

Contents

1. Introduction	1
1.1. Robustness of Hotelling's T^2 Statistic, 4	
1.2. Error Rates in Partial Discriminant Analysis, 6	
1.3. Foutz' Test, 11	
1.4. Overview, 15	
2. Univariate Distributions and their Generation	18
2.1. General Methods for Continuous Univariate Generation, 19	
2.2. Normal Generators, 29	
2.3. Johnson's Translation System, 31	
2.4. Generalized Exponential Power Distribution, 34	
2.5. Gamma Generators, 38	
2.6. Uniform 0-1 Generators, 41	
3. Multivariate Generation Techniques	43
3.1. Conditional Distribution Approach, 43	
3.2. Transformation Approach, 45	
3.3. Rejection Approach, 46	
4. Multivariate Normal and Related Distributions	49
4.1. Multivariate Normal Distribution, 49	
4.2. Mixtures of Normal Variates, 55	

5. Johnson's Translation System	63
5.1. Plots for the S_{LL} Distribution, 65	
5.2. Plots for the S_{UU} Distribution, 70	
5.3. Contour Plots for the S_{BB} Distribution, 76	
5.4. Analytical Results, 83	
5.5. Discriminant Analysis Applications, 99	
6. Elliptically Contoured Distributions	106
6.1. General Results for Elliptically Contoured Distributions, 106	
6.2. Special Cases of Elliptically Contoured Distributions, 110	
7. Circular, Spherical, and Related Distributions	125
7.1. Uniform Distributions, 125	
7.2. Nonuniform Distributions, 135	
8. Khintchine Distributions	149
8.1. Khintchine's Unimodality Theorem, 149	
8.2. Identical Generators, 152	
8.3. Independent Generators, 153	
8.4. Other Possibilities, 154	
9. Multivariate Burr, Pareto, and Logistic Distributions	160
9.1. Standard Form and Properties, 160	
9.2. Generalizations, 170	
10. Miscellaneous Distributions	180
10.1. Morgenstern's Distribution, 180	
10.2. Plackett's Distribution, 191	
10.3. Gumbel's Bivariate Exponential Distribution, 197	
10.4. Ali-Mikhail-Haq's Distribution, 199	
10.5. Wishart Distribution, 203	
11. Research Directions	205
References	211

CONTENTS	ix
Supplementary References	219
Author Index	225
Subject Index	229