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2.4.4. Calculation in a hypothesis of independence of threshold overshoot2.4.5. Use of URS; 2.5. Comparison of the various formulae; 2.6. Effects of peak truncation on the acceleration time history; 2.6.1. Extreme response spectra calculated from the time history signal; 2.6.2. Extreme response spectra calculated from the power spectral densities; 2.6.3. Comparison of extreme response spectra calculated from time history signals and power spectral densities; 2.7. Sinusoidal vibration superimposed on a broadband random vibration; 2.7.1. Real environment
2.7.2. Case of a single sinusoid superimposed to a wideband noise2.7.3. Case of several sinusoidal lines superimposed on a broadband random vibration; 2.8. Swept sine superimposed on a broadband random vibration; 2.8.1. Real environment; 2.8.2. Case of a single swept sine superimposed to a wideband noise; 2.8.3. Case of several swept sines superimposed on a broadband random vibration; 2.9. Swept narrowbands on a wideband random vibration; 2.9.1. Real environment; 2.9.2. Extreme response spectrum; Chapter 3. Fatigue Damage Spectrum of a Sinusoidal Vibration
3.1. Fatigue damage spectrum definition3.2. Fatigue damage spectrum of a single sinusoid; 3.3. Fatigue damage spectrum of a periodic signal; 3.4. General expression for the damage; 3.5. Fatigue damage with other assumptions on the S-N curve; 3.5.1. Taking account of fatigue limit; 3.5.2. Cases where the S-N curve is approximated by a straight line in log-lin scales; 3.5.3. Comparison of the damage when the S-N curves are linear in either log-log or log-lin scales; 3.6. Fatigue damage generated by a swept sine vibration on a single-degree-of-freedom linear system; 3.6.1. General case
3.6.2. Linear sweep

Sommario/riassunto

Everything engineers need to know about mechanical vibration and shock...in one authoritative reference work! This fully updated and revised 3rd edition addresses the entire field of mechanical vibration and shock as one of the most important types of load and stress applied to structures, machines and components in the real world. Examples include everything from the regular and predictable loads applied to turbines, motors or helicopters by the spinning of their constituent parts to the ability of buildings to withstand damage from wind loads or explosions, and the need for cars to