

Bibliography

- [1] K. Dostert, *Powerline communications*. Upper Saddle River: Prentice Hall, 2001.
- [2] *Proc. 3rd International Symposium on Powerline Communications and its applications (ISPLC'99)*, (Lancaster, UK), March 30 - April 1 1999.
- [3] M. Zimmermann and K. Dostert, "A multipath model for the powerline channel," *IEEE Transactions on Communications*, vol. 50, pp. 553–559, April 2002.
- [4] S. Galli and T. C. Banwell, "Modeling the indoor power line channel: new results and modem design considerations," in *Proc. IEEE Consumer Communications and Networking Conference, CCNC'04*, (Las Vegas, USA), January 2004.
- [5] T. Sartenaer and P. Delogne, "Powerline cables modelling for broadband communications," in *Proc. International Symposium on Powerline Communications, ISPLC'2001*, (Malmö, Sweden), pp. 331–338, April 2001.
- [6] M. Zimmermann and K. Dostert, "Analysis and modeling of impulsive noise in broadband power line communications," *IEEE Transactions on Electromagnetic Compatibility*, vol. 44, pp. 249–258, February 2002.
- [7] IEC 61000-3-8, *Electromagnetic Compatibility (EMC) - Part 3: Limits - Section 8: Signaling on Low-Voltage Electrical Installations - Emission Levels, Frequency Bands and Electromagnetic Disturbance Levels*. IEC, Geneva, Switzerland, 2002.

- [8] CISPR Publication 22, *Information Technology Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurements*. CISPR, Geneva, Switzerland, 2002.
- [9] CENELEC EN50065-1, *Signaling on Low Voltage Electrical Installations in the Frequency Range 3 kHz to 148.5 kHz*. CENELEC, Brussels, Belgium, 2002.
- [10] CENELEC and ETSI, *Draft, Questionnaire to the National Standardization Organizations on Setting the Limits of Permissible Radiated Disturbance Emissions from Telecommunication Networks*. CENELEC, Brussels, Belgium, 2002.
- [11] FCC, *Code of Federal Regulations Title 47 Telecommunication: Chapter I FCC Part 15 - Radio Frequency Devices*. Washington, DC, USA, 2002.
- [12] M. Götz, M. Rapp, and K. Dostert, "Power line channel characteristics and their effect on communication system design," *IEEE Communications Magazine*, vol. 42, pp. 78–86, April 2004.
- [13] E. Biglieri, "Coding and modulation for a horrible channel," *IEEE Communications Magazine*, vol. 41, pp. 92–98, May 2003.
- [14] J. Fox and M. S. Obaidat, *International Journal of Communication Systems - Special Issue: Powerline Communications and Applications*, vol. 16. Wiley InterScience, June 2003.
- [15] W. Liu, H. Widmer, and P. Raffin, "Broadband PLC access systems and field deployment in European power line networks," *IEEE Communications Magazine*, vol. 41, pp. 114–118, May 2003.
- [16] G. Jee, R. D. Rao, and Y. Cern, "Demonstration of the technical viability of PLC systems on medium- and low-voltage lines in the United-States," *IEEE Communications Magazine*, vol. 41, pp. 108–112, May 2003.
- [17] F. Issa and T. S. et al., "Analysis of power line communication networks using a new approach based on scattering parameters matrix," in *Proc. IEEE International Symposium on Electromagnetic Compatibility 2002*, (Minneapolis, USA), pp. 1043–1047, August 2002.

- [18] T. Sartenæer and L. Vandendorpe, "Balanced capacity of wireline multiaccess channels," in *Proc. EUSIPCO 2004*, (Vienna, Austria), September 2004.
- [19] T. Sartenæer and L. Vandendorpe, "Resource allocation for frequency-selective multiple access channels with adaptive QAM modulation," *Revue HF Tijdschrift (Belgian Journal of Electronics and Communications)*, no. 1, pp. 51–63, 2001.
- [20] J. Louveaux, L. Vandendorpe, and T. Sartenæer, "Cyclic prefixed single carrier and multicarrier transmission : bit rate comparison," *IEEE Communications Letters*, vol. 7, pp. 180–182, April 2003.
- [21] T. Sartenæer and L. Vandendorpe, "Linear and DF joint detectors for ds-cdma communications using periodic long codes," *IEEE Transactions on Signal Processing*, vol. 52, July 2004.
- [22] T. Sartenæer, F. Horlin, and L. Vandendorpe, "DMT-FDMA as a multiple access technique for wideband upstream powerline communications," in *Proc. ISPLC'2000*, (Limerick, Ireland), pp. 89–96, April 2000.
- [23] T. Sartenæer, F. Horlin, and L. Vandendorpe, "Multiple access techniques for wideband upstream powerline communications : CAP-CDMA and DMT-FDMA," in *Proc. IEEE ICC'2000*, (New-Orleans), pp. 1064–1068, June 2000.
- [24] T. Sartenæer and L. Vandendorpe, "Resource allocation for frequency-selective multiple access channels with adaptive QAM modulation," in *Proc. IEEE SCVT 2000 Benelux*, (Leuven, Belgium), pp. 178–185, October 2000.
- [25] L. Vandendorpe, F. Horlin, and T. Sartenæer, "FSLE and FDSF joint detectors for long code DS-CDMA codes," in *Proc. IEEE ICASSP'01*, (Salt Lake City, USA), pp. 2261–2264, May 2001.
- [26] L. Vandendorpe, F. Horlin, and T. Sartenæer, "Linear and DF joint detectors for DS-CDMA communications using periodic long codes," in *Proc. IEEE ICC'2001*, (Helsinki, Finland), pp. 821–825, June 2001.
- [27] J. Louveaux, L. Vandendorpe, and T. Sartenæer, "Cyclic prefixed single carrier and multicarrier transmission : bit rate comparison," in *Proc. IEEE SCVT 2002 Benelux*, (Louvain-la-Neuve, Belgium), pp. 61–64, October 2002.

- [28] T. Sartenauer and L. Vandendorpe, "About the sensitivity of FB modulations to timing offsets," in *Proc. IEEE ICC'2002*, (New-York, USA), p. 2002, April-May 2002.
- [29] T. Sartenauer and L. Vandendorpe, "ML DA timing estimation for multiuser FB uplink transmission over static time dispersive channels," in *Proc. EUSIPCO 2002*, (Toulouse, France), pp. 35–38, September 2002.
- [30] C. R. Paul, *Analysis of Multiconductor Transmission Lines*. Wiley-Interscience, 1994.
- [31] T. Bostoen and O. V. de Wiel, "Modeling the low-voltage power distribution network in the frequency band from 0.5 to 30 MHz for broadband powerline communication," in *IEEE Transactions on Signal Processing*, (Zürich, Switzerland), February 2000.
- [32] P. Delogne, "Calcul des paramètres d'une ligne multiconducteurs," tech. rep., Communications and Remote Sensing Laboratory, Université catholique de Louvain, October 1999.
- [33] P. Delogne, "The twisted pair as a transmission channel," tech. rep., Communications and Remote Sensing Laboratory, Université catholique de Louvain, August 1998.
- [34] R. A. Horn and C. A. Johnson, *Matrix analysis*. Cambridge University Press, 1985.
- [35] A. VanderVorst, *Transmission, propagation et rayonnement*. De Boeck Université, Bruxelles, 1995.
- [36] M. R. Spiegel, *Formules et tables de mathématiques*. McGraw-Hill, Paris (série Schaum), 1993.
- [37] A. VanderVorst, *Electromagnétisme - champs et circuits*. De Boeck Université, Bruxelles, 1994.
- [38] C. Y. Wong, R. S. Cheng, K. B. Letaief, and R. D. Murch, "Multiuser OFDM with adaptive subcarrier, bit, and power allocation," *IEEE Journal on Selected Areas in Communications*, vol. 17, pp. 1747–1758, October 1999.

- [39] S. Verdú, "Multiple-access channels with memory with and without frame synchronism," *IEEE Transactions on Information Theory*, vol. 35, pp. 605–619, May 1989.
- [40] R. S. Cheng and S. Verdú, "Gaussian multiaccess channels with ISI : capacity region and multiuser water-filling," *IEEE Transactions on Information Theory*, vol. 39, pp. 773–785, May 1993.
- [41] D. N. C. Tse and S. V. Hanly, "Multiaccess fading channels - part I : Polymatroid structure, optimal resource allocation and throughput capacities," *IEEE Transactions on Information Theory*, vol. 44, pp. 2796–2815, November 1998.
- [42] C. Zeng, L. M. C. Hoo, and J. M. Cioffi, "Efficient water-filling algorithms for a Gaussian multiaccess channel with ISI," in *Proc. IEEE VTC Fall'2000*, (Boston, USA), pp. 1072–1077, September 2000.
- [43] C. Zeng, L. M. C. Hoo, and J. M. Cioffi, "Optimal water-filling algorithms for a Gaussian multiaccess channel with intersymbol interference," in *Proc. IEEE ICC'2001*, (Helsinki, Finland), pp. 2421–2427, June 2001.
- [44] W. Yu, W. Rhee, S. Boyd, and J. M. Cioffi, "Iterative water-filling for Gaussian vector multiple access channels," in *Proc. IEEE ISIT'2001*, (Washington, USA), p. 322, June 2001.
- [45] W. Yu, W. Rhee, S. Boyd, and J. M. Cioffi, "Iterative water-filling for Gaussian vector multiple-access channels," *IEEE Transactions on Information Theory*, vol. 50, pp. 145–152, January 2004.
- [46] W. Yu and J. M. Cioffi, "FDMA capacity of Gaussian multiple-access channels with ISI," *IEEE Transactions on Communications*, vol. 50, pp. 102–111, January 2002.
- [47] S. Diggavi, "Multiuser DMT : a multiple access modulation scheme," in *Proc. IEEE Globecom 1996*, (London, UK), pp. 1566–1570, November 1996.
- [48] S. O. Ohno, P. A. Anghel, G. B. Giannakis, and Z. Q. Luo, "Multi-carrier multiple access is sum-rate optimal for block transmission over circulant ISI channels," in *Proc. IEEE ICC'2002*, (New-York, USA), pp. 1656–1660, May 2002.

- [49] P. Viswanath and D. N. C. Tse, "Sum capacity of the vector Gaussian broadcast channel and uplink-downlink duality," *IEEE Transactions on Information Theory*, vol. 49, pp. 1912–1921, August 2003.
- [50] N. Jindal, S. Vishwanath, and A. Goldsmith, "On the duality of Gaussian multiple-access and broadcast channels," *IEEE Transactions on Information Theory*, vol. 50, pp. 768–783, May 2004.
- [51] T. M. Cover, "Broadcast channels," *IEEE Transactions on Information Theory*, vol. 18, pp. 2–14, January 1972.
- [52] T. Cover and J. Thomas, *Elements of Information Theory*. New York: Wiley Interscience, 1991.
- [53] S. Barbarossa and G. Scutari, "On the maximum common rate in multiple access channels," in *Proc. EUSIPCO 2002*, (Toulouse, France), September 2002.
- [54] W. Rhee and J. M. Cioffi, "On the capacity of multiuser wireless channels with multiple antennas," *IEEE Transactions on Information Theory*, vol. 49, pp. 2580–2595, October 2003.
- [55] F. Horlin, *Channel adapted precoding for interference free uplink burst transmission*. PhD thesis, Communications and Remote Sensing Laboratory, Université catholique de Louvain, September 2002.
- [56] H. Holma and A. Toskala, *WCDMA for UMTS*. Wiley, 2000.
- [57] R. Gray, "On the asymptotic eigenvalue distribution of Toeplitz matrices," *IEEE Transactions on Information Theory*, vol. 18, pp. 725–730, November 1972.
- [58] P. E. Caines, *Linear stochastic systems*. Wiley, 1988.
- [59] Y. A. Rozanov, *Stationary random processes*. New York: Holden-Day, 1967.
- [60] G. H. Golub and C. F. V. Loan, *Matrix computations*. The Johns Hopkins University Press, 1996.
- [61] N. Al-Dhahir and A. H. Sayed, "The finite-length multi-input multi-output MMSE DFE," *IEEE Transactions on Signal Processing*, vol. 48, pp. 2921–2936, October 2000.

- [62] A. Klein, G. Kaleh, and P. Baier, "Zero forcing and minimum mean square error equalization for multiuser detection in code division multiple access channels," *IEEE Transactions on Vehicular Technology*, vol. 45, pp. 276–287, May 1996.
- [63] J. Louveaux, L. Vandendorpe, L. Cuvelier, and T. Pollet, "Bit-rate sensitivity of filter-bank-based VDSL transmission to timing errors," *IEEE Transactions on Communications*, vol. 49, pp. 375–384, February 2001.
- [64] Y. Jiang, S. Feng-Wen, and J. S. Baras, "On the true Cramèr-Rao lower bound for the DA joint estimation of carrier phase and timing offsets," in *Proc. IEEE ICC'2000*, (New-Orleans, USA), pp. 331–335, June 2000.
- [65] A. Papoulis, *Probability, random variables, and stochastic processes*. New York: McGraw-Hill, 1991.
- [66] F. Gini, R. Reggiannini, and U. Mengali, "The modified Cramèr-Rao bound in vector parameter estimation," *IEEE Transactions on Communications*, vol. 46, pp. 52–60, January 1998.
- [67] J. Louveaux, L. Vandendorpe, and T. Sartenæer, "Early-late timing recovery with decision-feedback equalizers," *IEEE Communications Letters*, vol. 7, pp. 332–334, July 2003.
- [68] K. H. Mueller and M. Müller, "Timing recovery in digital synchronous data receivers," *IEEE Transactions on Communications*, vol. 24, pp. 516–531, May 1976.
- [69] J. Proakis, *Digital Communications*. New York: McGraw-Hill, 1989.
- [70] R. Gallager, *Information theory and reliable communication*. New York: Wiley, 1968.
- [71] P. Vaidyanathan, *Multirate systems and filter banks*. Prentice Hall Signal Processing Series, 1993.
- [72] H. Meyr, M. Moeneclaey, and S. A. Fechtel, *Digital communications receivers: Synchronization, Channel estimation and Signal processing*. New York: Wiley Series in Telecommunications and Signal Processing, 1998.

- [73] R. D. Gitlin, J. F. Hayes, and S. B. Weinstein, *Data communications principles*. Plenum Press, 1992.
- [74] S. Haykin, *Adaptive filter theory*. Prentice Hall, 1991.
- [75] L. Vandendorpe and J. Louveaux, "About ML-DA timing estimation for filter bank based MC transmission," *IEEE Communications Letters*, vol. 3, pp. 106–108, April 1999.
- [76] B. Farhang-Boroujeny and G. Mathew, "Nyquist filters with robust performance against timing jitter," *IEEE Transactions on Signal Processing*, vol. 46, pp. 3427–3431, December 1998.
- [77] K. M. Wong, J. W. Davidson, and T. Q. Jin, "Wavelet packet division multiplexing and wavelet packet design under timing error effects," *IEEE Transactions on Signal Processing*, vol. 45, pp. 2877–2890, December 1997.
- [78] M. Luise, M. Marelli, and R. Reggiannini, "Clock synchronization for wavelet-based multirate transmissions," *IEEE Transactions on Communications*, vol. 48, pp. 1047–1054, June 2000.
- [79] F. Daneshgaran and M. Mondin, "Wavelet-based signal design for reduced jitter timing-recovery," *IEEE Transactions on Communications*, vol. 45, pp. 1523–1526, December 1997.
- [80] L. Vandendorpe, J. Louveaux, B. Maison, and A. Chevreuil, "About the asymptotic performance of MMSE MIMO DFE for filter-bank based multicarrier transmission," *IEEE Transactions on Communications*, vol. 47, pp. 1472–1475, October 1999.
- [81] R. Lupas and S. Verdú, "Linear multiuser detectors for synchronous code-division multiple-access channels," *IEEE Transactions on Information Theory*, vol. 35, pp. 123–126, January 1989.
- [82] S. Verdú, "Minimum probability of error for asynchronous Gaussian multiple-access channels," *IEEE Transactions on Information Theory*, vol. 32, pp. 85–96, January 1986.
- [83] A. Duel-Hallen, "Equalizers for multiple input-multiple output channels and PAM systems with cyclostationary input sequences," *IEEE Journal on Selected Areas in Communications*, vol. 10, pp. 630–639, April 1992.

- [84] A. Duel-Hallen, "A family of multi-user decision-feedback detectors for asynchronous CDMA channels," *IEEE Transactions on Communications*, vol. 43, pp. 421–434, April 1995.
- [85] X. Wang and H. V. Poor, "Iterative (turbo) soft interference cancellation and decoding for coded CDMA," *IEEE Transactions on Communications*, vol. 47, pp. 1046–1061, July 1999.
- [86] Z. Xu and M. K. Tsatsanis, "Blind channel estimation for long code multiuser CDMA systems," *IEEE Transactions on Signal Processing*, vol. 48, pp. 988–1001, April 2000.
- [87] C. J. Escudero, U. Mitra, and D. Slock, "A Toeplitz displacement method for blind multipath estimation for long code DS/CDMA signals," *IEEE Transactions on Signal Processing*, vol. 49, pp. 654–665, March 2001.
- [88] S. Bhashyam and B. Aazhang, "Multiuser channel estimation and tracking for long-code CDMA systems," *IEEE Transactions on Communications*, vol. 50, pp. 1081–1090, July 2002.
- [89] S. Buzzi and H. V. Poor, "Channel estimation and multiuser detection in long-code DS/CDMA systems," *IEEE Journal on Selected Areas in Communications*, vol. 19, pp. 1476–1487, August 2001.
- [90] D. Guo, L. R. Rasmussen, and T. J. Lim, "Linear parallel interference cancellation in long code CDMA multiuser detection," *IEEE Journal on Selected Areas in Communications*, vol. 17, pp. 2074–2081, December 1999.
- [91] Z. Yang and X. Wang, "Blind turbo multiuser detection for long-code multipath CDMA," *IEEE Transactions on Communications*, vol. 50, pp. 112–125, January 2002.
- [92] S. Parkvall, "Variability of user performance in cellular DS-CDMA - long versus short spreading sequences," *IEEE Transactions on Communications*, vol. 48, pp. 1178–1187, July 2000.
- [93] M. C. Jeruchim, "Techniques for estimating the bit error rate in the simulation of digital communication systems," *IEEE Journal on Selected Areas in Communications*, vol. 2, pp. 153–170, January 1984.

- [94] A. N. Akansu, P. Duhamel, P. X. Lin, and M. de Courville, "Orthogonal transmultiplexers in communication: a review," *Proc. 2000 International Zurich Seminar on Broadband Communications*, vol. 46, pp. 979–995, April 1998.
- [95] C. N. Georgiades and M. Moeneclaey, "Sequence estimation and synchronization from nonsynchronized samples," *IEEE Transactions on Information Theory*, vol. 37, p. 1649, November 1991.
- [96] S. Galli, A. Scaglione, and K. Dostert, "Broadband is power: Internet access through the power line network," *IEEE Communications Magazine*, vol. 41, pp. 82–83, May 2003.
- [97] M. Gebhardt, F. Weinmann, and K. Dostert, "Physical and regulatory constraints for communication over the power supply grid," *IEEE Communications Magazine*, vol. 41, pp. 84–90, May 2003.
- [98] H. Dai and H. V. Poor, "Advanced signal processing for power line communications," *IEEE Communications Magazine*, vol. 41, pp. 100–107, May 2003.
- [99] H. A. Latchman and L. W. Yonge, "Power line local area networking," *IEEE Communications Magazine*, vol. 41, pp. 32–33, April 2003.
- [100] N. Pavlidou, A. J. Vinck, J. Yazdani, and B. Honary, "Power line communications: state of the art and future trends," *IEEE Communications Magazine*, vol. 41, pp. 34–40, April 2003.
- [101] F. J. Canete, J. A. Cortes, L. Diez, and J. T. Entrambasaguas, "Modeling and evaluation of the indoor power line transmission medium," *IEEE Communications Magazine*, vol. 41, pp. 41–47, April 2003.
- [102] S. Baig and N. D. Gohar, "A discrete multitone transceiver at the heart of the PHY layer of an in-home power line communication local area network," *IEEE Communications Magazine*, vol. 41, pp. 48–53, April 2003.
- [103] Y. J. Lin, H. A. Latchman, R. E. Newman, and S. Katar, "A comparative performance study of wireless and power line networks," *IEEE Communications Magazine*, vol. 41, pp. 54–63, April 2003.
- [104] J. A. et al., "Extending the power line LAN up to the neighborhood transformer," *IEEE Communications Magazine*, vol. 41, pp. 64–70, April 2003.

- [105] A. P. Liavas, "On the robustness of the finite-length MMSE-DFE with respect to channel and second-order statistics estimation errors," *IEEE Transactions on Signal Processing*, vol. 50, pp. 2866–2874, November 2002.
- [106] A. Chockalingam, K. R. S. Kumar, and L. B. Milstein, "Performance of an LMS type receiver for interference suppression in long code DS-CDMA on rayleigh fading channels," in *Proc. IEEE ICC'2000*, (New-Orleans, USA), June 2000.
- [107] D. T. M. Slock and I. Ghauri, "Blind maximum SINR receiver for the DS-CDMA downlink," in *Proc. IEEE ICASSP'2000*, (Istanbul, Turkey), June 2000.
- [108] A. Chevreuil and L. Vandendorpe, "MIMO MMSE-DFE: a general framework," in *Proc. 9th IEEE Signal Processing Workshop on Statistical Signal and Array Processing*, (Portland, Oregon, USA), pp. 368–371, September 1998.
- [109] *Proc. 4th International Symposium on Powerline Communications and its applications (ISPLC'2000)*, (Limerick, Ireland), April 5-7 2000.
- [110] *Proc. 5th International Symposium on Powerline Communications and its applications (ISPLC'2001)*, (Malmö, Sweden), April 4-6 2001.
- [111] *Proc. 6th International Symposium on Powerline Communications and its applications (ISPLC'2002)*, (Athens, Greece), March 27-29 2002.
- [112] P. Delogne, "Justification de la théorie des lignes en HF," tech. rep., Communications and Remote Sensing Laboratory, Université catholique de Louvain, February 2000.
- [113] F. Issa, *Analyse et Modélisation du réseau électrique basse tension aux fréquences courants porteurs de la gamme 1 MHz - 30 MHz*. PhD thesis, Université Paris XI Orsay, April 2002.
- [114] J. Louveaux, *Filter bank based multicarrier modulation for xDSL transmission*. PhD thesis, Communications and Remote Sensing Laboratory, Université catholique de Louvain, May 2000.

