

PREFACE	<i>C. Allen & C. Scarfe</i>	vii
GROUP PHOTOGRAPH		x
LIST OF PARTICIPANTS		xiii
DEDICATION TO ARCADIO POVEDA	<i>H. A. Abt</i>	1
OBSERVATIONAL PROPERTIES AND STATISTICS OF BINARY STARS IN THE FIELD		
STATISTICS OF MULTIPLE STARS	<i>A. Tokovinin</i>	7
SPIN CORRELATION IN BINARY SYSTEMS	<i>N. Farbiash & R. Steinitz</i>	15
STATISTICAL PROPERTIES OF SOLAR-TYPE CLOSE BINARIES	<i>J.-L. Halbwachs, M. Mayor, S. Udry, & F. Arenou</i>	20
STATISTICAL PROPERTIES OF AN UNBIASED SAMPLE OF F7-K BINARIES: TOWARDS THE LONG-PERIOD SYSTEMS	<i>A. Eggenberger, J.-L. Halbwachs, S. Udry, & M. Mayor</i>	28
BINARY STATISTICS AMONG POPULATION II STARS	<i>H. Zinnecker, R. Köhler, & H. Jahreiß</i>	33
THE MASS DISTRIBUTION OF SECONDARIES TO SOLAR-TYPE STARS	<i>H. A. Abt & D. W. Willmarth</i>	37
OBSERVATIONS OF THE TRIPLE STAR ETA VIRGINIS WITH A LONG BASELINE OPTICAL INTERFEROMETER	<i>C. A. Hummel</i>	41
INCREASED MULTIPLICITY OF 77 CYGNI, V815 HERCULIS, AND HD 140122	<i>F. C. Fekel</i>	45

CONTENTS

THE DISTRIBUTION OF SEPARATIONS OF WIDE BINARIES OF DIFFERENT AGES	<i>A. Poveda & C. Allen</i>	49
ARE BINARY SEPARATIONS RELATED TO THEIR SYSTEM MASS?	<i>M. F. Sterzik & R. H. Durisen</i>	58
THE SPECTROSCOPIC ORBIT OF ϕ CYGNI, A SYSTEM WITH TWO LATE-TYPE GIANTS	<i>F. C. Fekel</i>	63
VOLUME-LIMITED SPECTROSCOPIC BINARY STATISTICS	<i>J. Fisher, K.-P. Schröder, & R. C. Smith</i>	65
MULTIPLE STARS WITH BOTH INNER AND OUTER ORBITS OBSERVED SPECTROSCOPICALLY	<i>R. F. Griffin</i>	67
OBSERVATIONS OF <i>HIPPARCOS</i> DOUBLE STARS WITH THE WIYN TELESCOPE	<i>E. P. Horch, W. F. van Altena, R. D. Meyer, & M. MacKnight</i>	69
SPECTROSCOPIC BINARIES AMONG A COMPLETE SAMPLE OF <i>HIPPARCOS</i> M GIANTS	<i>A. Jorissen, B. Famaey, M. Dedecker, D. Pourbaix, M. Mayor, & S. Udry</i>	71
PHOTOMETRY OF THE δ SCUTI STAR DG LEO: PRELIMINARY RESULTS	<i>P. Lampens, R. Garrido, L. Parrao, J. H. Peña, T. Arentoft, & Y. Frémat</i>	73
INFRARED DIFFERENTIAL PHOTOMETRY OF SELECTED ORBITAL BINARIES	<i>P. Lampens, J.-L. Prieur, & R. Argyle</i>	75
THE DISTRIBUTION OF SEPARATIONS OF DMSA <i>HIPPARCOS</i> CATALOGUE	<i>J. F. Ling, P. Magdalena, & C. Prieto</i>	77
THE DOUBLE-LINED SPECTROSCOPIC BINARY HR 6046	<i>C. D. Scarfe, R. F. Griffin, & R. E. M. Griffin</i>	79
NOMENCLATURE OF MULTIPLE-STAR SYSTEMS		
ADDRESSING CONFUSION IN DOUBLE STAR NOMENCLATURE: THE WASHINGTON MULTIPLICITY CATALOG	<i>W. I. Hartkopf & B. D. Mason</i>	83
OBSERVATIONAL RESULTS FOR VERY YOUNG BINARIES		
ORBITAL MOTIONS IN BINARY PROTOSTELLAR SYSTEMS	<i>L. F. Rodríguez</i>	93
VLA OBSERVATIONS OF DISKS AND JETS IN YOUNG CLOSE BINARIES	<i>G. Anglada</i>	100
WHAT CAUSES THE LOW BINARY FREQUENCY IN THE ORION NEBULA CLUSTER?	<i>R. Köhler</i>	104
MODELING ECLIPSING BINARIES IN GLOBULAR CLUSTERS	<i>E. F. Milone, J. Kallrath, C. R. Stagg, & M. D. Williams</i>	109
PHOTOMETRY OF ECLIPSING BINARY STARS IN THE LARGE AND SMALL MAGELLANIC CLOUDS	<i>G. P. Bayne, W. Tobin, J. D. Pritchard, I. Bond, K. R. Pollard, S. C. Besier, S. Noda, T. Sumi, T. Yanagisawa, M. Sekiguchi, M. Honda, Y. Muraki, M. Takeuti, J. B. Hearnshaw, P. M. Kilmartin, R. J. Dodd, D. J. Sullivan, & P. C. M. Yock</i>	116
YOUNG STARS FAR FROM THE GALACTIC PLANE: RUNAWAYS FROM CLUSTERS	<i>C. Allen & T. D. Kinman</i>	121

CONTENTS

HIGH-MASS X-RAY BINARIES AND OB RUNAWAY STARS <i>L. Kaper, A. Van der Meer, & A. H. Tjani</i>	128
Fe II FLUORESCENCE IN SYMBIOTIC STARS <i>M. Eriksson, H. Veenhuizen, G. M. Wahlgren, & S. Johansson</i>	132
VLA OBSERVATIONS OF ORBITAL MOTIONS IN YLW 15 <i>S. Curiel, J. M. Girart, L. F. Rodríguez, & J. Cantó</i>	137
THE PRIMORDIAL BINARY POPULATION IN OB ASSOCIATIONS <i>M. B. N. Kouwenhoven, A. G. A. Brown, A. Gualandris, L. Kaper, S. F. Portegies Zwart, & H. Zinnecker</i>	139
SPECTROSCOPIC BINARIES IN SOUTHERN OPEN CLUSTERS <i>H. Levato, J. F. Gonzalez, S. Malaroda, & M. Grosso</i>	141
MOLECULAR GAS KINEMATICS AND HIGH-MASS STAR FORMATION IN THE SPIRAL ARMS OF THE MILKY WAY <i>A. Luna, L. Carrasco, L. Ortega, L. Bronfman, & O. Yam</i>	143
THEORETICAL APPROACHES TO MULTIPLE STARS AND THEIR FORMATION	
THREE-BODY PROBLEM AND MULTIPLE STELLAR SYSTEMS <i>M. Valtonen</i>	147
THE MODIFIED RESTRICTED THREE BODY PROBLEMS <i>I.-G. Jiang & L.-C. Yeh</i>	152
FORMATION AND EVOLUTION OF HIERARCHICAL SYSTEMS <i>S. J. Aarseth</i>	156
ACCRETION OF PROTOBINARY AND EVOLUTION OF THE MASS RA- TIO <i>T. Hanawa, Y. Ochi, & K. Sugimoto</i>	163
BINARY STAR FORMATION AND MASS OUTFLOWS: MHD NESTED GRID SIMULATION <i>M. N. Machida, K. Tomisaka, & T. Matsumoto</i>	168
ASTROPHYSICAL PROCESSES OF MULTIPLE STARS IN CLUSTERS	
THE FORMATION OF BINARY AND MULTIPLE STARS IN CLUSTERS <i>M. R. Bate</i>	175
MULTIPLE PROTOSTARS, JETS, AND THE ORIGIN OF BROWN DWARFS <i>C. Clarke, B. Reipurth, & E. Delgado-Donate</i>	184
INTERNAL MOTIONS OF TRAPEZIUM SYSTEMS <i>C. Allen, A. Poveda, & A. Hernández-Alcántara</i>	195
MODELLING THE DUST EMISSION OF THE L1551 IRS5 BINARY SYSTEM <i>M. Osorio, P. D'Alessio, J. Muzerolle, N. Calvet, & L. Hartmann</i>	200
THE INTERACTION OF BINARY SYSTEMS WITH ACCRETION DISKS <i>M. A. Ortega Rodríguez</i>	202

CONTENTS

COMPANIONS OF VERY LOW MASS

PLANETS IN MULTIPLE-STAR SYSTEMS: PROPERTIES AND DETECTIONS <i>S. Udry, A. Eggenberger, M. Mayor, T. Mazeh, & S. Zucker</i>	207
THE BINARITY STATUS OF STARS WITH AND WITHOUT PLANETS PROBED WITH VLT/NACO <i>S. Udry, A. Eggenberger, J.-L. Beuzit, A.-M. Lagrange, M. Mayor, & G. Chauvin</i>	215
THE POSSIBLE BELTS FOR EXTRASOLAR PLANETARY SYSTEMS <i>I.-G. Jiang, M. Duncan, & D. N. C. Lin</i>	217
PLANETS IN DOUBLE STARS: THE γ CEPHEI SYSTEM <i>R. Dvorak, E. Pilat-Lohinger, E. Bois, B. Funk, F. Freistetter, & L. Kiseleva-Eggleton</i>	222
ON THE FORMATION OF BROWN DWARFS <i>I.-G. Jiang, G. Laughlin, & D. N. C. Lin</i>	227
INSTRUMENTS, TECHNIQUES AND PROGRAMS, PRESENT AND FUTURE	
GUIELOA: ADAPTIVE OPTICS SYSTEM FOR THE 2.1-M SPM UNAM TELESCOPE <i>S. Cuevas, A. Iriarte, L. A. Martínez, F. Garfias, L. Sánchez, O. Chapa, & R. A. Ruelas</i>	235
THE IMPACT OF LARGE DATABASES ON THE KNOWLEDGE OF LATE-TYPE CLOSE BINARIES <i>C. Maceroni</i>	239
INTERFEROMETRY AND LUNAR OCCULTATIONS: STATUS AND PROSPECTS OF GROUND-BASED MILLIARCSECOND RESOLUTION OBSERVATIONS <i>A. Richichi</i>	247
SPECTROSCOPY, PHOTOMETRY AND MICRO-ARCSEC ASTROMETRY OF BINARIES WITH THE GAIA SPACE MISSION AND WITH THE RAVE EXPERIMENT <i>T. Zwitter & U. Munari</i>	251
IR GEMINORUM: COMPLEX DISK BEHAVIOR DURING QUIESCENCE <i>Z. Li, K.-C. Leung, & C. Martin Gaskell</i>	259
OBSERVATIONAL PROPERTIES OF SYNTHETIC VISUAL BINARY CATALOG <i>P. Nurmi</i>	263
WHAT CAN THE S_{B^9} DATABASE DO FOR YOU? <i>D. Pourbaix, S. Jancart, & H. M. J. Boffin</i>	265
SUMMARY	
SUMMARY OF IAU COLLOQUIUM 191: THE ENVIRONMENT AND EVOLUTION OF BINARY AND MULTIPLE STARS <i>E. F. Guinan</i>	269
AUTHOR INDEX	281