

Table of contents

Titles of invited papers are highlighted. Names of co-authors who did not attend the conference are given in smaller type.

Preface	ix
Names and addresses of participants	xi
Conference photograph	xvi
Spiral waves in Saturn's rings	<i>Jack J. Lissauer</i> 1
Structure of the Uranian rings	<i>C. D. Murray & R. P. Thompson</i> 17
Planetary rings: theory	<i>Nicole Borderies</i> 19
Simulations of light scattering in planetary rings <i>L. Dones, M. R. Showalter & J. N. Cuzzi</i>	25
Accretion discs around young stellar objects and the proto-Sun	<i>D. N. C. Lin</i> 27
The β Pictoris disc: a planetary rather than a protoplanetary one <i>Pawel Artymowicz</i>	43
Optical polarimetry and thermal imaging of the disc around β Pictoris <i>R. D. Wolkencroft, S. M. Scarrott, R. F. Warren-Smith, C. M. Telesco, R. Decher & E. E. Becklin</i>	45
Observations of discs around protostars and young stars	<i>Ronald L. Snell</i> 49
VLA observations of ammonia toward molecular outflow sources <i>José M. Torrelles, Paul T. P. Ho, Luis F. Rodríguez, Jorge Cantó & Lourdes Verdes-Montenegro</i>	61
Derivation of the physical properties of molecular discs by an MEM method <i>John Richer & Rachael Padman</i>	65
Masers associated with discs around young stars <i>Geneviève Brebner</i>	67
The nature of polarisation discs around young stars <i>S. M. Scarrott</i>	69
The correlation between the main parameters of the interstellar gas (including Salpeter's spectrum of masses) as a result of the development of turbulent Rossby waves <i>V. V. Dolotin & A. M. Fridman</i>	71
Discs in cataclysmic variables and X-ray binaries	<i>A. R. King</i> 73
A disc instability model for soft X-ray transients containing black holes <i>Shin Mineshige & J. Craig Wheeler</i>	79
X-ray variability from the accretion disc of NGC 5548 <i>J. S. Kaastra</i>	81

Viscously heated coronae and winds around accretion discs <i>M. Czerny & A. R. King</i>	83
Optical emission line profiles of symbiotic stars <i>K. Robinson, M. F. Bode, J. Meaburn & M. J. Whitehead</i>	85
The effect of formation of FeII in winds confined to discs for luminous stars <i>M. Friedjung & G. Muratorio</i>	87
Observational evidence for accretion discs in active galactic nuclei <i>Matthew Malkan</i>	89
The fuelling of active galactic nuclei by non-axisymmetric instabilities <i>I. Shlosman, J. Frank & M. C. Begelman</i>	99
The circum-nuclear disc in the Galactic centre <i>Wolfgang J. Duschl</i>	101
Non-axisymmetric instabilities in thin self-gravitating differentially rotating gaseous discs <i>J. C. B. Papaloizou & G. J. Savonije</i>	103
Non-linear evolution of non-axisymmetric perturbations in thin self-gravitating gaseous discs <i>G. J. Savonije & J. C. B. Papaloizou</i>	115
Eccentric gravitational instabilities in nearly Keplerian discs <i>Steven P. Ruden, Fred C. Adams & Frank H. Shu</i>	119
Gravity mode instabilities in accretion tori <i>W. Glatzel</i>	121
The stability of viscous supersonic shear flows – critical Reynolds numbers and their implications for accretion discs <i>W. Glatzel</i>	123
Asymptotic analysis of overstable convective modes of uniformly rotating stars <i>Umin Lee</i>	125
Polytropic models in very rapid rotation <i>Vassilis S. Geroyannis</i>	127
Distribution and kinematics of gas in galaxy discs <i>R. Sancisi</i>	129
Are the smallest galaxies optically invisible? <i>Claude Carignan</i>	133
Can we understand the constancy of rotation curves? <i>Daniel Pfenniger</i>	135
How well do we know the surface density of the Galactic disc? <i>Thomas S. Statler</i>	137
On the heating of the Galactic disc <i>P. te Lintel Hekkert & Herwig Dejonghe</i>	139
The bulge-disc interaction in galactic centres <i>Mark E. Bailey & Althea Wilkinson</i>	141
Dynamics of the large-scale disc in NGC 1068 <i>J. Bland & G. N. Cecil</i>	143
The flow of gas in barred galaxies <i>E. Athanassoula</i>	145
The warped dust lane in A1029-459 <i>L. S. Sparke & S. Casertano</i>	147
Structure and evolution of dissipative non-planar galactic discs <i>T. Y. Steinman-Cameron & R. H. Durisen</i>	149

Table of contents

vii

Non-axisymmetric magnetic fields in turbulent gas discs <i>K. J. Donner & A. Brandenburg</i>	151
Non-axisymmetric disturbances in galactic discs <i>Alar Toomre</i>	153
Spiral instabilities in N-body simulations <i>J. A. Sellwood</i>	155
Long-lived spiral waves in N-body simulations <i>Neil F. Comins & Michael C. Schroeder</i>	173
Overstable modes in stellar disc systems <i>P. L. Palmer, J. C. B. Papaloizou & A. J. Allen</i>	175
Galactic seismological approach to the spiral galaxy NGC 3198 <i>M. Noguchi, T. Hasegawa & M. Iye</i>	177
Characteristics of bars from 3-D simulations <i>D. Friedli & D. Pfenniger</i>	179
Spirals and bars in linear theory <i>J. F. Sygnet, M. Tagger & R. Pellat</i>	181
Stellar hydrodynamical solutions for Eddington discs <i>N. W. Evans</i>	183
Theory of gradient instabilities of the gaseous Galactic disc and rotating shallow water <i>A. M. Fridman</i>	185
Stability criteria for gravitating discs <i>Valerij L. Polyachenko</i>	199
Stability of two-component galactic discs <i>Alessandro B. Romeo</i>	209
The smoothed particle hydrodynamics of galactic discs <i>Pawel Artymowicz & Stephen H. Lubow</i>	211
Tidal triggering of active disc galaxies by rich clusters <i>Gene G. Byrd & Mauri Valtonen</i>	213
The formation of spiral arms in early stages of galaxy interaction <i>Maria Sundin</i>	215
Formation of leading spiral arms in retrograde galaxy encounters <i>M. Thomasson, K. J. Donner, B. Sundelius, G. G. Byrd, T.-Y Huang & M. J. Valtonen</i>	217
The influence of galaxy interactions on stellar bars <i>M. Gerin, F. Combes & E. Athanassoula</i>	219
Disc galaxies – work in progress in Gothenburg <i>Stefan Engström, Björn Sundelius & Magnus Thomasson</i>	221
Motion of a satellite in a disc potential <i>B. Zafiroopoulos</i>	223
Observer's summary <i>R. J. Cohen</i>	225
Common processes and problems in disc dynamics <i>Scott Tremaine</i>	231
Citation index	239
Index of authors	253
Subject index	255