Glossário

BER	Bit Error Rate
BUFFER	Termo que descreve um espaço de armazenamento
CDMA	Code Division Multiple Access
CDMA/HDR	High Data Rates CDMA
CSMA	Carrier Sense Multiple Access
DCPC	Distributed Constrained Power Control
DPC	Distributed Power Control
DS-CDMA	Direct Sequence CDMA
FDMA	Frequency Division Multiple Access
IS-95	Interim Standard-95
MANET	Mobile Ad Hoc Neworks
OFDMA	Orthogonal Frequency Division Multiple Access
PCMA	Power Controlled Multiple Access
PCS	Personal Communication System
POTS	Plain Old Telephone System
PSTN	Public Switch Telephone Network
QoS	Quality of Service
RAKE	Rake
RF	Radio Frequency
SCDMA	Scheduled CDMA
SDMA	Spatial Division Multiple Access
SINR	Signal-to-Interference Noise Ratio
SIR	Signal-to-Interference Ratio
SNR	Signal-to-Noise Ratio
TDMA	Time Division Multiple Access
TPC	Transmitter Power Control
UMTS	Universal Mobile Telecommunications System
WCDMA	Wideband CDMA
WLAN	Wireless Local Area Network

Referências Bibliográficas

1 N. Abramson, "The throughput of packet broadcasting channels," *IEEE Transactions on Communications*, vol. 25, no. 1, pp. 117-128, 1977.

2 A. S. Acampora e M. Naghshineh, "Control and quality-of-service provisioning in high-speed microcellular networks," *IEEE Personal Communications*, vol. 1, no. 2, pp. 36-43, 1994.

3 J. M. Aein, "Power balancing in systems employing frequency reuse," *COMSAT Technical Review*, vol. 3, no. 2, pp. 277-300, 1973.

4 I. F. Akyildiz *et al.*, "A slotted CDMA protocol with BER scheduling for wireless multimedia networks," *ACM/IEEE Transactions on Networking*, vol. 7, no. 2, pp. 146-158, 1999.

5 H. Alavi e R. W. Nettleton, "Downstream power control for a spread spectrum cellular mobile radio system," in *Proc. IEEE GLOBECOM'82*, pp. 84-88, 1982.

6 M. Almgren, H. Andersson e K. Wallstedt, "Power control in cellular system," in *Proc. IEEE VTC'94*, pp. 833-837, 1994.

7 M. Andersin, Z. Rosberg e J. Zander, "Time variant power control in cellular networks," in *Proc. IEEE PIMRC'96*, pp. 193-197, 1996.

8 M. Andersin, Z. Rosberg e J. Zander, "Gradual removals in cellular PCS with constrained power control and noise," *IEEE/ACM Wireless Networks Journal*, vol. 2, no. 1, pp. 27-43, 1996.

9 M. Andersin, Z. Rosberg e J. Zander, "Soft and safe admission control in cellular networks," *IEEE/ACM Transactions on Networking*, vol. 5, no. 2, pp. 255-265, 1997.

10 M. Andersin, Z. Rosberg e J. Zander, "Distributed discrete power control in cellular PCS," *Wireless Personal Communications*, vol. 6, no. 3, pp. 211-231, 1998.

11 M. A. Arad e A. Leon-Garcia, "Scheduled CDMA: A hybrid multiple access scheme for wireless ATM networks," in *Proc. IEEE PIMRC'96*, pp.913-917, 1996.

12 J. C. Arnbak e W. van Blitterswijk, "Capacity of slotted ALOHA in Rayleigh-fading channels," *IEEE Journal on Selected Areas in Communications*, vol. 5, no. 2, pp. 261-269, 1987.

13 O. Axelsson, *Iterative Solution Methods*, Cambridge University Press, NewYork, 1994.

14 N. D. Bambos, S. C. Chen e G. J. Pottie, "Radio link admission algorithms for wireless networks with power control and active link protection," in *Proc. IEEE INFOCOM'95*, pp. 97-104, 1995.

15 N. Bambos, “Toward power-sensitive network architectures in wireless communications: concepts, issues and design aspects,” *IEEE Personal Communications*,vol. 5, no. 3, pp. 50-59, 1998.

16 N. Bambos e S. Kandukuri, “Power controlled multiple access (PCMA)in wireless communication networks,” in *Proc. IEEE INFOCOM 2000*, pp.386-395, 2000.

17 A. Bedekar *et al.*, “Downlink scheduling in CDMA networks,” in *Proc. IEEEGLOBECOM’99*, pp. 2653-2657, 1999.

18 P. Bender *et al.*, “CDMA/HDR: A bandwidth-e.cient high-speed wireless data service for nomadic users,” *IEEE Communications Magazine*, vol. 38, no. 7, pp. 70-77, 2000.

19 F. Berggren e J. Zander, “Throughput and energy consumption tradeo.sin constrained pathgain based power control in ALOHA networks,” *IEEE Communications Letters*, vol. 4 , no. 9, pp. 283-285, 2000.

20 F. Berggren e S.-L. Kim, “Energy-e.cient downlink power control and scheduling for CDMA non-real time data,” in *Proc. IEEE MMT’2000*, pp.171-182, 2000.

21 F. Berggren, R. J¨antti e S.-L. Kim, “A generalized algorithm for constrained power control with capability of temporary removal,” *IEEE Transactions on Vehicular Technology*, 1999.

22 F. Berggren e S.-L. Kim, “Energy-e.cient rate and power control in DSCDMA systems,” *IEEE Journal on Selected Areas in Communications*, 2000.

23 F. Berggren, S.-L. Kim, R. J¨antti e J. Zander, “Joint power control and intra-cell scheduling of DS-CDMA non-real time data,” *IEEE Journal on Selected Areas in Communications*, 2000.

24 F. Bock e B. Ebstein, “Assignment of transmitter powers by linear programming,” *IEEE Transactions on Electromagnetic Compatibility*, vol. 6, no. 2, pp. 36-44, 1964.

25 A. E. Brand e A. H. Aghvami, “Multidimensional PRMA with prioritized Bayesian broadcast - A MAC strategy for multiservice tra.c over UMTS,” *IEEE Transactions on Vehicular Technology*, vol. 47, no. 4, pp. 1148-1161,1999.

26 J.-C. Chen *et al.*, “Scheduling multimedia services in a low-power MAC for wireless and mobile ATM networks,” *IEEE Transactions on Multimedia*,vol. 1, no. 2, pp. 187-201, 1999.

27 A. Chockalingam e M. Zorzi, “Energy e.ciency of media access protocols for mobile data networks,” *IEEE Transactions on Communications*, vol. 46, no. 11, pp. 1418-1421, 1998.

28 J. D. Choi, K. M. Wasserman e W. E. Stark, “E.ect of channel memory on retransmission protocols for low energy wireless data communications,” in *Proc. IEEE ICC’99*, pp. 1552-1556, 1999.

29 T. M. Cover e J. A. Thomas, *Elements of Information Theory*, Wiley, New York, 1991.

30 E. Dahlman *et al.*, "WCDMA - The radio interface for future mobile multimedia communications," *IEEE Transactions on Vehicular Technology*, vol.47, no. 4, pp. 1105-1118, 1998.

31 S. Dixit, Y. Guo e Z. Antoniou, "Resource management and quality of service in third-generation wireless networks," *IEEE Communications Magazine*, vol. 39, no. 2, pp. 125-133, 2001.

32 V. H. Mac Donald, "The cellular concept," *The Bell System Technical Journal*, vol. 58, no. 1, pp. 15-41, 1979.

33 G. J. Foschini e Z. Miljanic, "A simple distributed autonomous power control algorithm and its convergence," *IEEE Transactions on Vehicular Technology*, vol. 42, no. 4, pp. 641-646, 1993.

34 T. Fujii e M. Sakamoto, "Reduction of cochannel interference in cellular systems by intra-zone channel reassignment and adaptive transmitter power control," in *Proc. IEEE VTC'88*, pp. 668-672, 1988.

35 A. J. Goldsmith, "The capacity of downlink fading channels with variable rate and power," *IEEE Transactions on Vehicular Technology*, vol. 46, no.3, pp. 569-580, 1997.

36 D. J. Goodman e A. A. M. Saleh, "The near/far e.ect in local ALOHA radio communications," *IEEE Transactions on Vehicular Technology*, vol.36, no. 1, pp. 19-27, 1987.

37 D. J. Goodman *et al.*, "INFOSTATIONS: A new system model for data and messaging services," in *Proc. IEEE VTC'97*, pp. 969-973, 1997.

38 S. A. Grandhi *et al.*, "Centralized power control in cellular systems," *IEEE Transactions on Vehicular Technology*, vol. 42, no. 4, pp. 466-468, 1993.

39 S. A. Grandhi, R. Vijayan e D. J. Goodman, "Distributed power control in cellular radio systems," *IEEE Transactions on Vehicular Technology*, vol.42, no. 2/3/4, pp. 226-228, 1994.

40 S. A. Grandhi, J. Zander e R. Yates, "Constrained power control," *Wireless Personal Communications*, vol. 1, no. 4, pp. 257-270, 1995.

41 S. V. Hanly, "An algorithm for combined cell-site selection and power control to maximize cellular spread spectrum capacity," *IEEE Journal on SelectedAreas in Communications*, vol. 13, no. 7, pp. 1332-1340, 1995.

42 S. V. Hanly e D. N. C. Tse, "Multiaccess fading channels- Part II: Delaylimited capacities," *IEEE Transactions on Information Theory*, vol. 44, no.7, pp. 2816-2831, 1998.

43 S. V. Hanly, "Congestion measures in DS-CDMA networks," *IEEE Transactionson Communications*, vol. 47, no. 3, pp. 426-437, 1999.

44 M. Hata, "Empirical formula for propagation loss in land mobile radio services," *IEEE Transactions on Vehicular Technology*, vol. 29, no. 3, pp. 317-325, 1980.

45 J. D. Herdtner e E. K. P. Chong, "Analysis of a class of distributed asynchronous power control algorithms for cellular wireless systems," *IEEE Journal on Selected Areas in Communications*, vol. 18, no. 3, pp. 436-446, 2000.

46 M. L. Honig e U. Madhow, "Hybrid intra-cell TDMA/inter-cell CDMA with inter-cell interference suppression for wireless networks," in *Proc. IEEE VTC'93*, pp. 309-312, 1993.

47 C.-Y. Huang e R. D. Yates, "Rate of convergence for minimum power assignment algorithms in cellular radio systems," *ACM/Baltzer Wireless Networks Journal*, vol. 4, no. 3, pp. 223-231, 1998.

48 W. C. Jakes Jr., *Microwave mobile communications*, Wiley, New York, 1974.

49 R. J¨antti e S.-L. Kim, "Power control with partially known link gain matrix," *submitted to ACM/Baltzer Wireless Networks Journal*, 1999.

50 R. J¨antti, *Power Control and Transmission Rate Management in Cellular Radio Systems*, Licentiate Thesis, Department of Automation and Systems Engineering, Helsinki University of Technology, Espoo, Finland, 1999.

51 R. J¨antti e S.-L. Kim, "Selective power control with active link protection for combined rate and power management," in *Proc. IEEE VTC Spring'00*, pp. 1960-1964, 2000.

52 R. J¨antti e S.-L. Kim, "Transmission rate scheduling for the non-real time data in DS-CDMA systems," *to appear in IEEE Communications Letters*.

53 R. J¨antti e S.-L. Kim, "Second-order power control with asymptotically fast convergence," *IEEE Journal on Selected Areas in Communications*, vol.18, no. 3, pp. 447-457, 2000.

54 L. Jorguseski, E. Fledderus, J. Farserotu e R. Prasad, "Radio Resource Allocation in Third-Generation Mobile Communications System," *IEEE Communications Magazine*, February 2001.

55 S. Kandukuri e S. Boyd, " Optimal power control in interference-limited fading wireless channels with outage-probability specifications," *IEEE Transactions on Wireless Communications,* vol. 1, no. 1, January 2002.

56 H. Kawai, H. Suda e F. Adachi, "Outer-loop control of target SIR for fast transmit power control in turbo-coded W-CDMA mobile radio," *IEEE electronics Letters*, vol. 35, no. 9, pp. 699-701, 1999.

57 D. Kim, "Rate-regulated power control for supporting .exible transmission in future CDMA mobile networks," *IEEE Journal on Selected Areas in Communications*, vol. 17, no. 5, pp. 968-977, 1999.

58 D. Kim, "A simple algorithm for adjusting cell-site transmitter power in a CDMA cellular system," *IEEE Transactions on Vehicular Technology*, vol.48, no. 4, pp. 1092-1098, 1999.

59 S.-L. Kim e J. Zander, "Optimization approach to gradual removal in a cellular PCS with distributed power control," *to appear in IEEE Transactions on Vehicular Technology*.

60 S.-L. Kim, Z. Rosberg e J. Zander, "Combined power control and transmission rate selection in cellular networks," in *Proc. IEEE VTC Fall'99*, pp. 1653-1657, 1999; extended version to appear in *ACM/Baltzer Wireless Networks Journal*.

61 S. W. Kim e Y. H. Lee, "Combined rate and power adaptation in DS/CDMA communications over Nakagami fading channels," *IEEE Transactions on Communications*, vol. 48, no. 1, pp. 162-168, 2000.

62 R. Knopp e P. A. Humblet, "Information capacity and power control in single-cell multiuser communications," in *Proc. IEEE ICC'95*, pp. 331-335, 1995.

63 P. S. Kumar, R. D. Yates e J. Holtzman, "Power control based on bit error rate (BER) measurements," in *Proc. IEEE MILCOM'95*, pp. 617-620, 1995.

64 C. Y. Lee e T. Park, "A parametric power control with fast convergence in cellular radio systems," *IEEE Transactions on Vehicular Technology*, vol. 47, no. 2, pp. 440-449, 1998.

65 T.-H. Lee, J.-C. Lin e Y. T. Su, "Downlink power control algorithms for cellular radio systems," *IEEE Transactions on Vehicular Technology*, vol.44, no. 1, pp. 89-94, 1995.

66 C.-C. Lee e R. Steele, "Closed-loop power control in CDMA systems," *IEE Proceedings Communications*, vol. 143, no. 4, pp. 231-239, 1996.

67 T.-H. Lee e J.-C. Lin, "A fully distributed power control algorithm for cellular mobile systems," *IEEE Transactions on Vehicular Technology*, vol.14, no. 4, pp. 692-697, 1996.

68 K. K. Leung e L.-C. Wang, "Controlling QoS by integrated power control and link adaptation in broadband wireless networks," *European Transactions on Telecommunications*, vol. 11, no. 4, pp. 383-393, 2000.

69 Y.-W. Leung, "Power control in cellular networks subject to measurement errors," *IEEE Transactions on Communications*, vol. 44, no. 7, pp. 772-775, 1996.

70 L. Maileander *et al.*, "Simple inter-cell coordination schemes for a high speed CDMA packet downlink," *in Proc.* IEEE VTC Spring'00, pp. 1845-1848, 2000.

71 C. D. Meyer, Matrix Analysis and Applied Linear Algebra, SIAM, 2001.

72 J. J. Metzner, "On improving the utilization in ALOHA Networks," *IEEE Transactions on Communications*, vol. 24, no. 4, pp. 447-448, 1976.

73 H. J. Meyerho., "Method for computing the optimum power balance in multibeam satellites," *COMSAT Technical Review*, vol. 4, no. 1, pp. 139- 147, 1974.

74 D. Mitra, "An asynchronous distributed algorithm for power control in cellular radio systems," in *Proc. Fifth WINLAB Workshop on Third Generation Wireless Information Networks*, pp. 249-259, 1993.

75 D. Mitra e J. A. Morrison, "A novel distributed power control algorithm for classes of service in cellular CDMA networks," in *Proc. Sixth WINLAB Workshop on Third Generation Wireless Information Networks*, pp. 1-18,1997.

76 T. Nagatsu *et al.*, "Transmitter power control for cellular land mobile radio," in *Proc. IEEE GLOBECOM'83*, pp. 1430-1434, 1983.

77 C. Namislo, "Analysis of mobile radio slotted ALOHA networks," *IEEE Transactions on Vehicular Technology*, vol. 33, no. 3, pp. 199-204, 1984.

78 R. W. Nettleton e H. Alavi, "Power control for a spread spectrum cellular mobile radio system," in *Proc. IEEE VTC'83*, pp. 242-246, 1983.

79 S.-J. Oh e K. M. Wasserman, "Dynamic spreading gain control in multiservice CDMA networks," *IEEE Journal on Selected Areas in Communications*, vol. 17, no. 5, pp. 918-927, 1999.

80 S.-J. Oh e K. M. Wasserman, "Optimality of greedy power control and variable spreading gain in multi-class CDMA mobile networks," in *Proc.ACM/IEEE MobiCom'99*, pp. 102-112, 1999.

81 J. G. Proakis, *Digital communications*, McGraw-Hill, New York, 1995.

82 X. Qiu e K. Chawla, "On the performance of adaptive modulation in cellular systems," *IEEE Transactions on Vehicular Technology*, vol. 47, no.6, pp. 884-895, 1999.

83 S. Ramakrishna e J. M. Holtzman, "A scheme for throughput maximization in a dual-class CDMA system," *IEEE Journal on Selected Areas in Communications*, vol. 16, no. 6, pp. 830-844, 1998.

84 F. Rashid-Farrokhi, K. J. R. Liu e L. Tassiulas, "Downlink power control and base station assignment," *IEEE Communications Letters*, vol. 1, no. 4, pp. 102-104, 1997.

85 R. Rezaiifar e J. M. Holtzman, "Proof of convergence for the distributed optimal rate assignment algorithm," in *Proc. IEEE VTC Spring'99*, pp.21-25, 1999.

86 C. Roobol, "On the packet delay in wireless local area networks with access port diversity and power control," in *Proc. IEEE PIMRC'95*, pp. 917-920, 1995.

87 Z. Rosberg, "Fast power control in cellular networks based on short-term correlation of Rayleigh fading," in *Proc. Sixth WINLAB Workshop on*

Third Generation Wireless Information Networks, pp. 159-182, 1997.

88 Z. Rosberg e J. Zander, "Toward a framework for power control in cellular systems," *ACM/Baltzer Wireless Networks Journal*, vol. 4, no. 3, pp. 215-221, 1998.

89 Z. Rosberg, "Transmitter power control with adaptive safety margins based on duration outage," Technical report, IBM Haifa Research Lab., 1999.

90 J. M. Rulnick e N. Bambos, "Mobile power management for wireless communication networks," *ACM/Baltzer Wireless Networks Journal*, vol.3, no. 1, pp. 3-14, 1997.

91 J. M. Rulnick e N. Bambos, "Power-induced time division on asynchronous channels," *ACM/Baltzer Wireless Networks Journal*, vol. 5, no. 2, pp. 71-80, 1999.

92 A. Sampath, P. S. Kumar e J. M. Holtzman, "Power control and resource management for a multimedia CDMA wireless system," in *Proc. IEEE PIMRC'95*, pp. 21-25, 1995.

93 Q. Shen e W. A. Krzymien, "Optimum power assignment for maximum throughput in CDMA personal communication systems with integrated voice/data tra.c," *Wireless Personal Communications*, vol. 8, no. 3, pp. 277-289, 1998.

94 M. Soleimanipour, G. H. Freeman e W. Zhuang, "An algorithm for maximal resource utilization in wireless multimedia CDMA communications," in *Proc. IEEE VTC'98*, pp. 2594-2598, 1998.

95 C. W. Sung e W. S. Wong, "A distributed .xed-step power control algorithm with quantization and active link protection," *IEEE Transactions on Vehicular Technology*, vol. 48, no. 2, pp. 553-562, 1999.

96 C. W. Sung e W. S. Wong, "The convergence of an asynchronous cooperative algorithm for distributed power control in cellular systems," *IEEE Transactions on Vehicular Technology*, vol. 48, no. 2, pp. 563-570, 1999.

97 W. Tschirks, "E.ect of transmission power control on the cochannel interference in cellular radio networks," *Elektrotechnik und Informationstechnik*, vol. 106, no. 5, pp. 194-196, 1989.

98 D. N. C. Tse e S. V. Hanly, "Multiaccess fading channels- Part I: Polymatroid structure, optimal resource allocation and throughput capacities," *IEEE Transactions on Information Theory*, vol. 44, no. 7, pp. 2796-2815, 1998.

99 S. Ulukus e R. D. Yates, "Stochastic power control for cellular radio systems," *IEEE Transactions on Communications*, vol. 46, no. 6, pp. 784-798, 1998.

100 S. Ulukus e L. J. Greenstein, "Throughput maximization in CDMA uplinks using adaptive spreading and power control," in *Proc. IEEE 6th Int. Symp. on Spread-Spectrum Tech. & Appli.*, pp. 565-569, 2000.

101 Z. Uykan, R. J¨antti e H. N. Koivo, “A PI-power control algorithm for cellular radio systems,” in *Proc. IEEE 6th Int. Symp. on Spread-Spectrum Tech. & Appli.*, pp. 782-785, 2000.

102 R. S. Varga, *Matrix Iterative Analysis*, Prentice-Hall, New Jersey, 1962.

103 A. J. Viterbi, *Principles of Spread Spectrum Communication*, Addison- Wesley, Reading, 1995.

104 V. Wong e C. Leung, “A transmit power control scheme for improving performance in a mobile packet radio system,” *IEEE Transactions on Vehicular Technology*, vol. 43, no. 1, pp. 174-180, 1994.

105 Q. Wu, “Optimum transmitter power control in cellular systems with heterogeneous SIR thresholds,” *IEEE Transactions on Vehicular Technology*, vol. 49, no. 4, pp. 1424-1429, 2000.

106 A. D. Wyner, “Shannon-theoretic approach to a Gaussian cellular multiple-access channel,” *IEEE Transactions on Information Theory*, vol. 40, no. 6, pp. 1713-1727, 1994.

107 R. D. Yates e C.-Y. Huang, “Integrated power control and base station assignment,” *IEEE Transactions on Vehicular Technology*, vol. 44, no. 3, pp. 638-644, 1995.

108 R. D. Yates, “A framework for uplink power control in cellular radio systems,” *IEEE Journal on Selected Areas in Communications*, vol. 13, no. 7, pp. 1341-1347, 1995.

109 R. D. Yates *et al.*, “Soft dropping power control,” in *Proc. IEEE VTC’97*, pp. 1694-1698, 1997.

110 R. D. Yates e N. B. Mandayam, “Challenges in low-cost wireless transmission,” *IEEE Signal Processing Magazine*, vol. 17, no. 3, pp. 93-102, 2000.

111 D. M. Young, *Iterative Solutions of Large Linear Systems*, Academic Press, New York, 1971.

112 L. C. Yun e D. G. Messerschmitt, “Power control for variable QoS on a CDMA channel,” in *Proc. IEEE MILCOM’94*, pp. 178-182, 1994.

113 L. C. Yun e D. G. Messerschmitt, “Variable quality of service in CDMA systems by statistical power control,” in *Proc. IEEE ICC’95*, pp. 713-719, 1995.

114 J. Zander, “Performance of optimum transmitter power control in cellular radio systems,” *IEEE Transactions on Vehicular Technology*, vol. 41, no. 1, pp. 57-62, 1992.

115 J. Zander, “Distributed cochannel interference control in cellular radio systems,” *IEEE Transactions on Vehicular Technology*, vol. 41, no. 3, pp. 305-311, 1992.

116 J. Zander, “Transmitter power control for co-channel interference management in cellular radio systems,” in *Proc. Fourth WINLAB Workshop on Third Generation Wireless Information Networks*, pp. 241-247, 1993.

117 J. Zander e M. Frodigh, “Comment on “Performance of optimum transmitter power control in cellular radio systems”,” *IEEE Transactions on Vehicular Technology*, vol. 43, no. 3, p. 636, 1994.

118 J. Zander, “Performance bounds for joint power control and link adaptation for NRT bearers in centralized (bunched) networks,” in *Proc. IEEE PIMRC’99*, 1999.

119 J. Zander e S.-L. Kim, Radio resource managent for wireless networks, Artech House, Norwood, 2001.

120 M. Zorzi e R. Rao, “Error control and energy consumption in communications for nomadic computing,” *IEEE Transactions on Computers*, vol. 46, no. 3, pp. 279-289, 1997.