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Autore	Lee Usik
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Nota di contenuto	SPECTRAL ELEMENT METHOD IN STRUCTURAL DYNAMICS; Contents; Preface; Part One: Introduction to the Spectral Element Method and Spectral Analysis of Signals; 1 Introduction; 1.1 Theoretical Background; 1.1.1 Finite Element Method; 1.1.2 Dynamic Stiffness Method; 1.1.3 Spectral Analysis Method; 1.1.4 Spectral Element Method; 1.1.5 Advantages and Disadvantages of SEM; 1.2 Historical Background; 2 Spectral Analysis of Signals; 2.1 Fourier Series; 2.2 Discrete Fourier Transform and the FFT; 2.2.1 Discrete Fourier Transform (DFT); 2.2.2 Fast Fourier Transform (FFT); 2.3 Aliasing; 2.3.1 Aliasing Error
	2.3.2 Remedy for Aliasing2.4 Leakage; 2.4.1 Leakage Error; 2.4.2 Artificial Damping; 2.5 Picket-Fence Effect; 2.6 Zero Padding; 2.6.1 Improving Interpolation in the Transformed Domain; 2.6.2 Remedy for Wraparound Error; 2.7 Gibbs Phenomenon; 2.8 General Procedure of DFT Processing; 2.9 DFTs of Typical Functions; 2.9.1 Product of Two Functions; 2.9.2 Derivative of a Function; 2.9.3 Other Typical Functions;

Sommario/riassunto	Spectral Element Method in Structural Dynamics is a concise and timely introduction to the spectral element method (SEM) as a means of solving problems in structural dynamics, wave propagations, and other related fields. The book consists of three key sections. In the first part, background knowledge is set up for the readers by reviewing previous work in the area and by providing the fundamentals for the spectral analysis of signals. In the second part, the theory of spectral element method is provided, focusing on how to formulate spectral element models and how to conduct spectral el