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Sommario/riassunto	The first chapters of this book deal with Haar bases, Faber bases and some spline bases for function spaces in Euclidean n-space and n-cubes. This is used in the subsequent chapters to study sampling and numerical integration preferably in spaces with dominating mixed smoothness. The subject of the last chapter is the symbiotic relationship between numerical integration and discrepancy, measuring the deviation of sets of points from uniformity. This book is addressed to graduate students and mathematicians having a working knowledge of basic elements of function spaces and approximation theory, and who are interested in the subtle interplay between function spaces, complexity theory and number theory (discrepancy).