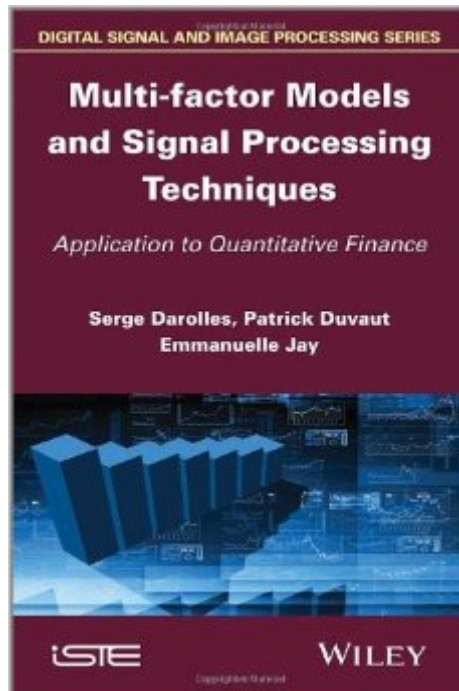


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# Multi-factor Models And Signal Processing Techniques: Application To Quantitative Finance



## Synopsis

With recent outbreaks of multiple large-scale financial crises, amplified by interconnected risk sources, a new paradigm of fund management has emerged. This new paradigm leverages embedded quantitative processes and methods to provide more transparent, adaptive, reliable and easily implemented risk assessment-based practices. This book surveys the most widely used factor models employed within the field of financial asset pricing. Through the concrete application of evaluating risks in the hedge fund industry, the authors demonstrate that signal processing techniques are an interesting alternative to the selection of factors (both fundamentals and statistical factors) and can provide more efficient estimation procedures, based on lq regularized Kalman filtering for instance. With numerous illustrative examples from stock markets, this book meets the needs of both finance practitioners and graduate students in science, econometrics and finance.

Contents Foreword, Rama Cont. 1. Factor Models and General Definition. 2. Factor Selection. 3. Least Squares Estimation (LSE) and Kalman Filtering (KF) for Factor Modeling: A Geometrical Perspective. 4. A Regularized Kalman Filter (rgKF) for Spiky Data. Appendix: Some Probability Densities.

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## Book Information

Hardcover: 320 pages

Publisher: Wiley-ISTE; 1 edition (July 22, 2013)

Language: English

ISBN-10: 1848214197

ISBN-13: 978-1848214194

Product Dimensions: 6.4 x 0.8 x 9.5 inches

Shipping Weight: 1.1 pounds (View shipping rates and policies)

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