

CONTENTS

PREFACE	ix
SETI, RADON TRANSFORMS, AND OPTIMIZATION Stanley R. Deans	1
INDUCTIVE INFERENCE BY NEUTRAL NETWORKS David Hestenes	19
ON THE EFFICIENCY OF A CLASS OF MAXIMUM ENTROPY ESTIMATORS C.C. Rodriguez	33
QUANTUM STATISTICAL MECHANICS IN PHASE SPACE AND THE CLASSICAL LIMIT Y. Tikochinsky and D. Shalitin	51
SUPERPOSITION EFFECTS IN DIFFERENTIAL ENTROPY AND KULLBACK- LEIBLER INFORMATION A.K. Rajagopal, P.J. Lin-Chung and S. Teitler	83
SUPER VARIATIONAL PRINCIPLES L.H. Schick	89
EINSTEIN'S REVERSAL OF THE BOLTZMANN PRINCIPLE AND PARTICLE STATISTICS A.K. Rajagopal and S. Teitler	105
CLASSICAL ENTROPY OF A COHERENT SPIN STATE: A LOCAL MINIMUM C.T. Lee	111
LEAST MAXIMUM ENTROPY AND MINIMUM UNCERTAINTY COHERENT STATES A.K. Rajagopal and S. Teitler	121
MAXIMUM ENTROPY SPECTROSCOPY - DIMES AND MESA John Skilling	127
INFORMATION AND ENTROPY OF PATTERNS IN GENETIC SWITCHES Thomas Dana Schneider	147
MAXIMUM ENTROPY AND THE PHASE PROBLEM IN PROTEIN CRYSTALLOGRAPHY R.K. Bryan	155

CONTRAST TRANSFER FUNCTION CORRECTION IN ELECTRON MICROSCOPY R.K. Bryan	171
CLIMATICALLY INDUCED CYCLIC VARIATIONS IN UNITED STATES CROP PRODUCTION: IMPLICATIONS IN ECONOMIC AND SOCIAL SCIENCE Robert Guinn Currie	181
A MAXIMUM ENTROPY METHOD FOR EXPERT SYSTEM CONSTRUCTION Alan Lipman	243
STOCHASTIC RELAXATION METHODS FOR IMAGE RESTORATION AND EXPERT SYSTEMS Stuart Geman	265
TOWARDS A METHOD OF CORRECTING BIAS INTRODUCED BY THE USE OF THE ERROR FITTING METHOD IN CONJUNCTION WITH A MAXIMUM ENTROPY PROCESSING ALGORITHM N.A. Farrow and F.P. Ottensmeyer	313
MAKING MAXIMUM ENTROPY COMPUTATIONS EASIER BY ADDING EXTRA CONSTRAINTS (EXTENDED ABSTRACT) Sally A. Goldman and Ronald L. Rivest	323
IMAGE RESTORATION AND RECONSTRUCTION USING ENTROPY AS A REGULARIZATION FUNCTIONAL Ali Mohammad-Djafari and Guy Demoment	341
APPLICATION OF LIKELIHOOD AND ENTROPY FOR TOEPLITZ CONSTRAINED COVARIANCE ESTIMATION Michael I. Miller	357
THE CONCEPT OF EPOCH ENTROPY IN COMPLEX SYSTEMS K.L. Ngai, A.K. Rajagopal and S. Teitler	363
A GENERAL THEORY OF INHOMOGENEOUS SYSTEMS S.A. Trugman	371
MAXIMUM ENTROPY AND CRACK GEOMETRY IN GRANITIC ROCKS P.M. Doyen	381
MAXIMUM ENTROPY ANALYSIS OF LIQUID DIFFRACTION DATA John H. Root, P.A. Egelstaff and B.G. Nickel	395
RANDOM ARRAY BEAMFORMING Keith H. Norsworthy and Paul N. Michels	409
DECISION MAKING WITH BARELY ANY INFORMATION: THE ROLE OF MIXED STRATEGIES P.B. Kantor and M.J. Kantor	421
COMPARISON OF BAYESIAN AND DEMPSTER'S RULES IN EVIDENCE COMBINATION Yizong Cheng and R.L. Kashyap	427
Subject Index	435