1.	Record Nr.	UNINA9910456807703321
	Autore	Dietrich William <1951->
	Titolo	The final forest [[electronic resource]] : big trees, forks, and the Pacific Northwest / / William Dietrich
	Pubbl/distr/stampa	Seattle, : University of Washington Press, c2010
	ISBN	0-295-80225-1
	Edizione	[2010 ed. /]
	Descrizione fisica	1 online resource (337 p.)
	Disciplina	333.7509795
	Soggetti	Old growth forests - Northwest, Pacific Old growth forest conservation - Northwest, Pacific Logging - Northwest, Pacific Electronic books.
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	"Originally published in 1992 by Simon & Schuster." Includes index.

2.	Record Nr.	UNINA9910813282603321
	Autore	Lalanne Christian
	Titolo	Random vibration / / Christian Lalanne
	Pubbl/distr/stampa	London, England ; ; Hoboken, New Jersey : , : ISTE Ltd : , : John Wiley & Sons, , 2014 ©2014
	ISBN	1-5231-1093-7 1-118-93117-3 1-118-93115-7 1-118-93116-5
	Edizione	[Third edition.]
	Descrizione fisica	1 online resource (649 p.)
	Collana	Mechanical Vibration and Shock Analysis ; ; Volume 3
	Disciplina	620.11248
	Soggetti	Mechanical engineering - Standards Strength of materials
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Cover; Title Page; Copyright; Contents; Foreword to Series; Introduction; List of Symbols; Chapter 1. Statistical Properties of a Random Process; 1.1. Definitions; 1.1.1. Random variable; 1.1.2. Random process; 1.2. Random vibration in real environments; 1.3. Random vibration in laboratory tests; 1.4. Methods of random vibration analysis; 1.5. Distribution of instantaneous values; 1.5.1. Probability density; 1.5.2. Distribution function; 1.6. Gaussian random process; 1.7. Rayleigh distribution; 1.8. Ensemble averages: through the process; 1.8.1. n order average; 1.8.2. Centered moments 1.8.3. Variance1.8.4. Standard deviation; 1.8.5. Autocorrelation function; 1.8.6. Cross-correlation function; 1.8.7. Autocovariance; 1.8.8. Covariance; 1.8.9. Stationarity; 1.9. Temporal averages: along the process; 1.9.1. Mean; 1.9.2. Quadratic mean - rms value; 1.9.3. Moments of order n; 1.9.4. Variance - standard deviation; 1.9.5. Skewness; 1.9.6. Kurtosis; 1.9.7. Crest Factor; 1.9.8. Temporal autocorrelation function; 1.9.9. Properties of the autocorrelation function; 1.9.10. Correlation duration; 1.9.11. Cross-correlation; 1.9.12. Cross-correlation coefficient; 1.9.13. Ergodicity

1.10. Significance of the statistical analysis (ensemble or temporal)
1.11. Stationary and pseudo-stationary signals; 1.13. Sliding mean; 1.14. Test of stationarity; 1.14.1. The reverse arrangements test (RAT); 1.14.2. The runs test; 1.15 Identification of shocks and/or signal problems; 1.16. Breakdown of vibratory signal into "events": choice of signal samples; 1.17. Interpretation and taking into account of environment variation; Chapter 2. Random Vibration Properties in the Frequency Domain; 2.1. Fourier transform; 2.2. Power spectral density; 2.2.1. Need; 2.2.2. Definition
2.3. Amplitude Spectral Density2.4. Cross-power spectral density; 2.5. Power spectral density of a random process; 2.6. Cross-power spectral density of two processes; 2.7. Relationship between the PSD and correlation function of a process; 2.8. Quadspectrum - cospectrum; 2.9. Definitions; 2.9.1. Broadband process; 2.9.2. White noise; 2.9.3. Band-limited white noise; 2.9.4. Narrow band process; 2.9.5. Colors of noise; 2.10. Autocorrelation function of white noise; 2.11. Autocorrelation function of band-limited white noise; 2.12. Peak factor
2.13. Effects of truncation of peaks of acceleration signal on the PSD2. 14. Standardized PSD/density of probability analogy; 2.15. Spectral density as a function of time; 2.16. Sum of two random processes; 2.17. Relationship between the PSD of the excitation and the response of a linear system; 2.18. Relationship between the PSD of the excitation and the cross-power spectral density of the response of a linear system; 2.19. Coherence function; 2.20. Transfer function calculation from random vibration measurements; 2.20.1. Theoretical relations; 2.20.2. Presence of noise on the input
2.20.3. Presence of noise on the response

Sommario/riassunto

The vast majority of vibrations encountered in the real environment are random in nature. Such vibrations are intrinsically complicated and this volume describes the process that enables us to simplify the required analysis, along with the analysis of the signal in the frequency domain. The power spectrum density is also defined, together with the requisite precautions to be taken in its calculations as well as the processes (windowing, overlapping) necessary to obtain improved results.An additional complementary method - the analysis of statistical properties of the time signal - i