

CONTENTS

(Asterisk next to name identifies the speaker)

I. FORMAL METHODS

| | |
|--|----|
| A Comparison Between Correlated Basis Functions Method and the Density Functional Theory | 1 |
| R. Tao and C.-W. Woo* | |
| Planar Theory Made Plainer | 9 |
| R.A. Smith* | |
| Pairing Correlations, Coherent States, and Black Holes | 19 |
| R.F. Bishop* and A. Vourdas | |
| Preparing the Ground for Coupled Cluster Calculations | 33 |
| H. Kümmel* | |
| The LMG Model as a Many Body Probe | 43 |
| A.P. Zuker*, M. Defour, and C. Pomar | |
| Systematic Behaviour at Large Degeneracies in a Soluble Model. | 57 |
| M.C. Cambiaggio*, G.G. Dussel, and M. Saraceno | |
| Improved Method for Eliminating Center-of-Mass Coordinates from Matrix Elements in Oscillator Basis | 67 |
| R.H. Richardson and J.Y. Shapiro* | |

II. MONTE CARLO METHODS

| | |
|---|----|
| Microscopic Calculations of Alpha-Neutron Scattering | 79 |
| J. Carlson*, K.E. Schmidt, and M.H. Kalos | |
| Green's Function Monte Carlo Calculations of Effective Pi-Electron Hamiltonian | 89 |
| M. Lee*, S. Klemm, and S. Risser | |

III. QUANTUM FLUIDS AT T=0

| | |
|---|-----|
| Long-Range and Elementary Contributions for Quantum Fluids at Zero Temperature | 97 |
| S. Rosati*, M. Vivani, E. Buendia, and A. Fabrocini | |
| Variational Theory of Impurities in Liquid ${}^4\text{He}$ | 107 |
| K.E. Kürten*, R.L. Ristig, and J.W. Clark | |

| | |
|---|-----|
| Spin Polarized Deuterium | 115 |
| H.R. Glyde* and S.I. Herandi | |
| A Momentum Dependent Induced Interaction Model Applied to Liquid ^3He | 129 |
| T.L. Ainsworth* | |
| Hard Core Square Well Quantum Matter | 139 |
| M. Fortes, M. de Llano*, and J. del Rio | |

IV. QUANTUM FLUIDS AT $T>0$

| | |
|--|-----|
| Variational Density Matrix Theory I | 153 |
| C.E. Campbell*, K.E. Kürten, G. Senger, and M.L. Ristig | |
| Variational Density Matrix Theory II | 159 |
| R.L. Ristig*, G. Senger, K.E. Kürten, and C.E. Campbell | |
| Thermal Response of Hot Nuclei | 165 |
| J.P. Vary*, G. Bozzolo, H.G. Miller, and R.M. Quick | |

V. ELECTRONIC SYSTEMS AND SOLIDS

| | |
|--|-----|
| Dynamical Behaviour of Strongly Correlated Coulomb Plasmas: A Nonlinear-Response Approach | 173 |
| K.I. Golden, F. Green*, and D. Neilson | |
| Density Functional Theory as an Alternative to the Extended Thomas-Fermi Theory in Condensed Matter Calculations | 183 |
| E.V. Ludena | |
| Local Approximations in the Applications of Density Functional Theory | 195 |
| J. Keller*, C. Amador, and C. de Teresa | |
| Local-Density-Dependent Dielectric Function for Electrons in Metals | 207 |
| R.J. Harrison* | |
| Convergence Properties of an Exact Band Theory | 215 |
| R.G. Brown* and M. Ciftan | |

VI. NEW FORMS OF CONDENSED MATTER

| | |
|---|-----|
| Correlations in the Functional Hall Effect | 235 |
| A. Kallio*, P. Pollari, J. Kinaret, and M. Puoskari | |
| Heavy Fermion Systems: Fermi Liquid Aspects and Model Calculations | 247 |
| K.F. Quader* | |
| Stability of Rapidly Solidified Quasi Crystals | 259 |
| M.V. Jarić* | |

| | |
|---|-----|
| Instabilities and Mode Selection in Explosive Crystallization | 273 |
| D.A. Kurtze* | |
| Fractal Behavior of Single-Particle Trajectories and Isosets in Isotropic and Anisotropic Fluids | 285 |
| R.K. Kalia*, P. Vashishta, and S.W. de Leeuw | |
| VII. NUCLEAR FORCES AND MATTER | |
| Energy Density Formalism, Nuclear Masses and Heavy-Ion Heavy-Ion Interaction | 291 |
| I. Reichstein and F.B. Malik* | |
| Three Body Forces in Nuclei | 301 |
| S.A. Moszkowski* | |
| Pairing in Low-Density Neutron Matter | 313 |
| J.W. Clark*, J.M.C. Chen, E. Krotschek, and R.A. Smith | |
| π^0 Condensation in Hot Nuclear Matter | 327 |
| T. Takatsuka* and R. Tamagaki | |
| INDEX | 339 |