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Nota di contenuto	About the Authors -- Other Wiley and IEEE Press Books on Related Topics -- Acknowledgments -- 1. Introduction To Intelligent Broadband Wireless Transceivers -- I: Multi-User Detection for Adaptive Single-Carrier CDMA -- List of Symbols in Part I -- 2. CDMA Overview -- 3. Joint Detection of CDMA Signals -- 4. Adaptive-Rate Detection Aided CDMA -- 5. Adaptive-Rate Interference Cancellation Assisted CDMA -- 6. Iterative PIC Using Turbo Codes, LDPC Codes, TCM and TTCM -- 7. Blind Per-Survivor Processing-Aided CDMA -- 8. Space-Time Spreading Aided Single-Carrier Wideband CDMA -- II: Genetic Algorithm Assisted Multiuser Detection -- List of Symbols in Part II -- 9. Overview of Genetic Algorithms used for Multi-user Detection -- 10. GA-Assisted Multi-user Detection for Synchronous

CDMA -- 11. Joint GA-Assisted Channel Estimation and Symbol Detection -- 12. GA-Assisted, Antenna Diversity-Aided Multi-user Detection -- 13. GA-Assisted Multi-user Detection for Asynchronous CDMA -- 14. GA Assisted Multi-user Detection for MC-CDMA -- III: M-ary Single-Carrier CDMA -- 15. Non-Coherent M-ary Orthogonal Modulation in CDMA -- 16. RS Coded Non-Coherent M-ary Orthogonal Modulation in CDMA -- 17. Residue Number System Arithmetic -- 18. Redundant Residue Number System Coded M-ary DS-CDMA -- IV: Multi-Carrier CDMA -- 19. Overview of Multicarrier CDMA -- 20. Space-Time Spreading-Assisted Broadband Multicarrier DS-CDMA -- 21. Initial Synchronization of DS-CDMA and MC-CDMA Systems -- V: Standards and Networking -- 22. Third-Generation CDMA Systems -- 23. Adaptive DS-CDMA Networking Using VSFs and Beamforming -- 24. Book Summary and Conclusions -- A: Appendix to Chapter 15 -- B: Appendix to Chapter 16 -- C: Appendix to Chapter 18 -- D: Appendix to Chapter 21 -- Glossary -- Bibliography -- Subject Index -- Author Index.

Sommario/riassunto

Since the standardisation of 3G systems significant advances have been made in the field of CDMA systems. The next generation of wireless systems is expected to support a wide variety of multirate services, while achieving an increased spectral efficiency, a high bit rate and satisfying a range of many other demanding specifications.This all-in-one volume reports on the entire body of recent advances in both single- and multi-carrier DS-CDMA as follows:. Presents a future-proof system design framework providing backwards compatibility with legacy systems. Features multiuser detection and interference cancellation, spanning the range of classic and avant-garde CDMA solutions, including genetic algorithm aided systems for blind data and channel estimation. Covers burst-by-burst adaptive CDMA and blind per-survivor aided CDMA. Details the entire body of joint coding and modulation aided CDMA, as well as adaptive space-time spreading. Explains both classic and radically new coded M-ary CDMA. Includes the body of knowledge on time-frequency spreading aided multicarrier DS-CDMA and code acquisition. Describes the existing 3G standards and cross-layer optimization aided adaptive modulation as well as beamforming assisted FDD/TDD networkingSuch a comprehensive treatment of the subject will have wide-ranging appeal to researchers, advanced students and practising engineers working in wireless communications.