

References

- [1] Adachi, S. GaAs, AlAs, and Al_xGa_{1-x}As: Material parameters for use in research and device applications. *Journal of Applied Physics*. vol. 58 (August 1985): R1.
- [2] Bhattacharya, P. *Semiconductor Optoelectronics Devices*. 2nd ed. New Jersey: Prentice-Hall International, 1997.
- [3] Chavanapranee, T. *Fabrication and study on spectraum response of GaAlAs/GaAs heterojunction photodiodes*. Master thesis, Department of electrical engineering, Chulalongkorn university, Thailand, 2001.
- [4] Fukuda, M. *Optical Semiconductor Devices*. New York: John Wiley & Sons, 1999.
- [5] Harry, J. R., Dutton. *Understanding optical communications*. 1st ed. IBM Corporation, International Technical Support Organization, 1998.
- [6] Hauser, J. R. Avalanche breakdown voltages for III-V semiconductor. *Applied physics letters* vol. 33 no. 4 (August 1978): L 351-353.
- [7] Hunsperger, R. G. *Photonics Devices and Systems*. (n.p.): Marcel Dekker, 1994.
- [8] Kasap, S. O. *Optoelectronic devices and photonics: principles and practices*. New Jersey: Prentice-Hall, 2001.
- [9] Lee, K., Shur, M., Fjeldly, T. A. and Ytterdal, T. *Semiconductor device modeling for VLSI*. New Jersey: Prentice-Hall, 1993.
- [10] Lo, Z. et al. Staircase band gap Si_{1-x}Ge_x/Si photodetectors. *Applied physics letters* vol. 77 no. 10 (September 2000): 1548-1550.
- [11] Milnes, A. G. and Feucht, D. L. *Heterojunctions and metal-semiconductor junctions*. New York: Academic Press, 1972.
- [12] Mohammad, A. S. et al. Breakdown voltage in thin III-V avalanche photodiodes. *Applied physics letters* vol. 79 no. 24 (December 2001): 4037-4039.
- [13] Nakata, T. et al. InAlAs avalanche photodiodes with very thin multiplication layer of 0.1 μm for high-speed and low-voltage-operation optical receiver. *Electronics letters* vol. 36 no. 21 (October 2000): 1807-1809.
- [14] Neamen, D. A. *Semiconductor physics and devices: basic principles*. New York: McGraw-Hill, 2003.
- [15] Newman, A. K. and Liu, J. M. Physical characteristics of band-edge engineered, photovoltaic detectors. *Journal of Applied Physics*. vol. 82, no. 9 (November 1997): 4637-4646.
- [16] Pieerret, R. F. *Semicondutor Device Fundamentals*. Massachusetts: Addison-Wesley, 1996.
- [17] Singh, J. *Semiconductor Optoelectronics Physics and Technology*. International Edition. New York: McGraw-Hill, 1995.

- [18] Snowden, C. M. Introduction to semiconductor device modeling. Singapore: World Scientific Publishing, 1986.
- [19] Streetman, B. G. and Banerjee, S. Solid State Electronic Devices. 5th ed. (n.p.): Prentice Hall International, 2000.
- [20] Sugimoto, K.-I., Nakajima, K. and Mizushima, Y. Band-Edge-Emphasizing Photodetector Response. IEEE Transactions on Electron Devices. Vol. 37, No. 11 (November 1990): 2298-2302.
- [21] Sze, S. M. Physics of semiconductor device. 2nd ed. New York: John Wiley & Sons, 1981
- [22] Tinatcgev, A. New Semiconductor Materials: Characteristics and Properties: Aluminium Gallium Arsenide (AlGaAs)-Band structure and carrier concentration [online]. (n.d.). Available from: <http://www.ioffe.rssi.ru/SVA/NSM/Semicond/AlGaAs/banstr.html>, [2003, June 2]
- [23] Usami, A. et al. Spectral response of GaAs photodiodes fabricated by Rapid Thermal Diffusion. IEEE Electron Device Letter vol. 13 no. 1 (January 1992): 59-60.
- [24] Weisbuch, C. and Vinter, B. Quantum semiconductor structures: fundamentals and applications. New York: Academic Press, 1991.

Biography

Mr. Pakhawat Wisetlakhorn was born in Nongkhai, Thailand, on January 2, 1978. He received the Bachelor Degree in Electrical Engineering from Suranaree University of Technology in April 1999. He entered the Graduated School of Chulalongkorn University in October 2000 as a student of the Semiconductor Device Research Laboratory. His current interests are in the field of III-V compound semiconductors, heterojunction structure and optoelectronic devices.

