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7.6 A glimpse of H1-BMO duality and further remarksNotes; 8 Littlewood-Paley theory; 8.1 The Mikhlin multiplier theorem; 8.2 Littlewood-Paley square-function estimate; 8.3 Calderon-Zygmund H older spaces, and Schauder estimates; 8.4 The Haar functions; dyadic harmonic analysis; 8.5 Oscillatory multipliers; Notes; 9 Almost orthogonality; 9.1 Cotlar's lemma; 9.2 Calderon-Vaillancourt theorem; 9.3 Hardy's inequality; 9.4 The T(1) theorem via Haar functions; 9.5 Carleson measures, BMO, and T(1); Notes; 10 The uncertainty principle; 10.1 Bernstein's bound and Heisenberg's uncertainty principle
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Sommario/riassunto

This two-volume text in harmonic analysis introduces a wealth of analytical results and techniques. It is largely self-contained and will be useful to graduate students and researchers in both pure and applied analysis. Numerous exercises and problems make the text suitable for self-study and the classroom alike. This first volume starts with classical one-dimensional topics: Fourier series; harmonic functions; Hilbert transform. Then the higher-dimensional Calderon-Zygmund and Littlewood-Paley theories are developed. Probabilistic methods and their applications are discussed, as are applications of harmonic analysis to partial differential equations. The volume concludes with an introduction to the Weyl calculus. The second volume goes beyond the classical to the highly contemporary and focuses on multilinear aspects of harmonic analysis: the bilinear Hilbert transform; Coifman-Meyer theory; Carleson's resolution of the Lusin conjecture; Calderon's commutators and the Cauchy integral on Lipschitz curves. The material in this volume has not previously appeared together in book form.