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Sommario/riassunto	This book gives a comprehensive overview of both the fundamentals of wavelet analysis and related tools, and of the most active recent developments towards applications. It offers a state-of-the-art in several active areas of research where wavelet ideas, or more generally multiresolution ideas have proved particularly effective. The main applications covered are in the numerical analysis of PDEs, and signal and image processing. Recently introduced techniques such as Empirical Mode Decomposition (EMD) and new trends in the recovery of missing data, such as compressed sensing, are also present