Francisco Rodrigo Porto Cavalcanti
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Editors

Optimizing Wireless Communication Systems

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Contents

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Optimizing Wireless Communication Systems presents the underlying technological breakthroughs that allowed the current state of wireless technology development to evolve. The focus is on the two lower layers of the ISO/OSI layered model, specifically the physical and data link layers including the link and media access control sublayers. These two layers are of particular importance to wireless systems due to the spectrum shortage, the broadcast nature of interference, and time variability in the wireless channel.

The material is divided into two parts. First, is the section on Resource Allocation, which is also known as Radio Resource Management or RRM, that discusses how to increase spectrum efficiency. It also presents solutions for performance optimization in mobile communication standards such as GSM, EDGE, WCDMA, HSPA and LTE. The second section is Transceiver Architectures, which covers wireless link capacity related to OFDM and MIMO. Each chapter within the book includes state-of-the-art concepts, introductory sections to the basics, and references for further reading. Several chapters also include technical details from various standards along with performance results and case studies.

Optimizing Wireless Communication Systems is for researchers and practitioners in the field of wireless communications involved with the design and optimization of current and emerging wireless access technologies for mobile communications.

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