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Sommario/riassunto	New insights into trends, deployments, applications, and associated benefits of reconfigurable intelligent surfaces (RIS) in emerging wireless communication systems Reconfigurable Intelligent Surfaces for 6G and Beyond Wireless Networks analyzes the design and applications of RIS in 6G and beyond, such as aiding efficient wireless signal transmission from the transmitter to the receiver while considering several practical constraints. In addition, the book offers advanced signal-processing algorithms to enable RIS applications in realistic environments and leverages advanced mathematical tools and machine learning algorithms to analyze RIS dynamics in evolving wireless networks. Written in an easy-to-understand format, this book addresses the need to design energy- and spectral-efficient RIS models to address several network issues, including interference, pathloss, delay, traffic outage, etc. It also discusses critical security and privacy issues affecting all stakeholders in the wireless ecosystem, providing practical deep learning-based solutions to address these problems appropriately. This book also addresses critical concepts, design principles, applications, and issues with RIS, shedding light on the recent progress and advancement in RIS-assisted wireless networks for 6G and beyond.

With contributions from experts and researchers from across the globe, this invaluable resource includes information on: Emerging applications and potential use cases of reconfigurable intelligent surfaces in advanced wireless communication systems Channel modeling and propagation measurements in RIS-based wireless communication systems Energy and spectral efficiency and rate fairness for RIS-aided multiuser massive MIMO systems Performance optimization of multiple RIS-assisted multiuser MIMO communication systems Analytical phase-shift and amplitude element optimization for energy-efficient active RIS-aided massive MIMO systems Physical layer security architecture and frameworks for RIS-aided wireless communication systems RIS deployment in terrestrial and non-terrestrial wireless communication systems Application of AI and ML techniques for intelligent power control in RIS-empowered wireless communication systems Reconfigurable Intelligent Surfaces for 6G and Beyond Wireless Networks is an essential up-to-date reference on the subject for industry and academic researchers, scientists, and engineers in the fields of wireless communications, ICTs, MIMO, antennas, sensing, channel measurements, and modeling technologies, as well as engineers and professionals involved in RIS-assisted wireless networks.