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Sommario/riassunto	Wavelets have emerged as an important tool in analyzing functions containing discontinuities and sharp spikes. They were developed independently in the fields of mathematics, quantum physics, electrical engineering, and seismic geology. Interchanges between these fields during the last ten years have led to many new wavelet applications such as image compression, turbulence, human vision, radar, earthquake prediction, and pure mathematics applications such as solving partial differential equations. This book develops a theory of wavelet bases and wavelet frames for function spaces on various types of domains. Starting with the usual spaces on Euclidean spaces and their periodic counterparts, the exposition moves on to so-called thick domains (including Lipschitz domains and snowflake domains). Especially, wavelet expansions and extensions to corresponding spaces on Euclidean n-spaces are developed. Finally, spaces on smooth and cellular domains and related manifolds are treated. Although the presentation relies on the recent theory of function spaces, basic notation and classical results are repeated in order to make the text self-contained. The book is addressed to two types of readers: researchers in the theory of function spaces who are interested in wavelets as new effective building blocks for functions,

and scientists who wish to use wavelet bases in classical function spaces for various applications. Adapted to the second type of readers, the preface contains a guide to where one finds basic definitions and key assertions.