

1. Record Nr.	UNISA996499865803316
Autore	Persson Lars-Erik <1949->
Titolo	Martingale Hardy spaces and summability of one-dimensional Vilenkin-Fourier series // Lars-Erik Persson, George Tephnadze, Ferenc Weisz
Pubbl/distr/stampa	Cham, Switzerland : , : Birkhauser, , [2022] ©2022
ISBN	3-031-14459-7
Descrizione fisica	1 online resource (633 pages)
Disciplina	515.2433
Soggetti	Fourier series Hardy spaces Martingales (Mathematics) Séries de Fourier Espaces de Hardy Martingales (Matemàtica) Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- Preface -- How to Read the Book? -- Acknowledgements -- Contents -- 1 Partial Sums of Vilenkin-Fourier Series in Lebesgue Spaces -- 1.1 Introduction -- 1.2 Vilenkin Groups and Functions -- 1.3 The Representation of the Vilenkin Groups on the Interval [0,1) -- 1.4 Convex Functions and Classical Inequalities -- 1.5 Lebesgue Spaces -- 1.6 Dirichlet Kernels -- 1.7 Lebesgue Constants -- 1.8 Vilenkin-Fourier Coefficients -- 1.9 Partial Sums -- 1.10 Final Comments and Open Questions -- 2 Martingales and Almost Everywhere Convergence of Partial Sums of Vilenkin-Fourier Series -- 2.1 Introduction -- 2.2 Conditional Expectation Operators -- 2.3 Martingales and Maximal Functions -- 2.4 Calderon-Zygmund Decomposition -- 2.5 Almost Everywhere Convergence of Vilenkin-Fourier Series -- 2.6 Almost Everywhere Divergence of Vilenkin-Fourier Series -- 2.7 Final Comments and Open Questions -- 3 Vilenkin-Fejér Means and an Approximate Identity in Lebesgue Spaces -- 3.1 Introduction -- 3.2 Vilenkin-Fejér Kernels -- 3.3 Approximation of Vilenkin-Fejér Means

-- 3.4 Almost Everywhere Convergence of Vilenkin- Fejér Means -- 3.5 Approximate Identity -- 3.6 Final Comments and Open Questions -- 4 Nörlund and T Means of Vilenkin-Fourier Series in Lebesgue Spaces -- 4.1 Introduction -- 4.2 Well-Known and New Examples of Nörlund and T Means -- 4.3 Regularity of Nörlund and T Means -- 4.4 Kernels of Nörlund Means -- 4.5 Kernels of T Means -- 4.6 Norm Convergence of Nörlund and T Means in Lebesgue Spaces -- 4.7 Almost Everywhere Convergence of Nörlund and T Means -- 4.8 Convergence of Nörlund and T Means in Vilenkin-Lebesgue Points -- 4.9 Riesz and Nörlund Logarithmic Kernels and Means -- 4.10 Final Comments and Open Questions -- 5 Theory of Martingale Hardy Spaces -- 5.1 Introduction -- 5.2 Martingale Hardy Spaces and Modulus of Continuity. 5.3 Atomic Decomposition of the Martingale Hardy Spaces H_p -- 5.4 Interpolation Between Hardy Spaces H_p -- 5.5 Bounded Operators on H_p Spaces -- 5.6 Examples of p -Atoms and H_p Martingales -- 5.7 Final Comments and Open Questions -- 6 Vilenkin-Fourier Coefficients and Partial Sums in Martingale Hardy Spaces -- 6.1 Introduction -- 6.2 Estimations of Vilenkin-Fourier Coefficients in H_p Spaces -- 6.3 Hardy and Paley Type Inequalities in H_p Spaces -- 6.4 Maximal Operators of Partial Sums on H_p Spaces -- 6.5 Convergence of Partial Sums in H_p Spaces -- 6.6 Convergence of Subsequences of Partial Sums in H_p Spaces -- 6.7 Strong Convergence of Partial Sums in H_p Spaces -- 6.8 Final Comments and Open Questions -- 7 Vilenkin-Fejér Means in Martingale Hardy Spaces -- 7.1 Introduction -- 7.2 Maximal Operator of Vilenkin-Fejér Means on H_p Spaces -- 7.3 Convergence of Vilenkin-Fejér Means in H_p Spaces -- 7.4 Convergence of Subsequences of Vilenkin-Fejér Means in H_p Spaces -- 7.5 Strong Convergence of Vilenkin-Fejér Means in H_p Spaces -- 7.6 Final Comments and Open Questions -- 8 Nörlund and T Means of Vilenkin-Fourier Series in Martingale Hardy Spaces -- 8.1 Introduction -- 8.2 Maximal Operators of Nörlund Means on H_p Spaces -- 8.3 Maximal Operators of T Means on H_p Spaces -- 8.4 Strong Convergence of Nörlund Means in H_p Spaces -- 8.5 Strong Convergence of T Means in H_p Spaces -- 8.6 Maximal Operators of Riesz and Nörlund Logarithmic Means on H_p Spaces -- 8.7 Strong Convergence of Riesz and Nörlund Logarithmic Means in H_p Spaces -- 8.8 Final Comments and Open Questions -- 9 Convergence of Vilenkin-Fourier Series in Variable Martingale Hardy Spaces -- 9.1 Introduction -- 9.2 Variable Lebesgue Spaces -- 9.3 Doob's Inequality in Variable Lebesgue Spaces -- 9.4 The Maximal Operator U_s -- 9.5 The Maximal Operator V_s -- 9.6 Variable Martingale Hardy Spaces. 9.7 Atomic Decomposition of Variable Hardy Spaces -- 9.8 Martingale Inequalities in Variable Spaces -- 9.9 Partial Sums of Vilenkin-Fourier Series in Variable Lebesgue Spaces -- 9.10 The Maximal Fejér Operator on $H_p(\cdot)$ -- 9.11 Final Comments and Open Questions -- 10 Appendix: Dyadic Group and Walsh and Kaczmarz Systems -- 10.1 Introduction -- 10.2 Walsh Group and Walsh and Kaczmarz Systems -- 10.3 Estimates of the Walsh-Fejér Kernels -- 10.4 Walsh-Fejér Means in H_p -- 10.5 Modulus of Continuity in H_p and Walsh-Fejér Means -- 10.6 Riesz and Nörlund Logarithmic Means in H_p -- 10.7 Maximal Operators of Kaczmarz-Fejér Means on H_p -- 10.8 Modulus of Continuity in H_p and Kaczmarz-Fejér Means -- 10.9 Final Comments and Open Questions -- References -- Notations -- Index.
