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Nota di contenuto	Chapter 1. Preliminaries -- Chapter 2. Fourier analysis -- Chapter 3. Wavelets on flat geometries -- Chapter 4. Wavelets on arbitrary manifolds -- Chapter 5. Wavelet transform -- Chapter 6. Introduction to numerical methods -- Chapter 7. Wavelet Galerkin methods -- Chapter 8. Wavelet Collocation methods -- Chapter 9. Wavelet optimized numerical methods -- Chapter 10. Other Wavelet based numerical methods -- Chapter 11. Applications of Wavelet in inverse problems -- Chapter 12. Other useful applications of wavelet.
Sommario/riassunto	This book provides comprehensive information on the conceptual basis of wavelet theory and it applications. Maintaining an essential balance between mathematical rigour and the practical applications of wavelet theory, the book is closely linked to the wavelet MATLAB toolbox, which is accompanied, wherever applicable, by relevant MATLAB codes. The book is divided into four parts, the first of which is devoted to the mathematical foundations. The second part offers a basic introduction to wavelets. The third part discusses wavelet-based numerical methods for differential equations, while the last part highlights applications of wavelets in other fields. The book is ideally suited as a text for

undergraduate and graduate students of mathematics and engineering.
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