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Sommario/riassunto

This book highlights the practices for designing effective protocols/applications for next generation wireless networks In this book, the author provides the reader with an overview of mobility modeling, encompassing both theoretical and practical aspects related to the challenging mobility modeling task. The first part of the book introduces next generation wireless networks, providing motivations for the need of carefully modeling mobility as part of the network performance evaluation process. In addition, it describes “general-purpose” mobility models (i.e., models that are not tailored to specific application scenarios), including both theoretical and practical aspects. Furthermore, the author explores mobility models tailored to specific application scenarios of next generation wireless networks. In particular, the author considers WLAN/mesh networks, vehicular networks, wireless sensor networks, and opportunistic networks. For each considered application scenario, the book briefly presents the state-of-the-art and prospective of the corresponding technology as well as a representative set of mobility models. Finally, the book offers two case studies, which illustrate exemplary situations in which a deep understanding of mobility modeling can be used to devise a “perfect” wireless network simulation methodology (Case study 1), and to characterize fundamental properties of message routing in opportunistic networks, also including social human behavior (Case study 2). Key Features: . Offers an in-depth discussion of the most representative mobility models for major next generation wireless network application scenarios, including WLAN/mesh networks, vehicular networks, wireless sensor networks, and opportunistic networks. Demonstrates the practices for designing effective protocol/applications for next generation wireless networks. Includes case studies showcasing the importance of properly understanding fundamental mobility model properties in wireless network performance evaluation Mobility Models for Next Generation Wireless Networks will be an invaluable guide for researchers and engineers in the field of wireless networking, and graduate students in computer science and engineering. It will also be of interest to wireless professionals and networking system developers.