

Bibliography

- [1] G. ALI, D. BINI AND S. RIONERO, Global existence and relaxation limit for smooth solutions to the Euler-Poisson model for semiconductors, *SIAM J. Math. Anal.* **32** (2000), 572–587.
- [2] N. BEN ABDALLAH, P. DEGOND AND S. GENIEYS, An energy-transport model for semiconductors derived from the Boltzmann equation, *J. Statist. Phys.* **84** (1996), 205–231.
- [3] N. BEN ABDALLAH, P. DEGOND AND S. GENIEYS, On a hierarchy of macroscopic models for semiconductor, *J. Math. Phys.* **37** (1996), 3306–3333.
- [4] K. BLØTEKJÆR, Transport equations for electrons in two-valley semiconductors, *IEEE Trans. Electron Devices* **17** (1970), 38–47.
- [5] L. CHEN, L. HSIAO AND Y. LI, Large time behavior and energy relaxation time limit of the solutions to an energy transport model in semiconductors, *J. Math. Anal. Appl.* **312** (2005), 596–619.
- [6] G. Q. CHEN, J. W. JEROME AND B. ZHANG, Particle hydrodynamic moment models in biology and microelectronics: Singular relaxation limits , *Nonlinear Analysis* **30** (1997), 233–244.
- [7] P. DEGOND, S. GENIEYS AND A. JUNGEL, A system of parabolic equations in nonequilibrium thermodynamics including thermal and electrical effects, *J. Math. Pures Appl.* **76** (1997), 991–1015.
- [8] P. DEGOND, S. GENIEYS AND A. JUNGEL, A steady-state system in nonequilibrium thermodynamics including thermal and electrical effects, *Math. Methods Appl. Sci.* **21** (1998), 1399–1413.
- [9] P. DEGOND AND P. MARKOWICH, On a one-dimensional steady-state hydrodynamic model, *Appl. Math. Lett.* **3** (1990), 25–29.
- [10] C. L. GARDNER, The quantum hydrodynamic model for semiconductor devices, *SIAM J. Appl. Math.* **54** (1994), 409–427.
- [11] H. GAJEWSKI AND K. GROGER, On the basic equations for carrier transport in semiconductors. *J. Math. Anal. Appl.* **113** (1986), 12–35.
- [12] D. GILBARG AND N. S. TRUDINGER, Elliptic partial differential equations of second order, *Springer-Verlag* 1983.
- [13] T. GRASSER, T. W. TANG, H. KOSINA AND S. SELBERHERR, A Review of Hydrodynamic and Energy-Transport Models for Semiconductor Device Simulation *Proceedings of the IEEE* **91** (2003), 251–274.

- [14] Y. GUO AND W. STRAUSS, Stability of semiconductor states with insulating and contact boundary conditions, *Arch. Ration. Mech. Anal.* **179** (2006), 1–30.
- [15] J. W. JEROME, Analysis of charge transport. A mathematical study of semiconductor devices, *Springer* 1996.
- [16] A. JÜNGEL, Quasi-hydrodynamic semiconductor equations, *Birkhäuser Verlag, Basel* 2001.
- [17] A. JÜNGEL, Transport equations for semiconductors *Springer* 2009.
- [18] A. JÜNGEL AND H. LI, Quantum Euler-Poisson systems: existence of stationary states, *Arch. Math. (Brno)* **40** (2004), 435–456.
- [19] A. JÜNGEL AND H. LI, Quantum Euler-Poisson systems: global existence and exponential decay, *Quart. Appl. Math.* **62** (2004), 569–600.
- [20] S. KAWASHIMA, Y. NIKKUNI AND S. NISHIBATA, The initial value problem for hyperbolic-elliptic coupled systems and applications to radiation hydrodynamics, *Chapman & Hall/CRC Monogr. Surv. Pure Appl. Math.* **99**, 1999.
- [21] S. KAWASHIMA, Y. NIKKUNI AND S. NISHIBATA, Large-time behavior of solutions to hyperbolic-elliptic coupled systems, *Arch. Ration. Mech. Anal.* **170** (2003), 297–329.
- [22] C. LATTANZIO AND P. MARCATI, The relaxation to the drift-diffusion system for the 3-D isentropic Euler-Poisson model for semiconductors, *Discrete Contin. Dynam. Systems* **5** (1999), 449–455.
- [23] P. A. MARKOWICH, The Stationary Semiconductor Device Equations, *Springer-Verlag* 1986.
- [24] H. LI, P. MARKOWICH AND M. MEI, Asymptotic behavior of solutions of the hydrodynamic model of semiconductors, *Proc. Roy. Soc. Edinburgh Sect. A* **132** (2002), 359–378.
- [25] P. A. MARKOWICH, C. A. RINGHOFER AND C. SCHMEISER, Semiconductor equations, *Springer-Verlag, Vienna* 1990.
- [26] A. MATSUMURA AND T. MURAKAMI, Asymptotic behavior of solutions for a fluid dynamical model of semiconductor equation, *Kyoto Univ. RIMS Kokyuroku* **1495** (2006), 60–70.
- [27] M. S. MOCK, On equations describing steady-state carrier distributions in a semiconductor device. *Comm. Pure Appl. Math.* **25** (1972), 781–792.
- [28] M. S. MOCK, Asymptotic behavior of solutions of transport equations for semiconductor devices. *J. Math. Anal. Appl.* **49** (1975), 215–225.
- [29] S. NISHIBATA, N. SHIGETA AND M. SUZUKI, Asymptotic behaviors and classical limits of solutions to a quantum drift-diffusion model for semiconductors, *Math. Models Methods Appl. Sci.* **20**, pp.909–936, (2010).
- [30] S. NISHIBATA AND M. SUZUKI, Asymptotic stability of a stationary solution to a hydrodynamic model of semiconductors, *Osaka J. Math.* **44** (2007), 639–665.

- [31] S. NISHIBATA AND M. SUZUKI, Initial boundary value problems for a quantum hydrodynamic model of semiconductors: asymptotic behaviors and classical limits, *J. Differ. Equ.* **244** (2008), 836-874.
- [32] S. NISHIBATA AND M. SUZUKI, Asymptotic stability of a stationary solution to a thermal hydrodynamic model for semiconductors, *Arch. Ration. Mech. Anal.* **192** (2009), 187-215.
- [33] S. NISHIBATA AND M. SUZUKI, Relaxation limit and initial layer to hydrodynamic models for semiconductors, *J. Differ. Equ.* **249** (2010), 1385-1409.
- [34] S. M. SZE AND K. K. NG, Physics of Semiconductor Devices, 3rd edition. *Wiley-Interscience Wiley-Interscience* 2006.
- [35] R. RACKE, Lectures on nonlinear evolution equations. Initial value problems. *Aspects of Mathematics*, E19. *Friedr. Vieweg & Sohn, Braunschweig* 1992.
- [36] W. V. ROOSBROECK, Theory of the flow of electrons and holes in germanium and other semiconductors *Bell System Tech. j.* **29** (1950), 560-607.
- [37] S. STEVE, The compressible Euler equations in a bounded domain: existence of solutions and the incompressible limit, *Comm. Math. Phys.* **104** (1986), 49-75.
- [38] R. STRATTON, Diffusion of hot and cold electrons in semiconductor barriers, *Phy. Rev.* **126** (1962), 2002-2014.
- [39] R. TEMAM, Infinite-dimensional dynamical systems in mechanics and physics. *Applied Mathematical Sciences*, 68. *Springer-Verlag, New York* 1988.
- [40] W. A. YONG, Diffusive relaxation limit of multidimensional isentropic hydrodynamical models for semiconductors. *SIAM J. Appl. Math.* **64** (2004), 1737-1748.
- [41] E. ZEIDLER, Nonlinear functional analysis and its applications. II/A. Linear monotone operators. *Springer-Verlag, New York* 1990.