

Contents

Part V Measure Theory

Absolute Continuity and Singularity of Measures Without Measure Theory	5
R.B. Burckel	
Visible and Invisible Cantor Sets	11
Carlos Cabrelli, Udayan B. Darji, and Ursula Molter	
Convolution Inequalities for Positive Borel Measures on \mathbb{R}^d and Beurling Density	23
Jean-Pierre Gabardo	
Positive-Operator-Valued Measures: A General Setting for Frames	49
Bill Moran, Stephen Howard, and Doug Cochran	

Part VI Filtering

Extending Wavelet Filters: Infinite Dimensions, the Nonrational Case, and Indefinite Inner Product Spaces	69
Daniel Alpay, Palle Jorgensen, and Izchak Lewkowicz	
On the Group-Theoretic Structure of Lifted Filter Banks	113
Christopher M. Brislawn	
Parametric Optimization of Biorthogonal Wavelets and Filterbanks via Pseudoframes for Subspaces	137
Shidong Li and Michael Hoffman	
On the Convergence of Iterative Filtering Empirical Mode Decomposition	157
Yang Wang and Zhengfang Zhou	

Wavelet Transforms by Nearest Neighbor Lifting 173
 Wei Zhu and M. Victor Wickerhauser

Part VII Operator Theory

On the Heat Kernel of a Left Invariant Elliptic Operator 197
 Ovidiu Calin, Der-Chen Chang, and Yutian Li

Mixed-Norm Estimates for the k -Plane Transform 211
 Javier Duoandikoetxea and Virginia Naibo

Representation of Linear Operators by Gabor Multipliers 229
 Peter C. Gibson, Michael P. Lamoureux, and Gary F. Margrave

Extension of Berezin–Lieb Inequalities 251
 John R. Klauder and Bo-Sture K. Skagerstam

Bilinear Calderón–Zygmund Operators 267
 Diego Maldonado

Weighted Inequalities and Dyadic Harmonic Analysis 281
 María Cristina Pereyra

Part VIII Biomathematics

Enhancement and Recovery in Atomic Force Microscopy Images 311
 Alex Chen, Andrea L. Bertozzi, Paul D. Ashby, Pascal Getreuer,
 and Yifei Lou

**Numerical Harmonic Analysis and Diffusions on the
 3D-Motion Group** 333
 Gregory S. Chirikjian

**Quantification of Retinal Chromophores Through
 Autofluorescence Imaging to Identify Precursors of
 Age-Related Macular Degeneration**..... 355
 M. Ehler, J. Dobrosotskaya, E.J. King, and R.F. Bonner

**Simple Harmonic Oscillator Based Reconstruction and
 Estimation for One-Dimensional q -Space Magnetic Resonance
 (1D-SHORE)**..... 373
 Evren Özarıslan, Cheng Guan Koay, and Peter J. Basser

Fourier Blues: Structural Coloration of Biological Tissues 401
 Richard O. Prum and Rodolfo H. Torres

A Harmonic Analysis View on Neuroscience Imaging	423
Paul Hernandez–Herrera, David Jiménez, Ioannis A. Kakadiaris, Andreas Koutsogiannis, Demetrio Labate, Fernanda Laezza, and Manos Papadakis	
Index	451



<http://www.springer.com/978-0-8176-8378-8>

Excursions in Harmonic Analysis, Volume 2
The February Fourier Talks at the Norbert Wiener
Center

Andrews, T.D.; Balan, R.; Benedetto, J.J.; Czaja, W.;
Okoudjou, K.A. (Eds.)

2013, XIX, 456 p. 56 illus., 21 illus. in color., Hardcover

ISBN: 978-0-8176-8378-8

A product of Birkhäuser Basel