References

[1] I. C. Abou-Faycal, M. D. Trott and S. Shamai, "The capacity of discrete-time memoryless Rayleigh-fading channels", *IEEE Transactions on Information Theory*, **47**(4), 2001, 1290–1301.

[2] R. Ahlswede, "Multi-way communication channels", *IEEE International Symposium on Information Theory*, Tsahkadsor USSR, 1971, pp. 103–135.

[3] S. M. Alamouti, "A simple transmitter diversity scheme for wireless communication", *IEEE Journal on Selected Areas in Communication*, **16**, 1998, 1451–1458.

[4] J. Barry, E. Lee and D. G. Messerschmitt, *Digital Communication*, Third Edition, Kluwer, 2003.

[5] J.-C. Belfiore, G. Rekaya and E. Viterbo, "The Golden Code: a 2×2 fullrate space-time code with non-vanishing determinants", *Proceedings of the IEEE International Symposium on Information Theory*, Chicago June 2004 p. 308.

[6] P. Bender, P. Black, M. Grob, R. Padovani, N. T. Sindhushayana and A. J. Viterbi, "CDMA/HDR: A bandwidth-efficient high-speed wireless data service for nomadic users", *IEEE Communications Magazine*, July 2000.

[7] C. Berge, *Hypergraphs*, Amsterdam, North-Holland, 1989.

[8] P. P. Bergmans, "A simple converse for broadcast channels with additive white Gaussian noise", *IEEE Transactions on Information Theory*, **20**, 1974, 279–280.

[9] E. Biglieri, J. Proakis and S. Shamai, "Fading channels: information theoretic and communications aspects", *IEEE Transactions on Information Theory*, **44**(6), 1998, 2619–2692.

[10] D. Blackwell, L. Breiman and A. J. Thomasian, "The capacity of a class of channels", *Annals of Mathematical Statistics*, **30**, 1959, 1229–1241.

[11] H. Boche and E. Jorswieck, "Outage probability of multiple antenna systems: optimal transmission and impact of correlation", *International Zurich Seminar on Communications*, February 2004.

[12] S. C. Borst and P. A. Whiting, "Dynamic rate control algorithms for HDR throughput optimization", *IEEE Proceedings of Infocom*, **2**, 2001, 976–985.

[13] J. Boutros and E. Viterbo, "Signal space diversity: A power and bandwidth-efficient diversity technique for the Rayleigh fading channel", *IEEE Transactions on Information Theory*, **44**, 1998, 1453–1467.

[14] S. Boyd, "Multitone signals with low crest factor", *IEEE Transactions on Circuits and Systems*, **33**, 1986, 1018–1022.

[15] S. Boyd and L. Vandenberge, *Convex Optimization*, Cambridge University Press, 2004.

[16] R. Brualdi, *Introductory Combinatorics*, New York, North Holland, Second Edition, 1992.

[17] G. Caire and S. Shamai, "On the achievable throughput in multiple antenna Gaussian broadcast channel", *IEEE Transactions on Information Theory*, **49**(7), 2003, 1691–1706.

[18] R. W. Chang, "Synthesis of band-limited orthogonal signals for multichannel data transmission", *Bell System Technical Journal*, **45**, 1966, 1775–1796.

[19] E. F. Chaponniere, P. Black, J. M. Holtzman and D. Tse, *Transmitter directed, multiple receiver system using path diversity to equitably maximize throughput*, U.S. Patent No. 6449490, September 10, 2002.

[20] R. S. Cheng and S. Verdú, "Gaussian multiaccess channels with ISI: Capacity region and multiuser water-filling", *IEEE Transactions on Information Theory*, **39**, 1993, 773–785.

[21] C. Chuah, D. Tse, J. Kahn and R. Valenzuela, "Capacity scaling in MIMO wireless systems under correlated fading", *IEEE Transactions on Information Theory*, **48**(3), 2002, 637–650.

[22] R. H. Clarke, "A statistical theory of mobile-radio reception", *Bell System Technical Journal*, **47**, 1968, 957–1000.

[23] M. H. M. Costa, "Writing on dirty-paper", *IEEE Transactions on Information Theory*, **29**, 1983, 439–441.

[24] T. Cover, "Comments on broadcast channels", *IEEE Transactions on Information Theory*, **44**(6), 1998, 2524–2530.

[25] T. Cover, "Broadcast channels", *IEEE Transactions on Information Theory*, **18**(1), 1972, 2–14.

[26] T. Cover and J. Thomas, *Elements of Information Theory*, John Wiley and Sons, 1991.

[27] R. Jean-Merc Cramer, *An Evaluation of Ultra-Wideband Propagation Channels*, Ph.D. Thesis, University of Southern California, December 2000.

[28] H. A. David, *Order Statistics*, Wiley, First Edition, 1970.

[29] P. Dayal and M. Varanasi, "An optimal two transmit antenna space-time code and its stacked extensions", *Proceedings of Asilomar Conference on Signals, Systems and Computers*, CA, November 2003.

[30] D. Divsalar and M. K. Simon, "The Design of trellis-coded MPSK for fading channels: Performance criteria", *IEEE Transactions on Communications*, **36**(9), 1988, 1004–1012.

[31] R. L. Dobrushin, "Optimum information transmission through a channel with unknown parameters", *Radio Engineering and Electronics*, **4**(12), 1959, 1–8.

[32] A. Edelman, *Eigenvalues and Condition Numbers of Random Matrices*, Ph.D. Dissertation, MIT, 1989.

[33] A. El Gamal, "Capacity of the product and sum of two unmatched broadcast channels", *Problemi Peredachi Informatsii*, **16**(1), 1974, 3–23.

[34] H. El Gamal, G. Caire and M. O. Damen, "Lattice coding and decoding achieves the optimal diversity–multiplexing tradeoff of MIMO channels", *IEEE Transactions on Information Theory*, **50**, 2004, 968–985.

[35] P. Elia, K. R. Kumar, S. A. Pawar, P. V. Kumar and Hsiao-feng Lu, "Explicit construction of space-time block codes achieving the diversity–multiplexing gain tradeoff", ISIT, Adelaide 2005.

[36] M. V. Eyuboglu and G. D. Forney, Jr., "Trellis precoding: Combined coding, precoding and shaping for intersymbol interference channels", *IEEE Transactions on Information Theory*, **38**, 1992, 301–314.

[37] F. R. Farrokhi, K. J. R. Liu and L. Tassiulas, "Transmit beamforming and power control in wireless networks with fading channels", *IEEE Journal on Selected Areas in Communications*, **16**(8), 1998, 1437–1450.

[38] *Flash-OFDM, OFDM Based All-IP Wireless Technology*, IEEE C802.20-03/16, www.flarion.com.

[39] G. D. Forney and G. Ungerböck, "Modulation and coding for linear Gaussian channels", *IEEE Transactions on Information Theory*, **44**(6), 1998, 2384–2415.

[40] G. J. Foschini, "Layered space-time architecture for wireless communication in a fading environment when using multi-element antennas", *Bell Labs Technical Journal*, **1**(2), 1996, 41–59.

[41] G. J. Foschini and M. J. Gans, "On limits of wireless communication in a fading environment when using multiple antennas", *Wireless Personal Communications*, **6**(3), 1998, 311–335.

[42] M. Franceschetti, J. Bruck and M. Cook, "A random walk model of wave propagation", *IEEE Transactions on Antenna Propagation*, **52**(5), 2004, 1304–1317.

[43] R. G. Gallager, *Information Theory and Reliable Communication*, John Wiley and Sons, 1968.

[44] R. G. Gallager, "An inequality on the capacity region of multiple access multipath channels", in *Communications and Cryptography: Two Sides of One Tapestry*, 1994, Boston, Kluwer, pp. 129–139

[45] R. G. Gallager, "A perspective on multiaccess channels", *IEEE Transactions on Information Theory*, **31**, 1985, 124–142.

[46] S. Gelfand and M. Pinsker, "Coding for channel with random parameters", *Problems of Control and Information Theory*, **9**, 1980, 19–31.

[47] D. Gesbert, H. Blcskei, D. A. Gore and A. J. Paulraj, "Outdoor MIMO wireless channels: Models and performance prediction", *IEEE Transactions on Communications*, **50**, 2002, 1926–1934.

[48] M. J. E. Golay, "Multislit spectrometry", *Journal of the Optical Society of America*, **39**, 1949, 437–444.

[49] M. J. E. Golay, "Static multislit spectrometry and its application to the panoramic display of infrared spectra", *Journal of the Optical Society of America*, **41**, 1951, 468–472.

[50] M. J. E. Golay, "Complementary sequences", *IEEE Transactions on Information Theory*, **7**, 1961, 82–87.

[51] A. Goldsmith and P. Varaiya, "Capacity of fading channel with channel side information", *IEEE Transactions on Information Theory*, **43**, 1995, 1986–1992.

[52] S. W. Golomb, *Shift Register Sequences*, Revised Edition, Aegean Park Press, 1982.

[53] U. Grenander and G. Szego, *Toeplitz Forms and Their Applications*, Second Edition, New York, Chelsea, 1984.

[54] L. Grokop and D. Tse, "Diversity–multiplexing tradeoff of the ISI channel", *Proceedings of the International Symposium on Information Theory*, Chicago, 2004.

[55] Jiann-Ching Guey, M. P. Fitz, M. R. Bell and Wen-Yi Kuo, "Signal design for transmitter diversity wireless communication systems over Rayleigh fading channels", *IEEE Transactions on Communications*, **47**, 1999, 527–537.

[56] S. V. Hanly, "An algorithm for combined cell-site selection and power control to maximize cellular spread-spectrum capacity", *IEEE Journal on Selected Areas in Communications*, **13**(7), 1995, 1332–1340.

[57] H. Harashima and H. Miyakawa, "Matched-transmission technique for channels with intersymbol interference", *IEEE Transactions on Communications*, **20**, 1972, 774–780.

[58] R. Heddergott and P. Truffer, *Statistical Characteristics of Indoor Radio Propagation in NLOS Scenarios*, Technical Report: COST 259 TD(00) 024, January 2000.

[59] J. Y. N. Hui, "Throughput analysis of the code division multiple accessing of the spread-spectrum channel", *IEEE Journal on Selected Areas in Communications*, **2**, 1984, 482–486.

[60] IS-136 Standard (TIA/EIA), Telecommunications Industry Association.

[61] IS-95 Standard (TIA/EIA), Telecommunications Industry Association.

[62] W. C. Jakes, *Microwave Mobile Communications*, Wiley, 1974.

[63] N. Jindal, S. Vishwanath and A. Goldsmith, "On the duality between multiple access and broadcast channels", *Annual Allerton Conference*, 2001.

[64] A. E. Jones, T. A. Wilkinson, "Combined coding error control and increased robustness to system non-linearities in OFDM", *IEEE Vehicular Technology Conference*, April 1996, pp. 904–908.

[65] R. Knopp, and P. Humblet, "Information capacity and power control in single cell multiuser communications", *IEEE International Communications Conference*, Seattle, June 1995.

[66] R. Knopp and P. Humblet, "Multiuser diversity", unpublished manuscript.

[67] C. Kose and R. D. Wesel, "Universal space-time trellis codes," *IEEE Transactions on Information Theory*, **40**(10), 2003, 2717–2727.

[68] A. Lapidoth and S. Moser, "Capacity bounds via duality with applications to multiple-antenna systems on flat fading channels", *IEEE Transactions on Information Theory*, **49**(10), 2003, 2426–2467.

[69] A. Lapidoth and P. Narayan, "Reliable communication under channel uncertainty", *IEEE Transactions on Information Theory*, **44**(6), 1998, 2148–2177.

[70] R. Laroia, T. Richardson and R. Urbanke, "Reduced peak power requirements in ofdm and related systems", unpublished manuscript, available at http://lthcwww.epfl.ch/papers/LRU.ps.

[71] R. Laroia, S. Tretter and N. Farvardin, "A simple and effective precoding scheme for noise whitening on ISI channels", *IEEE Transactions on Communication*, **41**, 1993, 1460–1463.

[72] E. G. Larsson, P. Stoica and G. Ganesan, *Space-Time Block Coding for Wireless Communication*, Cambridge University Press, 2003.

[73] H. Liao, "A coding theorem for multiple access communications", *International Symposium on Information Theory*, Asilomar, CA, 1972.

[74] L. Li and A. Goldsmith, "Capacity and optimal resource allocation for fading broadcast channels: Part I: Ergodic capacity", *IEEE Transactions on Information Theory*, **47**(3), 2001, 1082–1102.

[75] K. Liu, R. Vasanthan and A. M. Sayeed, "Capacity scaling and spectral efficiency in wideband correlated MIMO channels", *IEEE Transactions on Information Theory*, **49**(10), 2003, 2504–2526.

[76] T. Liu and P. Viswanath, "Opportunistic orthogonal writing on dirty-paper", submitted to *IEEE Transactions on Information Theory*, 2005.

[77] R. Lupas and S. Verdú, "Linear multiuser detectors for synchronous code-division multiple-access channels", *IEEE Transactions on Information Theory*, **35**(1), 1989, 123–136.

[78] V. A. Marčenko and L. A. Pastur, "Distribution of eigenvalues for some sets of random matrices", *Math USSR Sbornik*, **1**, 1967, 457–483.

[79] U. Madhow and M. L. Honig, "MMSE interference suppression for direct-sequence spread-spectrum CDMA", *IEEE Transactions on Communications*, **42**(12), 1994, 3178–3188.

[80] A. W. Marshall and I. Olkin, *Inequalities: Theory of Majorization and Its Applications*, Academic Press, 1979.

[81] K. Marton, "A coding theorem for the discrete memoryless broadcast channel", *IEEE Transactions on Information Theory*, **25**, 1979, 306–311.

[82] *MAXDET: A Software for Determinant Maximization Problems*, available at http://www.stanford.edu/∼boyd/MAXDET.html.

[83] T. Marzetta and B. Hochwald, "Capacity of a mobile multiple-antenna communication link in rayleigh flat fading", *IEEE Transactions on Information Theory*, **45**(1), 1999, 139–157.

[84] R. J. McEliece and K. N. Sivarajan, "Performance limits for channelized cellular telephone systems", *IEEE Transactions on Information Theory*, **40**(1), 1994, 21–34.

[85] M. Médard and R. G. Gallager, "Bandwidth scaling for fading multipath channels", *IEEE Transactions on Information Theory*, **48**(4), 2002, 840–852.

[86] N. Prasad and M. K. Varanasi, "Outage analysis and optimization for multiaccess/V-BLAST architecture over MIMO Rayleigh fading channels", *Forty-First Annual Allerton Conference on Communication, Control, and Computing*, Monticello, IL, October 2003.

[87] A. Oppenheim and R. Schafer, *Discrete-Time Signal Processing*, Englewood Cliffs, NJ, Prentice-Hall, 1989.

[88] L. Ozarow, S. Shamai and A. D. Wyner, "Information-theoretic considerations for cellular mobile radio", *IEEE Transactions on Vehicular Technology*, **43**(2), 1994, 359–378.

[89] A. Paulraj, D. Gore and R. Nabar, *Introduction to Space-Time Wireless Communication*, Cambridge University Press, 2003.

[90] A. Poon, R. Brodersen and D. Tse, "Degrees of freedom in multiple-antenna channels: a signal space approach", *IEEE Transactions on Information Theory*, **51**, 2005, 523–536.

[91] A. Poon and M. Ho, "Indoor multiple-antenna channel characterization from 2 to 8 GHz", *Proceedings of the IEEE International Conference on Communications*, May 2003, pp. 3519–23.

[92] A. Poon, D. Tse and R. Brodersen, "Impact of scattering on the capacity, diversity, and propagation range of multiple-antenna channels", submitted to *IEEE Transactions on Information Theory*.

[93] B. M. Popović, "Synthesis of power efficient multitone signals with flat amplitude spectrum", *IEEE Transactions on Communication*, **39**, 1991, 1031–1033.

[94] G. Pottie and R. Calderbank, "Channel coding strategies for cellular mobile radio", *IEEE Transactions on Vehicular Technology*, **44**(3), 1995, 763–769.

[95] R. Price and P. Green, "A communication technique for multipath channels", *Proceedings of the IRE*, **46**, 1958, 555–570.

[96] J. Proakis, *Digital Communications*, Fourth Edition, McGraw Hill, 2000.

[97] G. G. Raleigh and J. M. Cioffi, "Spatio-temporal coding for wireless communication", *IEEE Transactions on Communications*, **46**, 1998, 357–366.

[98] T. S. Rappaport, *Wireless Communication: Principle and Practice*, Second Edition, Prentice Hall, 2002.

[99] S. Redl, M. Weber M. W. Oliphant, *GSM and Personal Communications Handbook*, Artech House, 1998.

[100] T. J. Richardson and R. Urbanke, *Modern Coding Theory*, to be published.

[101] B. Rimoldi and R. Urbanke, "A rate-splitting approach to the Gaussian multiple-access channel", *IEEE Transactions on Information Theory*, **42**(2), 1996, 364–375.

[102] N. Robertson, D. P. Sanders, P. D. Seymour and R. Thomas, "The four colour theorem", *Journal of Combinatorial Theory*, *Series B*. **70**, 1997, 2–44.

[103] W. L. Root and P. P. Varaiya, "Capacity of classes of Gaussian channels", *SIAM Journal of Applied Mathematics*, **16**(6), 1968, 1350–1393.

[104] B. R. Saltzberg, "Performance of an efficient parallel data transmission system", *IEEE Transactions on Communications*, **15**, 1967, 805–811.

[105] A. M. Sayeed, "Deconstructing multi-antenna fading channels", *IEEE Transactions on Signal Processing*, **50**, 2002, 2563–2579.

[106] E. Seneta, *Non-negative Matrices*, New York, Springer, 1981.

[107] N. Seshadri and J. H. Winters, "Two signaling schemes for improving the error performance of frequency-division duplex (FDD) transmission systems using transmitter antenna diversity", *International Journal on Wireless Information Networks*, **1**(1), 1994, 49–60.

[108] S. Shamai and A. D. Wyner, "Information theoretic considerations for symmetric, cellular, multiple-access fading channels: Part I", *IEEE Transactions on Information Theory*, **43**(6), 1997, 1877–1894.

[109] C. E. Shannon, "A mathematical theory of communication", *Bell System Technical Journal*, **27**, 1948, 379–423 and 623–656.

[110] C. E. Shannon, "Communication in the presence of noise", *Proceedings of the IRE*, **37**, 1949, 10–21.

[111] D. S. Shiu, G. J. Foschini, M. J. Gans and J. M. Kahn, "Fading correlation and its effect on the capacity of multielement antenna systems", *IEEE Transactions on Communications*, **48**, 2000, 502–513.

[112] Q. H. Spencer *et al.*, "Modeling the statistical time and angle of arrival characteristics of an indoor multipath channel", *IEEE Journal on Selected Areas in Communication*, **18**, 2000, 347–360.

[113] V. G. Subramanian and B. E. Hajek, "Broadband fading channels: signal burstiness and capacity", *IEEE Transactions on Information Theory*, **48**(4), 2002, 809–827.

[114] G. Taricco and M. Elia, "Capacity of fading channels with no side information", *Electronics Letters*, **33**, 1997, 1368–1370.

[115] V. Tarokh, N. Seshadri and A. R. Calderbank, "Space-time codes for high data rate wireless communication: performance, criterion and code construction", *IEEE Transactions on Information Theory*, **44**(2), 1998, 744–765.

[116] V. Tarokh and H. Jafarkhani, "On the computation and reduction of the peak-to-average power ratio in multicarrier communications", *IEEE Transactions on Communication*, **48**(1), 2000, 37–44.

[117] V. Tarokh, H. Jafarkhani and A. R. Calderbank, "Space-time block codes from orthogonal designs", *IEEE Transactions on Information Theory*, **48**(5), 1999, 1456–1467.

[118] S. R. Tavildar and P. Viswanath, "Approximately universal codes over slow fading channels", submitted to *IEEE Transactions on Information Theory*, 2005.

[119] E. Telatar, "Capacity of the multiple antenna Gaussian channel", *European Transactions on Telecommunications*, **10**(6), 1999, 585–595.

[120] E. Telatar and D. Tse, "Capacity and mutual information of wideband multipath fading channels", *IEEE Transactions on Information Theory*, **46**(4), 2000, 1384–1400.

[121] M. Tomlinson, "New automatic equaliser employing modulo arithmetic", *IEE Electronics Letters*, **7**(5/6), 1971, 138–139.

[122] D. Tse and S. Hanly, "Multi-access fading channels: Part I: Polymatroidal structure, optimal resource allocation and throughput capacities", *IEEE Transactions on Information Theory*, **44**(7), 1998, 2796–2815.

[123] D. Tse and S. Hanly, "Linear Multiuser Receivers: Effective Interference, Effective Bandwidth and User Capacity", *IEEE Transactions on Information Theory*, **45**(2), 1999, 641–657.

[124] D. Tse, "Optimal power allocation over parallel Gaussian broadcast channels", *IEEE International Symposium on Information Theory*, Ulm Germany, June 1997, p. 27.

[125] D. Tse, P. Viswanath and L. Zheng, "Diversity–multiplexing tradeoff in multiple access channels", *IEEE Transactions on Information Theory*, **50**(9), 2004, 1859–1874.

[126] A. M. Tulino, A. Lozano and S. Verdú, "Capacity-achieving input covariance for correlated multi-antenna channels", *Forty-first Annual Allerton Conference on Communication, Control and Computing*, Monticello IL, October 2003.

[127] A. M. Tulino and S. Verdú, "Random matrices and wireless communication", *Foundations and Trends in Communications and Information Theory*, **1**(1), 2004.

[128] S. Ulukus and R. D. Yates, "Adaptive power control and MMSE interference suppression", *ACM Wireless Networks*, **4**(6), 1998, 489–496.

[129] M. K. Varanasi and T. Guess, "Optimum decision feedback multiuser equalization and successive decoding achieves the total capacity of the Gaussian multiple-access channel", *Proceedings of the Asilomar Conference on Signals, Systems and Computers*, 1997.

[130] V. V. Veeravalli, Y. Liang and A. M. Sayeed, "Correlated MIMO Rayleigh fading channels: capacity, optimal signaling, and scaling laws", *IEEE Transactions on Information Theory*, 2005, in press.

[131] S. Verdú, *Multiuser Detection*, Cambridge University Press, 1998.

[132] S. Verdú and S. Shamai, "Spectral efficiency of CDMA with random spreading", *IEEE Transactions on Information Theory*, **45**(2), 1999, 622–640.

[133] H. Vikalo and B. Hassibi, *Sphere Decoding Algorithms for Communications*, Cambridge University Press, 2004.

[134] E. Visotsky and U. Madhow, "Optimal beamforming using tranmit antenna arrays", *Proceedings of Vehicular Technology Conference*, 1999.

[135] S. Vishwanath, N. Jindal and A. Goldsmith, "On the capacity of multiple input multiple output broadcast channels", *IEEE Transactions on Information Theory*, **49**(10), 2003, 2658–2668.

[136] P. Viswanath, D. Tse and V. Anantharam, "Asymptotically optimal waterfilling in vector multiple access channels", *IEEE Transactions on Information Theory*, **47**(1), 2001, 241–267.

[137] P. Viswanath, D. Tse and R. Laroia, "Opportunistic beamforming using dumb antennas", *IEEE Transactions on Information Theory*, **48**(6), 2002, 1277–1294.

[138] P. Viswanath and D. Tse, "Sum capacity of the multiple antenna broadcast channel and uplink-downlink duality", *IEEE Transactions on Information Theory*, **49**(8), 2003, 1912–1921.

[139] A. J. Viterbi, "Error bounds for convolution codes and an asymptotically optimal decoding algorithm", *IEEE Transactions on Information Theory*, **13**, 1967, 260–269.

[140] A. J. Viterbi, *CDMA: Principles of Spread-Spectrum Communication*, Addison-Wesley Wireless Communication, 1995.

[141] H. Weingarten, Y. Steinberg and S. Shamai, "The capacity region of the Gaussian MIMO broadcast channel", submitted to *IEEE Transactions on Information Theory*, 2005.

[142] R. D. Wesel, "Trellis Code Design for Correlated Fading and Achievable Rates for Tomlinson–Harashima Precoding", PhD Dissertation, Stanford University, August 1996.

[143] R. D. Wesel, and J. Cioffi, "Fundamentals of Coding for Broadcast OFDM", in Twenty-Ninth Asilomar Conference on Signals, Systems, and Computers, October 30, 1995.

[144] S. G. Wilson and Y. S. Leung, "Trellis-coded modulation on Rayleigh faded channels", *International Conference on Communications*, Seattle, June 1987.

[145] J. H. Winters, J. Salz and R. D. Gitlin, "The impact of antenna diversity on the capacity of wireless communication systems", *IEEE Transactions on Communication*, **42**(2–4), Part 3, 1994, 1740–1751.

[146] J. Wolfowitz, "Simultaneous channels", *Archive for Rational Mechanics and Analysis*, **4**, 1960, 471–386.

[147] P. W. Wolniansky, G. J. Foschini, G. D. Golden and R. A. Valenzuela, "V-BLAST: an architecture for realizing very high data rates over the rich-scattering wireless channel", *Proceedings of the URSI International Symposium on Signals, Systems, and Electronics Conference*, New York, 1998, pp. 295–300.

[148] J. M. Wozencraft and I. M. Jacobs, *Principles of Communication Engineering*, John Wiley and Sons, 1965, Reprinted by Waveland Press.

[149] Q. Wu and E. Esteves, "The cdma2000 high rate packet data system", in *Advances in 3G Enhanced Technologies for Wireless Communication*, Editors J. Wang and T.-S. Ng, Chapter 4, Artech House, 2002.

[150] A. D. Wyner, *Multi-tone Multiple Access for Cellular Systems*, AT&T Bell Labs Technical Memorandum, BL011217-920812- 12TM, 1992.

[151] R. Yates, "A framework for uplink power control in cellular radio systems", *IEEE Journal on Selected Areas in Communication*, **13**(7), 1995, 1341–1347.

[152] H. Yao and G. Wornell, "Achieving the full MIMO diversity–multiplexing frontier with rotation-based space-time codes", *Annual Allerton Conference on Communication, Control and Computing*, Monticello IL, October 2003.

[153] W. Yu and J. Cioffi, "Sum capacity of Gaussian vector broadcast channels", *IEEE Transactions on Information Theory*, **50**(9), 2004, 1875–1892.

[154] R. Zamir, S. Shamai and U. Erez, "Nested linear/lattice codes for structured multiterminal binning", *IEEE Transactions on Information Theory*, **48**, 2002, 1250–1276.

[155] L. Zheng and D. Tse, "Communicating on the Grassmann manifold: a geometric approach to the non-coherent multiple antenna channel", *IEEE Transactions on Information Theory*, **48**(2), 2002, 359–383.

[156] L. Zheng and D. Tse, "Diversity and multiplexing: a fundamental tradeoff in multiple antenna channels", *IEEE Transactions on Information Theory*, **48**(2), 2002, 359–383.

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