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Classification of signals; 3.2.2 Some useful functions
3.2.3 Some useful operations3.2.4 Classification of systems; 3.2.5 Impulse response; 3.2.6 Distortionless transmission; 3.3 Frequency domain techniques; 3.3.1 Fourier transforms; 3.3.2 Frequency response approaches; 3.3.3 Transfer function; 3.3.4 Laplace transform; 3.3.5 z-transform; 3.3.6 The relationship between the Laplace transform, the Fourier transform, and the z-transform; 3.4 UWB signal-processing issues and algorithms; 3.5 Detection and amplification; 3.6 Summary; 4 UWB channel modeling; 4.1 A simplified UWB multipath channel model; 4.1.1 Number of resolvable multipath components
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4.5 IEEE proposals for UWB channel models4.5.1 An analytical description of the IEEE UWB indoor channel model; 4.6 Summary; 5 UWB communications; 5.1 Introduction; 5.2 UWB modulation methods; 5.2.1 PPM; 5.2.2 BPM; 5.3 Other modulation methods; 5.3.1 OPM; 5.3.2 PAM; 5.3.3 OOK; 5.3.4 Summary of UWB modulation methods; 5.4 Pulse trains; 5.4.1 Gaussian pulse train; 5.4.2 PN channel coding; 5.4.3 Time-hopping PPM UWB system; 5.5 UWB transmitter; 5.6 UWB receiver; 5.6.1 Detection; 5.6.2 Pulse integration; 5.6.3 Tracking; 5.6.4 Rake receivers; 5.7 Multiple access techniques in UWB
5.7.1 Frequency division multiple access UWB

Sommario/riassunto

The thoroughly revised and updated second edition of Ultra Wideband Signals and Systems in Communication Engineering features new standards, developments and applications. It addresses not only recent developments in UWB communication systems, but also related IEEE standards such as IEEE 802.15 wireless personal area network (WPAN). Examples and problems are included in each chapter to aid understanding. Enhanced with new chapters and several sections including Standardization, advanced topics in UWB Communications and more applications, this book is essential reading for senior unde