

References

- [1] L. Barletti, L. Demeio, Wigner-function approach to multi-band transport in semiconductor devices, *Proc. VI Congresso Nazionale SIMAI*, Chia Laguna (CA-Italy) May 27 - 31, 2002.
- [2] R.Q. Yang, M. Sweeny, D. Day and J.M. Xu, Interband tunneling in heterostructure tunnel diodes, *IEEE Transactions on Electron Devices*, **38**(3) 442-446 (1991).
- [3] G. Borgioli, M. Camprini, Schrödinger -like model for interband tunneling in heterogeneous semiconductor devices: a current estimate, *Proc. of WASCOM 2001*, World Scientific (Singapore) 2001.
- [4] G. Borgioli, G. Frosali, P.F. Zweifel, Wigner approach to the two-band Kane model for a tunneling diode, *Transport Theory Stat. Phys.* **32(3&4)** 361-380 (2003)
- [5] M.G. Burt, The justification for applying the effective-mass approximation to microstructure, *J. Phys: Condens. Matter* **4**, 6651-6690 (1992)
- [6] L. Demeio, L. Barletti, P. Bordone and C. Jacoboni, Wigner function for multiband transport in semiconductors, *Transport Theory and Statistical Physics*, (in press)
- [7] L. Demeio, L. Barletti, A. Bertoni, P. Bordone and C. Jacoboni, Wigner-function approach to multiband transport in semiconductors, *Physica B*, **314**, 104-107 (2002).

- [8] L. Demeio, P. Bordone and C. Jacoboni, Numerical and analytical applications of multiband transport in semiconductors, *Proc. XXIII Symposium on Rarefied Gas Dynamics*, Whistler, BC, Canada, July 20-25, 2002.
- [9] J. Diestel and J.J. Uhl, Jr., *Vector Measures*, Mathematical Surveys **15**, Amer. Math. Soc., Providence, RI, 1977
- [10] W.R. Frensley, Boundary conditions for open quantum systems far from equilibrium, *Rev. Mod. Phys.* **62**, 745-791 (1990)
- [11] I.Gasser, P.A. Markowich and A. Unterreiter, Quantum hydrodynamics, (preprint) 2000.
- [12] K. Hess, *Advanced Theory of Semiconductor Devices*, Prentice-Hall International, 1988
- [13] A. Jüngel, *Quasi-hydrodynamic Semiconductor Equations*, Birkhäuser, Basel, 2001.
- [14] E. O. Kane, Energy band structure in p-type Germanium and Silicon, *J. Phys. Chem. Solids* **1**, 82–89 (1956).
- [15] E. O. Kane, Energy band structure in p-type Germanium and Silicon, *J. Phys. Chem. Solids* **1**, 82–89 (1956).
- [16] E. O. Kane, Zener tunneling in semiconductors, *J. Phys. Chem. Solids* **12**, 181–188 (1959).
- [17] E. O. Kane, The $\mathbf{k} \cdot \mathbf{P}$ method, in *Semiconductors and Semimetals*, edited by R.K. Willardson and A.C. Bear (Academic, New York, 1966), Vol. **1**, pp. 75-100.

- [18] N. C. Kluksdahl, A. M. Kriman, D. K. Ferry and C. Ringhofer, Self-consistent study of the resonant-tunneling diode, *Phys. Rev B*, **39** (11), 7720–7735 (1989).
- [19] P.A. Markowich, C. Ringhofer and C. Schmeiser, Semiconductor equations, Springer Verlag, 1990
- [20] M. Reed and B. Simon, *Methods of Modern Mathematical Physics* Vol.I, Academic Press, New York, 1972
- [21] B.K. Ridley, *Quantum Processes in Semiconductors*, Clarendon Press, Oxford, 1999.
- [22] M. Sweeney and J. M. Xu, Resonant interband tunnel diodes, *Appl. Phys. Lett.* **54** (6), 546–548 (1989).
- [23] H. H. Tsai, Y. K. Su, H.H. Liu, R. L. Wong and T.L. Lee, P-N double quantum well resonant interband tunneling diode with peak-to-valley current ratio of 144 at room temperature, *IEEE Electron Device Letter* **15** (9), 357-359 (1994).
- [24] R.Q. Yang, M. Sweeny, D. Day and J.M. Xu, Interband tunneling in heterostructure tunnel diodes, *IEEE Transactions on Electron Devices*, **38**(3) 442-446 (1991).
- [25] W.T. Wenckebach, *Essential of Semiconductor Physics*, J.Wiley & Sons, Chichester, 1999.
- [26] S.R. White and L.J. Sham, Electronic properties of flat-band semiconductor heterostructures, *Phys. Rev. Letters*, **47**(12) 879-882, (1981).
- [27] E. Wigner, On the quantum correction for thermodynamic equilibrium, *Phys. Rev.* **40**, 749-759 (1932).