

# Contents

<b>1</b>	<b>Divergence Functions and Geometric Structures They Induce on a Manifold . . . . .</b>	<b>1</b>
	Jun Zhang	
<b>2</b>	<b>Geometry on Positive Definite Matrices Deformed by V-Potentials and Its Submanifold Structure . . . . .</b>	<b>31</b>
	Atsumi Ohara and Shinto Eguchi	
<b>3</b>	<b>Hessian Structures and Divergence Functions on Deformed Exponential Families . . . . .</b>	<b>57</b>
	Hiroshi Matsuzoe and Masayuki Henmi	
<b>4</b>	<b>Harmonic Maps Relative to <math>\alpha</math>-Connections . . . . .</b>	<b>81</b>
	Keiko Uohashi	
<b>5</b>	<b>A Riemannian Geometry in the <math>q</math>-Exponential Banach Manifold Induced by <math>q</math>-Divergences . . . . .</b>	<b>97</b>
	Héctor R. Quiceno, Gabriel I. Loaiza and Juan C. Arango	
<b>6</b>	<b>Computational Algebraic Methods in Efficient Estimation . . . . .</b>	<b>119</b>
	Kei Kobayashi and Henry P. Wynn	
<b>7</b>	<b>Eidetic Reduction of Information Geometry Through Legendre Duality of Koszul Characteristic Function and Entropy: From Massieu–Duhem Potentials to Geometric Souriau Temperature and Balian Quantum Fisher Metric . . . . .</b>	<b>141</b>
	Frédéric Barbaresco	
<b>8</b>	<b>Distances on Spaces of High-Dimensional Linear Stochastic Processes: A Survey . . . . .</b>	<b>219</b>
	Bijan Afsari and René Vidal	

**9 Discrete Ladders for Parallel Transport in Transformation Groups with an Affine Connection Structure . . . . . 243**  
Marco Lorenzi and Xavier Pennec

**10 Diffeomorphic Iterative Centroid Methods for Template Estimation on Large Datasets . . . . . 273**  
Claire Cury, Joan Alexis Glaunès and Olivier Colliot

**11 Hartigan’s Method for  $k$ -MLE: Mixture Modeling with Wishart Distributions and Its Application to Motion Retrieval . . . . . 301**  
Christophe Saint-Jean and Frank Nielsen

**12 Morphological Processing of Univariate Gaussian Distribution-Valued Images Based on Poincaré Upper-Half Plane Representation . . . . . 331**  
Jesús Angulo and Santiago Velasco-Forero

**13 Dimensionality Reduction for Classification of Stochastic Texture Images . . . . . 367**  
C. T. J. Dodson and W. W. Sampson

**Index . . . . . 389**



<http://www.springer.com/978-3-319-05316-5>

Geometric Theory of Information

Nielsen, F. (Ed.)

2014, XII, 392 p. 81 illus., 60 illus. in color., Hardcover

ISBN: 978-3-319-05316-5