

Contents

Acknowledgments and Permissions	v
Series Editor's Preface	vii
Contents by Author	xi
Introduction	1
Comments on Multiplicity Theory—H. Cramér	7
Comments on the Theory of Multiplicity for Gaussian Processes—T. Hida	11
Editors' Comments on Paper 1	15
1. Bode, H. W., and C. E. Shannon: "A Simplified Derivation of Linear Least Square Smoothing and Prediction Theory" <i>Proc. I.R.E.</i> , 38 , 417–425 (1950)	16
Editors' Comments on Paper 2	25
2. Hanner, Olof: "Deterministic and Non-deterministic Stationary Random Processes" <i>Ark. Mat.</i> , 1 , 161–177 (1950)	26
Editors' Comments on Paper 3	43
3. Lévy, P.: "Sur une classe de courbes de l'espace de Hilbert et sur une équation intégrale non-linéaire". <i>Ann. Sci. Ecole Normale Supérieure</i> , 73 , 121–156 (1956)	44
Editors' Comments on Paper 4	80
4. Belyaev, Y. K.: "Analytic Random Processes" <i>Theory Probability Appl.</i> , 402–409 (1959)	81
Editors' Comments on Paper 5	89
5. Cramér, Harald: "On Some Classes of Nonstationary Stochastic Processes" <i>Proc. Fourth Berkeley Symp. Stat. Appl. Probability</i> , II , 57–78 (1960)	90
Editors' Comments on Paper 6	112
6. Hida, Takeyuki: "Canonical Representations of Gaussian Processes and Their Applications" <i>Mem. College Sci., Univ. Kyoto</i> , A33 (1), 109–155 (1960)	113
Editors' Comments on Paper 7	161
7. Cramér, Harald: "On the Structure of Purely Non-deterministic Stochastic Processes" <i>Ark. Mat.</i> , 4 , 249–266 (1961)	162
Editors' Comments on Paper 8	180
8. Kalman, R. E. and R. S. Bucy: "New Results in Linear Filtering and Prediction Theory" <i>Trans. ASME, Ser. D, J. Basic Eng.</i> , 83 , 95–107 (1961)	181

Editors' Comments on Papers 9 and 10	195
9. Kallianpur, G., and V. Mandrekar: "On the Connection between Multiplicity Theory and O. Hanner's Time Domain Analysis of Weakly Stationary Stochastic Processes"	196
<i>Univ. North Carolina Monograph Ser. Probability Stat.</i> , No. 3, 385–396 (1970)	
10. Kallianpur, G., and V. Mandrekar: "Multiplicity and Representation Theory of Purely Non-deterministic Stochastic Processes"	208
<i>Theory Probability Appl.</i> , 10 (4), 553–581 (1965)	
Editors' Comments on Papers 11 and 12	237
11. Cramér, Harald: "Stochastic Processes as Curves in Hilbert Space"	238
<i>Theory Probability Appl.</i> , 9 (2) 169–179 (1964)	
12. Cramér, Harald: "A Contribution to the Multiplicity Theory of Stochastic Processes"	249
<i>Proc. Fifth Berkeley Symp. Stat. Appl. Probability</i> , II , 215–221 (1965)	
Editors' Comments on Papers 13 and 14	256
13. Kailath, Thomas: "An Innovations Approach to Least-Squares Estimation. Part I: Linear Filtering in Additive White Noise"	257
<i>IEEE Trans. Automat. Control</i> , AC-13 (6), 646–655 (1968)	
14. Kailath, Thomas, and Paul Frost: "An Innovations Approach to Least-Squares Estimation. Part II: Linear Smoothing in Additive White Noise"	267
<i>IEEE Trans. Automat. Control</i> , AC-13 (6), 655–660 (1968)	
Editors' Comments on Paper 15	273
15. Mandrekar, V.: "On Multivariate Wide-Sense Markov Processes"	274
<i>Nagoya Math. J.</i> , 33 , 7–19 (1968)	
Editors' Comments on Paper 16	287
16. Kailath, Thomas: "The Innovations Approach to Detection and Estimation Theory"	288
<i>Proc. IEEE</i> , 58 (5), 680–695 (1970)	
Editors' Comments on Paper 17	304
17. Cramér, Harald: "Structural and Statistical Problems for a Class of Stochastic Processes"	305
The First Samuel Stanley Wilks Lecture at Princeton University, March 17, 1970, 1–30 (1971)	
Editors' Comments on Papers 18 and 19	335
18. Kadota, T. T. "Nonsingular Detection and Likelihood Ratio for Random Signals in White Gaussian Noise"	336
<i>IEEE Trans. Informa. Theory</i> , IT-16 (3), 291–298 (1970)	
19. Shepp, L. A.: "Radon–Nikodym Derivatives of Gaussian Measures"	344
<i>Ann. Math. Stat.</i> 37 (2), 321–354 (1966)	
Editors' Comments on Paper 20	379
20. Ivkovich, Z., and Yu. A. Rozanov: "On the Canonical Hida–Cramér Representation for Random Processes"	380
<i>Theory Probability Appl.</i> , 16 (2), 351–356 (1971)	
Author Citation Index	387
Subject Index	391

