1. Record Nr. UNINA9911019261303321 Autore Etten Wim van **Titolo** Introduction to random signals and noise / / Wim C. van Etten Chichester, England;; Hoboken, NJ,: Wiley, c2005 Pubbl/distr/stampa **ISBN** 9786610339648 9781280339646 1280339640 9780470024133 0470024135 9780470024126 0470024127 Edizione [1st edition] Descrizione fisica 1 online resource (271 p.) 621.382/2 Disciplina Soggetti Signal processing Stochastic processes Random noise theory Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Introduction to Random Signals and Noise; Contents; Preface; 1 Nota di contenuto Introduction; 1.1 Random Signals and Noise; 1.2 Modelling; 1.3 The Concept of a Stochastic Process: 1.3.1 Continuous Stochastic Processes; 1.3.2 Discrete-Time Processes (Continuous Random Sequences); 1.3.3 Discrete Stochastic Processes; 1.3.4 Discrete Random Sequences; 1.3.5 Deterministic Function versus Stochastic Process; 1.4 Summary; 2 Stochastic Processes; 2.1 Stationary Processes; 2.1.1 Cumulative Distribution Function and Probability Density Function; 2.1.2 First-Order Stationary Processes 2.1.3 Second-Order Stationary Processes 2.1.4 Nth-Order Stationary Processes: 2.2 Correlation Functions; 2.2.1 The Autocorrelation Function, Wide-Sense Stationary Processes and Ergodic Processes; 2.2.2 Cyclo-Stationary Processes; 2.2.3 The Cross-Correlation Function;

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Sommario/riassunto

Random signals and noise are present in many engineering systems and networks. Signal processing techniques allow engineers to distinguish between useful signals in audio, video or communication equipment, and interference, which disturbs the desired signal. With a strong mathematical grounding, this text provides a clear introduction to the fundamentals of stochastic processes and their practical applications to random signals and noise. With worked examples, problems, and detailed appendices, Introduction to Random Signals and Noise gives the reader the knowledge to de