

TABLE OF CONTENTS

Prologue	v
Part I: Geometric Quantization	
Quantum Particle on a Torus with an External Field <i>H. D. Doebner and J. Tolar</i>	3
Group Representations and Quantization of the Momentum Map <i>I. M. Mladenov and V. V. Tsanov</i>	11
Hamiltonian Mechanical Systems and Geometric Prequantization <i>M. Puta</i>	17
Geometric Quantization of Riemann Rotors <i>G. Rosensteel</i>	28
Ghostbuster's Approach to Constraints <i>J. Śniatycki</i>	36
Half-forms and Berry's Phase <i>N. M. J. Woodhouse</i>	45
Part II: Geometric Quantization for Infinite Dimensional Systems	
Quantization on Coadjoint Orbits of Diffeomorphism Groups: Some Research Directions <i>G. A. Goldin</i>	53
An Application of Geometric Quantization and Coherent States to Vortex Theory <i>V. Penna and M. Spera</i>	66
Loop Spaces and a Geometrical Approach to Path Integral Quantization <i>R. F. Picken</i>	75
Part III: Orbits Method and Representation Theory	
Symmetry Groups of the MIC-Kepler Problem and Their Unitary Representations <i>T. Iwai and Y. Uwano</i>	93

Symplectic and Kähler Coherent State Representations of Unimodular Lie Groups	104
<i>W. Lisiecki</i>	
On the Connection between Orbits and Representations	115
<i>N. V. Pedersen</i>	
On the Decomposition of the Oscillator Representation	127
<i>A. Strasburger</i>	
Part IV: Coherent States Method	
Coherent States: A General Formalism	137
<i>J. P. Antoine</i>	
Semiclassical Behaviour of Coherent States on the Circle	152
<i>S. De Bièvre and J. A. González</i>	
Coherent States for the Regularized Hydrogen Atom	158
<i>M. Horowski</i>	
Coherent States for Reduced Phase Spaces	161
<i>A. Odziejewicz</i>	
Riemannian and Supersymmetric Properties of Squeezed and Correlated States	170
<i>D. A. Trifonov</i>	
Part V: Poisson Manifolds	
Connections and Excited Wavepackets over Invariant Isotropic Torus	179
<i>M. Karasev and Y. Vorobjev</i>	
A Construction of a Star Product on a Poisson Manifold	190
<i>H. Omori, Y. Maeda and A. Yoshioka</i>	
Part VI: Special Topics	
The Lorentz Force Equation in Twistor Terms — A Symplectic Framework	199
<i>A. Bette</i>	
Geometrical Interpretation of Time-dependent Spin Phases	211
<i>M. Božić</i>	

Supersymmetry and Coherent States	218
<i>A. M. El Gradechi, V. Hussin and L. M. Nieto</i>	
Green's Function for Crossed Time-Dependent Electric and Magnetic Fields. Phase-Space Quantum Mechanics Approach	222
<i>L. M. Nieto</i>	
Wei and Norman's Formalism and Invariants	230
<i>F. Salmistraro</i>	
Local and Nonlocal Probabilities in Einstein-Podolsky-Rosen Correlations	237
<i>K. Wódkiewicz</i>	
List of Participants	243