1. Record Nr. UNINA9910830591703321

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Titolo	OFDM and MC-CDMA : a primer / / L. Hanzo, T. Keller
Pubbl/distr/stampa	Chichester : , : John Wiley, , c2006
ISBN	1-280-73963-0 9786610739639 0-470-03138-7 0-470-03137-9
Descrizione fisica	1 online resource (433 p.)
Altri autori (Persone)	KellerT (Thomas)
Disciplina	621.38 621.3822
Soggetti	Orthogonal frequency division multiplexing Code division multiple access Wireless communication systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"IEEE Press. IEEE Communications Society, Sponsor." Errata sheet tipped in.
Nota di bibliografia	Includes bibliographical references (p. [363]-394) and indexes.
Nota di contenuto	Introduction to orthogonal frequency division multiplexing -- OFDM transmission over Gaussian channels -- OFDM transmission over wideband channels -- OFDM time and frequency domain synchronisation -- Adaptive single- and multi-user OFDM techniques -- OFDM versus MC-CDMA -- Basic spreading sequences -- MC-CDMA performance in synchronous environments -- Maximum-likelihood enhanced sphere decoding of MIMO-OFDM -- Genetic algorithm aided joint channel estimation and MUD for SDMA OFDM -- Multi-user OFDM employing genetic algorithm aided minimum bit error rate multi-user detection.
Sommario/riassunto	Wireless communications has witnessed a tremendous growth during the past decade and further spectacular enabling technology advances are expected in an effort to render ubiquitous wireless connectivity a reality. Currently, a technical in-depth book on this subject is unavailable, which has a similar detailed exposure of OFDM, MIMO-OFDM and MC-CDMA. A further attraction of the joint treatment of

these topics is that it allows the reader to view their design trade-offs in a comparative context. <u>Divided into three main parts:</u> Part I provides a detailed exposure of OFDM designed for employment in various applications Part II is another design alternative applicable in the context of OFDM systems where the channel quality fluctuations observed are averaged out with the aid of frequency-domain spreading codes, which leads to the concept of MC-CDMA Part III discusses how to employ multiple antennas at the base station for the sake of supporting multiple users in the uplink By providing an all-encompassing self-contained treatment this volume will appeal to a wide readership, as it is both an easy-reading textbook and a high-level research monograph.