function Approach' , in 'Semiconductor Transport and Device Simulation' pp. 207-215, K. Hess ed. (1990).

85. C. Ringhofer: 'An Asymptotic Analysis for the Quantum Boltzmann Equation in the Classical Limit' in 'Asymptotic and Numerical Methods for Partial Differential Equations', pp. 24-39, H. Kaper ed. (1991).

86. C. Ringhofer: 'Numerical Simulation of Quantum Transport in Ultra Submicron Devices' in, 'Numerical Analysis of Semiconductor Processes and Devices' pp.98-102, J.J.H. Miller ed. (1991).

87. A. Arnold,C. Ringhofer: 'Operator Splitting Methods Applied to Spectral Discretizations of Quantum Transport Equations', SIAM J. Num. Anal. 32, pp.1876-1894 (1995).

88. A. Arnold,C. Ringhofer: 'An Operator Splitting Method for the Wigner Poisson Problem', SIAM J. Num. Anal. 33,pp. 1622-1643 (1996) .

89. C. Ringhofer: 'On the Convergence of Spectral Collocation Methods for the Wigner Poisson Problem', Math. Meth. and Models in Appl. Sci. 2, pp91-111, (1992).

90. C. Ringhofer: 'Adaptive Spectral Collocation Techniques for the Quantum Boltzmann Equation', in 'Mathematical Methods in Transport Physics', IMA, pp.105-1021, F. Odeh ed. (1993).

91. A. Arnold, C. Ringhofer: 'Time Discretization for Phase Space Equations of Quantum Mechanics' in 'Semiconductor Transport and Device Simulation' pp. 198-201, K. Hess ed. (1992).

92. L. Shifren, C. Ringhofer, D.Ferry: A Wigner function based quantum ensemble Monte Carlo study of a resonant tunneling diode, IEEE Trans. Electron Devices 50 (3) ,pp.769-773, 2002.

Semiclassical Kinetic Equations

93. C. Ringhofer: 'A Numerical Method for the Spatially Homogeneous Boltzmann Transport Equation using a Shifted Spherical Harmonics Expansion', Proceedings of 'Int. Workshop on Computational Electronics', pp. 89-111, S. Goodnick ed. (1994).

94. C. Ringhofer: 'A Galerkin Method for Kinetic Transport Equations Using Variable Coordinate Systems', to appear, Math. Meth. and Models (1996).

95. C. Ringhofer: 'A New Expansion Procedure to Generalize Hydrodynamic Transport Models', in 'Math. Problems in Solid State Physics, pp.32-49 R. Natalini ed. (1994).

96. C. Ringhofer,C. Schmeiser, A. Zwirchmayer: 'Moment methods for the semiconductor Boltzmann equation in bounded position domains' SIAM J. Num. Anal.39, pp. 1078 - 1095 (2001).

97. C. Ringhofer: 'Space - time discretization methods for series expansion solutions of the Boltzmann equation for semiconductors' SIAM J. Numerical Analysis 38, pp. 442-465 (2000).

98. C. Ringhofer: A Mixed Spectral - Difference Method for the Steady State Boltzmann - Poisson System, SIAM J. Numerical Analysis 41, pp. 64-89, 2003.

99. C. Ringhofer: 'Numerical Methods for the Semiconductor Boltzmann Equation based on Spherical Harmonics Expansions and Entropy Discretizations', Transp. Theory and Stat. Phys. 31, pp.:431-452 (2002).

100. C. Jungemann, A. Pham, B. Meinerzhagen, C. Ringhofer, M. Boellhofer: "Stable discretization of the Boltzmann equation based on spherical harmonics, box integration and a maximum entropy dissipation principle" Journal Appl. Physics, 100: 024502 (1-13) , 2006.

101. Hasanur R. Khan, Dragica Vasileska, S. S. Ahmed, C. Ringhofer and Clemens Heitzinger, "Modeling of FinFET: 3D MC Simulation Using FMM and Unintentional Doping Effects on Device Operation" Journal of Computational Electronics, 3: 337 - 340, 2004.

102. C. Heitzinger, C. Ringhofer. S. Ahmed, D. Vasileska: 3D Monte Carlo Device Simulations Using an Effective Quantum Potential Including Electron Electron Interactions J. Comp. Electronics 6(1-3):15-18.2007.

Classical Drift-Diffusion Systems, Energy Transport Models, Hydrodynamics etc.

103. C.Ringhofer, S.Selberherr: 'A Singular Perturbation Approach for the Analysis of the Fundamental Semiconductor Device Equations' IEEE Trans. Electr. Dev. Vol. 30, Nr. 9, pp. 1165-1181 (1983).

104. C.Ringhofer: 'Numerical Methods for VLSI Simulation' Proceedings, First ARO Conference on Applied Mathematics and Scientific Computation, Washington D.C. , pp. 134-142, ARO (1983).

105. A. Franz ,C.Ringhofer, S. Selberherr: 'Finite Boxes - a Finite Difference Method for Device Simulation' IEEE Trans. Electr. Dev. Vol. 30, Nr. 9, pp. 1070-1083 (1983) .

106. P. Markowich, C.Ringhofer: 'A Singularly Perturbed Boundary Value Problem Modeling a Semiconductor Device' SIAM J. Appl. Math., Vol. 44, Nr. 2, pp. 231-256 (1984).

107. C.Ringhofer, S. Selberherr: 'Implications of Analytical Investigations on Numerical Semiconductor Device Simulation' IEEE Trans. CAD 3, Nr. 1, pp. 52-64, (1984) .

108. P. Markowich,C.Ringhofer,A. Steindl: 'Computation of Current Voltage Characteristics Using Arclength Continuation' IMA J. Appl. Math. 33, pp. 175-187 (1984).

109. C.Ringhofer: 'Difference Methods for Transient Device Simulation' in 'Methodes de Calcul Scientifique et Technique', R. Glowinski ed. North Holland (1985)

110. P. Markowich,C.Ringhofer,C. Schmeiser: 'A Singular Perturbation Analysis for an Asymmetric Diode' IMA J. Appl. Math. 37, pp. 1-24 (1986) .

111. C.Ringhofer: 'An Asymptotic Analysis for a Transient P-N Junction Model' SIAM J. Appl. Math. 24, Nr. 3, pp. 624-642 (1987).

112. P. Markowich, C.Ringhofer: 'Stability of the Transient Semiconductor Equations' Zeitschrift fuer Angewandte Mathematik und Mechanik (ZAMM) 67 Nr. 7, pp. 319-332 (1987) .

113. C.Ringhofer: 'The Shape of Solutions to the Basic Semiconductor Equations' Lectures in Applied Mathematics 25, pp.27-41 (1990).

114. C.Ringhofer,C. Schmeiser: 'An Approximate Newton Method for the Basic Semiconductor Device Equations' SIAM J. Num. Anal. 26, pp. 507-516 (1989) .

115. C.Ringhofer: 'Higher Order Schemes for the Transient Semiconductor Equations' Trans. Com. Sim. 3, Nr. 1, pp. 58-73 (1988).

116. C.Ringhofer, C. Schmeiser: 'An Improved Uncoupling Algorithm for the Fundamental Semiconductor Equations' IEEE Trans. CAD 7, Nr. 2, pp. 251-255 (1988) .

117. C. Ringhofer: 'An Asymptotic Analysis of a Transient Onedimensional P-N Junction Model' IMA J. Appl. Math. 41, Nr. 2, pp. 127-145 (1988).

118. C. Ringhofer: 'Dissipative discretization methods for approximations to the Boltzmann equation', Math. Mod. Meth. in Appl. Sci. 11, pp. 133-149 (2001).

119. C. Ringhofer: ' An Entropy - Based Finite Difference Method for the Energy Transport System ' ,Math. Mod. Meth. in Appl. Sci. 11, pp 769-795 (2001).

Open Quantum Systems:

120. N. Mauser, C. Ringhofer: 'Computing Quantum Steady states via Bloch Type Equations' in 'Semiconductor Transport and Device Simulation' pp. 273-276, K. Hess ed. (1992).

121. N. Mauser, C. Ringhofer: 'Quantum steady states via self–consistent Bloch–type equations', Proceedings of "Int. Workshop on Computational Electronics" , pp. 273–276IL, Urbana, USA, K. Hess ed. (1992).

122. N. Mauser, C. Ringhofer,G. Ulich: 'Numerical methods for Bloch–Poisson type equations', Proceedings of 'Int. Workshop on Computational Electronics', Leeds UK , pp.143-149, C. Snowden ed. (1993).

123. F. Poupaud ,C. Ringhofer: 'Quantum Hydrodynamics in Semiconductor Crystals', Appl. Math. Letters 8, Isuue 6,pp.55-59 (1995).

124. C. Gardner, C. Ringhofer: 'Approximation of thermal equilibrium for quantum gases with discontinuous potentials' , SIAM Journal on Applied Mathematics 58 780-805. (1998).

125. F. Poupaud, C. Ringhofer: 'Semi - classical limits in a crystal with exterior potentials and effective mass theorems' Communications in Partial Differential Equations 21, pp.1897-1918 (1996).

126. F. Fromlett, P. Markowich, C. Ringhofer: 'A Wignerfunction Approach to Phonon Scattering' VLSI Design 9 339-350. (1999).

127. J. Soler, C. Ringhofer: 'Discrete Schrödinger-Poisson systems preserving energy and mass', Applied Mathematics Letters, 13 (7), pp. 27-32 (2000).

128. Heitzinger C., Ringhofer C.: A Note on the Simplectic Integration of the Nonlinear Schroedinger Equation, Journal of Comp. Electronics 3-1:33-44 (2004).

129. Clemens Heitzinger AND Christian Ringhofer AND Siegfried Selberherr, "Finite Difference Solutions of the Nonlinear Schrdinger Equation and their Conservation of Physical Quantities", Commun. Math. Sci. 5(4):779-788, 2007

Other Topics:

130. P. Markowich, C. Ringhofer: 'The Numerical Solution of Boundary Value Problems on long intervals' Math. Comp. 40, 161, pp123-150 (1982).

131. P. Markowich, C.Ringhofer: 'Systems of Singular Perturbation Problems with a First Order Turning Point' SIAM J. Math. Anal. 14, Nr. 5, pp.875-895 (1983).

132. P. Markowich, C.Ringhofer: 'Singular Perturbation Problems with a Singularity of the Second Kind' SIAM J. Math. Anal. 14, Nr. 5, pp. 897-914 (1983) .

133. C.Ringhofer: 'Collocation Schemes for Quasilinear Singularly Perturbed Boundary Value Problems' SIAM J. Num. Anal. 21, Nr. 5, pp.864-883 (1984) .

134. E. Langer,C.Ringhofer,S. Selberherr: 'Numerical Analysis of Acoustic Wave Generation in Anisotropic Piezoelectric Materials' Proceedings IEEE Ultrasonics Symposium, San Diego, pp. 897-901, IEEE, (1982).

135. A. Baghai, C. Ringhofer: 'A survey of numerical techniques for modeling the mass-loading effects in SAW devices' Ultrasonics Symposium, Proceedings., 1996 IEEE , Volume: 1 , 3-6 Nov 1996 pp. 111 -116 vol.1,(1996).

136. C.Ringhofer: 'Roundoff Error Effects in the Solution of Singularly Perturbed Reaction Diffusion Equations' Proceedings, Second ARO Conference on Applied Mathematics and Scientific Computation, Washington D.C. , pp. 58-63, ARO (1984).

137. J.Chen,C. Ringhofer: 'Projection Methods for the Solution of the Magneto Hydrodynamic Equations' JCHD 6, pp. 124-143 (1994).

138. C. Ringhofer: 'Spurious Solutions in the Numerical Solution of Reaction Diffusion Equations' MRC Tech. Summ. Rep. Nr. 2609 (1984)

139. C. Ringhofer: 'Numerical Methods for Transient Semiconductor Device Modelling' MRC Tech. Summ. Rep. Nr. 2606 University of Wisconsin (1984)

140. D. Levin, L. Reichel,C. Ringhofer: 'Analysis of an Integration Method for Rapidly Oscillating Integrals' Mathematics Research Center Technical Summary Report Nr. 2471 (jointly with) University of Wisconsin (1983) .

141. C. Ringhofer: 'Die numerische Loesung quasilinearer singulaer gestorter Randwertprobleme' Ph.D. thesis, Institut fuer Angewandte Mathematik, Technical University of Vienna (1981) .

142. C. Ringhofer: 'Kollokationsverfahren fuer singulaer gestoerte Randwertprobleme, , Ms. Thesis, Institut fuer Angewandte Mathematik, Technical University of Vienna (1980) .