



OFDM and MC-CDMA: A Primer

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DESCRIPTION

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.

Divided into three main parts:

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.

ABOUT THE AUTHOR

Lajos Hanzo received his degree in electronics in 1976 and his doctorate in 1983. During his 25-year career in telecommunications he has held various research and academic posts in Hungary, Germany and the UK. Since 1986 he has been with the Department of Electronics and Computer Science, University of Southampton, UK, where he holds the chair in telecommunications. He has co-authored eight books on mobile radio communications, published over 300 research papers, organised and chaired conference sessions, presented overview lectures and been awarded a number of distinctions. Currently he is managing an academic research team, working on a range of research projects in the field of wireless multimedia communications sponsored by industry, the Engineering and Physical Sciences Research Council UK, the European IST Programme and the Mobile Virtual Centre of Excellence, UK. He is an enthusiastic supporter of industrial and academic liaison and he offers a range of industrial courses. He is also an IEEE Distinguished Lecturer. For further information on research in progress and associated publications please refer to www-mobile.ecs.soton.ac.uk.

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