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Sommario/riassunto

Provides an invaluable, detailed and up-to-date coverage of atmospheric effects and their impact on satellite communications systems design and performance. Significant progress has been made in the last decade in the understanding and modelling of propagation effects on radio wave propagation in the bands utilized for satellite communications. This book provides a comprehensive description and analysis of all atmospheric effects of concern for today's satellite systems, and the tools necessary to design the links and to evaluate system performance. This book will serve as an excellent reference to communications engineers, wireless network and system engineers, system designers and graduate students in satellite communications and related areas. Key features: . Provides the state of the art in communications satellite link design and performance from the practicing engineer perspective / concise descriptions, specific procedures and comprehensive solutions . Contains the calculations and tools necessary for evaluating system performance . Provides a complete evaluation of atmospheric effects, modelling and prediction . Focuses on the satellite free-space link as the primary element in the design and performance for satellite communications, and recognizes the importance of free-space considerations such as atmospheric effects, frequency of operation and adaptive mitigation techniques . Contains sample calculations and step-by-step methods for calculating many propagation effects Dr. Louis Ippolito, over a brilliant career has done it all. He's carried out satellite research at NASA, designed satellite systems for the aerospace industry, and taught satellite engineering at The George Washington University. Now, in a comprehensive and highly readable book, he has encapsulated his knowledge in clear and quite intelligent form. His completely up-to-date book covers the latest innovations that range from mobile satellites to millimeter wave satellites and associated rain fade mitigation technologies. His chapters on propagation effects modeling and prediction, RF transmission impairments and link systems performance are truly outstanding. If you want to understand satellite communications and RF propagation, you need Dr. Ippolito's book. Dr. Joseph N. Pelton, Former Dean, International Space University, founding President of the Society of Satellite Professionals International (SSPI), and author of a number of books on satellite communications including Wireless and Satellite Telecommunications.