
P. A. Ruymgaart, T. T. Soong
**Mathematics of Kalman-
Bucy Filtering**

1985. 19 figures. X, 170 pages.
(Springer Series in Information Sciences, Volume 14)
Hard cover DM 84, – . ISBN 3-540-13508-1

Contents: Elements of Probability Theory. – Calculus in Mean Square. – The Stochastic Dynamic System. – The Kalman-Bucy Filter. – A Theorem by Liptser and Shiriyayev. – Appendix: Solutions to Selected Exercises. – References. – Subject Index.

A. V. Balakrishnan
Kalman Filtering Theory

1984. XII, 222 pages.
(University Series in Modern Engineering)
Soft cover DM 64, –
In cooperation with Optimization Software,
Inc., New York
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Contents: Review of linear system theory. – Review of signal theory. – Statistical estimation theory. – The Kalman filter. – Likelihood ratios: Gaussian signals in Gaussian noise. – Bibliography. – Index.

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G. Ludwig

**Foundations
of
Quantum Mechanics II**

Translated from the German by C. A. Hein
1985. 54 figures. XVI, 416 pages
(Text and Monographs in Physics)
Hard cover DM 228, –
ISBN 3-540-13009-8

Contents: Representations of Hilbert Spaces by Function Spaces. – Equations of Motion. – The Spectrum of One-Electron Systems. – Spectrum of Two Electron Systems. – Selection Rules and the Intensity of Spectral Lines. – Spectra of Many-Electron Systems. – Molecular Spectra and the Chemical Bond. – Scattering Theory. – The Measurement Process and the Preparation Process. – Quantum Mechanics, Macrophysics and Physical World-Views. – Appendix V: Groups and Their Representations. – References. – Index.

In Volume I the author presented the fundamental concepts of Quantum Mechanics from first principles. In particular the concept of "effect" as developed by the author himself becomes the important link between experiment and theory. In the second volume of his impressive work the author shows how the basic concepts can be applied to problems of atomic spectra, structure and spectra of molecules, and scattering theory. In so doing, Prof. Ludwig provides the first systematic treatment of scattering theory as a tool in solving problems of real measurement in quantum theory. This unparalleled textbook also contains many new experimental results, making it of interest to students and researchers alike.



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