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Channel Assignment; 3.6 Fixed-Channel Assignment Problem; 3.7 Heuristic Techniques for Combinatorial Optimization; 3.8 Heuristic FCA Schemes; 3.9 Conclusions; References; 4 Channel Assignment and Graph Multicoloring; 4.1 Introduction; 4.2 Preliminaries; 4.3 Basic Types of Algorithms; 4.4 Lower Bounds; 4.5 The Static Case; 4.6 The Online Case; 4.7 Discussion and Open Problems; References; 5 Channel Assignment and Graph Labeling; 5.1 Introduction; 5.2 Lower Bounds
5.3 Algorithms5.4 Conclusions and Open Problems; Acknowledgments; References; 6 Wireless Media Access Control; 6.1 Introduction; 6.2 General Concepts; 6.3 Wireless Issues; 6.4 Fundamental MAC Protocols; 6.5 Centralized MAC Protocols; 6.6 Ad Hoc MAC Protocols; 6.7 Summary; References; 7 Traffic Integration in Personal, Local, and Geographical Wireless Networks; 7.1 Introduction; 7.2 A Technology for WPAN: Bluetooth; 7.3 Technologies for High-Speed WLANs; 7.4 Third-Generation Cellular Systems: UMTS; Acknowledgments; References; 8 Fair Scheduling in Wireless Packet Data Networks
8.1 Introduction8.2 Models and Issues; 8.3 Wireless Fair Queueing Architecture; 8.4 Algorithms for Wireless Fair Queueing; 8.5 Issues and Future Directions; References; 9 Randomized Initialization Protocols for Radio Networks; 9.1 Introduction; 9.2 State of the Art; 9.3 A Refresher of Basic Probability Theory; 9.4 Energy-Efficient Prefix Sums Protocols; 9.5 Initializing a Single-Channel RN; 9.6 Initializing a k-Channel RN; 9.7 Energy-Efficient Initialization Protocols; 9.8 Concluding Remarks and Open Problems; Acknowledgments; References; 10 Leader Election Protocols for Radio Networks
10.1 Introduction10.2 A Brief Refresher of Probability Theory; 10.3 Oblivious Leader Election Protocols; 10.4 Uniform Leader Election Protocols; 10.5 Nonuniform Leader Election Protocol; 10.6 Concluding Remarks and Open Problems; Acknowledgments; References; 11 Data Broadcast; 11.1 Introduction; 11.2 Data Scheduling; 11.3 Air Indexing; 11.4 Other Issues; 11.5 Summary; Acknowledgments; References; 12 Ensemble Planning for Digital Audio Broadcasting; 12.1 Introduction; 12.2 The Ensemble Planning Problem; 12.3 Basic Solution Techniques; 12.4 Lower Bounds; 12.5 A Tabu Search Method
12.6 Conclusion

Sommario/riassunto

The huge and growing demand for wireless communication systems has spurred a massive effort on the parts of the computer science and electrical engineering communities to formulate ever-more efficient protocols and algorithms. Written by a respected figure in the field, Handbook of Wireless Networks and Mobile Computing is the first book to cover the subject from a computer scientist's perspective. It provides detailed practical coverage of an array of key topics, including cellular networks, channel assignment, queuing, routing, power optimization, and much more.