



## TABLE OF CONTENTS

|  |             |
|--|-------------|
| <b>SELECTED QUOTATIONS</b>   | <b>VII</b>  |
| <b>EDITORIAL NOTE</b>  | <b>IX</b>   |
| <b>THE ORGANIZING COMMITTEES</b>   | <b>X</b>    |
| <b>ACKNOWLEDGEMENTS</b>  | <b>XI</b>   |
| <b>LIST OF PARTICIPANTS</b>  | <b>XIII</b> |
| <br>   |             |
| <b>G. DE VAUCOULEURS / Structure, Dynamics and Statistical Properties of Galaxies (<i>Invited Paper</i>)</b>   | 1           |
| <b>P. J. E. PEEBLES / Properties and Distribution of Galaxies in Relation to Their Formation and Evolution: Theoretical Situation (<i>Invited Paper</i>)</b> | 55          |
| <b>B. A. PETERSON / The Distribution of Galaxies in Relation to Their Formation and Evolution</b>  | 75          |
| <b>L. M. OZERNOY / Dynamics of Superclusters as the Most Powerful Test for Theories of Galaxy Formation</b>  | 85          |
| <b>G. R. BURBIDGE / Intergalactic Matter and Radiation and its Bearing on Galaxy Formation and Evolution (<i>Invited Paper</i>)</b>                          | 93          |
| <b>G. K. MILEY, H. VAN DER LAAN, and K. J. WELLINGTON / Recent Westerbork Observations of Head-Tail Galaxies</b>   | 109         |
| <b>R. D. DAVIES / Neutral Hydrogen at Large Distances from Parent Galaxies</b>   | 119         |
| <b>K. C. FREEMAN / The Early History of Our Galaxy: Dynamics (<i>Invited Paper</i>)</b>  | 129         |
| <b>J. E. BALDWIN / The Distribution of Mass-to-Light Ratio with Radius in M31 and M33</b>  | 139         |
| <br>   |             |
| <b>M. PEIMBERT / The Early History of Our Galaxy: Chemical Evolution (<i>Invited Paper</i>)</b>  | 141         |
| <b>S. VAN DEN BERGH / Differences Between Galaxies (<i>Invited Paper</i>)</b>  | 157         |
| <b>A. E. WHITFORD / Dwarf Content of Old Galaxy Populations</b>  | 169         |
| <b>A. BRAHIC / The Formation of Disks by Inelastic Collisions of Gravitating Particles. Applications to the Formation of Galaxies</b>                        | 173         |
| <b>J. R. GOTTF III / Dynamics of Rotating Stellar Systems: Collapse and Violent Relaxation</b>   | 181         |
| <br>   |             |
| <b>R. B. LARSON / Models for the Formation and Evolution of Spherical Galaxies</b>   | 191         |
| <br>   |             |
| <b>W. L. W. SARGENT / The Redshifts of Extragalactic Objects (<i>Invited Paper, Abstract only</i>)</b>   | 195         |
| <b>H. ARP / Evidence for Non-Velocity Redshifts – New Evidence and Review (<i>Invited Paper</i>)</b>   | 199         |

|  |     |
|--|-----|
| G. O. ABELL / The Extragalactic Relative Distance Scale  | 225 |
| C. BALKOWSKI, L. BOTTINELLI, P. CHAMARAUX, L. GOUGUENHEIM, and<br>J. HEIDMANN / Observational Evidence for Non-Velocity Redshift in<br>Stephan's Quintet | 237 |
| W. G. TIFFT / Fine Structure within the Redshift-Magnitude Correlation for<br>Galaxies   | 243 |
| R. D. EKERS / Radio Frequency Observations of the Nuclei of Galaxies<br><i>(Invited Paper)</i>   | 257 |
| M.-H. ULRICH / Optical Observations of Nuclei of Galaxies <i>(Invited Paper)</i>   | 279 |
| W. C. SASLAW / Theory of Galactic Nuclei <i>(Invited Paper)</i>  | 305 |
| G. DE VAUCOULEURS / Structures of Central Bulges and Nuclei of Galaxies  | 335 |
| I. PRONIK / Variability of the Emission Line Spectrum of the Nucleus of<br>Seyfert Galaxy NGC 1275   | 341 |
| A. TOOMRE / Gravitational Interactions Between Galaxies <i>(Invited Paper)</i>   | 347 |
| D. S. MATHEWSON, M. N. CLEARY, and J. D. MURRAY / The Magellanic Stream  | 367 |
| J. H. OORT / Recent Radio Studies of Bright Galaxies <i>(Invited Paper)</i>  | 375 |
| P. O. LINDBLAD / Interpretation of Observations of Spiral Structure in Terms<br>of the Density Wave Theory <i>(Invited Paper)</i>                        | 399 |
| G. CONTOPOULOS / Some Recent Developments in the Theory of Spiral<br>Structure   | 413 |
| J. W.-K. MARK / Studies on the Galactic Density Wave   | 417 |
| R. J. ALLEN, W. M. GOSS, R. SANCISI, W. T. SULLIVAN III, and H. VAN<br>WOERDEN / High-Resolution Studies of Neutral Hydrogen in NGC 5383<br>and M101     | 425 |
| P. C. VAN DER KUIT / The Motions in the Central Regions of NGC 4736  | 431 |
| W. W. ROBERTS, JR., M. S. ROBERTS, and F. H. SHU / On the Strength of the<br>Galactic Shock Wave and the Degree of Development of Spiral Structure       | 439 |

