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state Response; 2.8 Chapter Summary; 2.9 Problems; References; 3 Time Data Analysis; 3.1 Introduction to Discrete Signals; 3.2 The Sampling Theorem; 3.2.1 Aliasing
3.2.2 Discrete Representation of Analog Signals3.2.3 Interpolation and Resampling; 3.3 Filters; 3.3.1 Analog Filters; 3.3.2 Digital Filters; 3.3.3 Smoothing Filters; 3.3.4 Acoustic Octave Filters; 3.3.5 Analog RMS Integration; 3.3.6 Frequency Weighting Filters; 3.4 Time Series Analysis; 3.4.1 Min- and Max-analysis; 3.4.2 Time Data Integration; 3.4.3 Time Data Differentiation; 3.4.4 FFT-based Processing; 3.5 Chapter Summary; 3.6 Problems; References; 4 Statistics and Random Processes; 4.1 Introduction to the Use of Statistics; 4.1.1 Ensemble and Time Averages; 4.1.2 Stationarity and Ergodicity
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Sommario/riassunto

Noise and Vibration Analysis is a complete and practical guide that combines both signal processing and modal analysis theory with their practical application in noise and vibration analysis. It provides an invaluable, integrated guide for practicing engineers as well as a suitable introduction for students new to the topic of noise and vibration. Taking a practical learning approach, Brandt includes exercises that allow the content to be developed in an academic course framework or as supplementary material for private and further study. Addresses the theory and application of s