



THE FUTURE UTILISATION OF SCHMIDT TELESCOPES



Edited by
Jessica Chapman, Russell Cannon,
Sandra Harrison, and Bambang Hidayat

THE FUTURE UTILISATION OF SCHMIDT TELESCOPES

A SERIES OF BOOKS ON RECENT DEVELOPMENTS IN ASTRONOMY AND ASTROPHYSICS

A.S.P. CONFERENCE SERIES PUBLICATIONS COMMITTEE

**Dr. Sallie L. Baliunas, Chair
Dr. John P. Huchra
Dr. Roberta M. Humphreys
Dr. Catherine A. Pilachowski**

**© Copyright 1995 Astronomical Society of the Pacific
390 Ashton Avenue, San Francisco, California 94112**

All rights reserved

Printed by BookCrafters, Inc.

First published 1995

**Library of Congress Catalog Card Number: 95-80173
ISBN 1-886733-05-8**

**D. Harold McNamara, Managing Editor of Conference Series
PO Box 24463
Brigham Young University
Provo, UT 84602-4463**

A SERIES OF BOOKS ON RECENT DEVELOPMENTS IN ASTRONOMY AND ASTROPHYSICS

Vol. 1-Progress and Opportunities in Southern Hemisphere Optical Astronomy: The CTIO 25th Anniversary Symposium ed. V. M. Blanco and M. M. Phillips	ISBN 0-937707-18-X
Vol. 2-Proceedings of a Workshop on Optical Surveys for Quasars ed. P. S. Osmer, A. C. Porter, R. F. Green, and C. B. Foltz	ISBN 0-937707-19-8
Vol. 3-Fiber Optics in Astronomy ed. S. C. Barden	ISBN 0-937707-20-1
Vol. 4-The Extragalactic Distance Scale: Proceedings of the ASP 100th Anniversary Symposium ed. S. van den Bergh and C. J. Pritchett	ISBN 0-937707-21-X
Vol. 5-The Minnesota Lectures on Clusters of Galaxies and Large-Scale Structure ed. J. M. Dickey	ISBN 0-937707-22-8
Vol. 6-Synthesis Imaging in Radio Astronomy: A Collection of Lectures from the Third NRAO Synthesis Imaging Summer School ed. R. A. Perley, F. R. Schwab, and A. H. Bridle	ISBN 0-937707-23-6
Vol. 7-Properties of Hot Luminous Stars: Boulder-Munich Workshop ed. C. D. Garmany	ISBN 0-937707-24-4
Vol. 8-CCDs in Astronomy ed. G. H. Jacoby	ISBN 0-937707-25-2
Vol. 9-Cool Stars, Stellar Systems, and the Sun. Sixth Cambridge Workshop ed. G. Wallerstein	ISBN 0-937707-27-9
Vol. 10-The Evolution of the Universe of Galaxies. The Edwin Hubble Centennial Symposium ed. R. G. Kron	ISBN 0-937707-28-7
Vol. 11-Confrontation Between Stellar Pulsation and Evolution ed. C. Cacciari and G. Clementini	ISBN 0-937707-30-9
Vol. 12-The Evolution of the Interstellar Medium ed. L. Blitz	ISBN 0-937707-31-7
Vol. 13-The Formation and Evolution of Star Clusters ed. K. Janes	ISBN 0-937707-32-5
Vol. 14-Astrophysics with Infrared Arrays ed. R. Elston	ISBN 0-937707-33-3
Vol. 15-Large-Scale Structures and Peculiar Motions in the Universe ed. D. W. Latham and L. A. N. da Costa	ISBN 0-937707-34-1
Vol. 16-Atoms, Ions and Molecules: New Results in Spectral Line Astrophysics ed. A. D. Haschick and P. T. P. Ho	ISBN 0-937707-35-X
Vol. 17-Light Pollution, Radio Interference, and Space Debris ed. D. L. Crawford	ISBN 0-937707-36-8
Vol. 18-The Interpretation of Modern Synthesis Observations of Spiral Galaxies ed. N. Duric and P. C. Crane	ISBN 0-937707-37-6
Vol. 19-Radio Interferometry: Theory, Techniques, and Application, IAU Colloquium 131 ed. T. J. Cornwell and R. A. Perley	ISBN 0-937707-38-4
Vol. 20-Frontiers of Stellar Evolution, celebrating the 50th Anniversary of McDonald Observatory ed. D. L. Lambert	ISBN 0-937707-39-2

Vol. 21-The Space Distribution of Quasars ed. D. Crampton	ISBN 0-937707-40-6
Vol. 22-Nonisotropic and Variable Outflows from Stars ed. L. Drissen, C. Leitherer, and A. Nota	ISBN 0-937707-41-4
Vol. 23-Astronomical CCD Observing and Reduction Techniques ed. S. B. Howell	ISBN 0-937707-42-4
Vol. 24-Cosmology and Large-Scale Structure in the Universe ed. R. R. de Carvalho	ISBN 0-937707-43-0
Vol. 25-Astronomical Data Analysis Software and Systems I ed. D. M. Worrall, C. Biemesderfer, and J. Barnes	ISBN 0-937707-44-9
Vol. 26-Cool Stars, Stellar Systems, and the Sun, Seventh Cambridge Workshop ed. M. S. Giampapa and J. A. Bookbinder	ISBN 0-937707-45-7
Vol. 27-The Solar Cycle ed. K. L. Harvey	ISBN 0-937707-46-5
Vol. 28-Automated Telescopes for Photometry and Imaging ed. S. J. Adelman, R. J. Dukes, Jr., and C. J. Adelman	ISBN 0-937707-47-3
Vol. 29-Workshop on Cataclysmic Variable Stars ed. N. Vogt	ISBN 0-937707-48-1
Vol. 30-Variable Stars and Galaxies, in honor of M. S. Feast on his retirement ed. B. Warner	ISBN 0-937707-49-X
Vol. 31-Relationships Between Active Galactic Nuclei and Starburst Galaxies ed. A. V. Filippenko	ISBN 0-937707-50-3
Vol. 32-Complementary Approaches to Double and Multiple Star Research, IAU Colloquium 135 ed. H. A. McAlister and W. I. Hartkopf	ISBN 0-937707-51-1
Vol. 33-Research Amateur Astronomy ed. S. J. Edberg	ISBN 0-937707-52-X
Vol. 34-Robotic Telescopes in the 1990s ed. A. V. Filippenko	ISBN 0-937707-53-8
Vol. 35-Massive Stars: Their Lives in the Interstellar Medium ed. J. P. Cassinelli and E. B. Churchwell	ISBN 0-937707-54-6
Vol. 36-Planets and Pulsars ed. J. A. Phillips, S. E. Thorsett, and S. R. Kulkarni	ISBN 0-937707-55-4
Vol. 37-Fiber Optics in Astronomy II ed. P. M. Gray	ISBN 0-937707-56-2
Vol. 38-New Frontiers in Binary Star Research ed. K. C. Leung and I. S. Nha	ISBN 0-937707-57-0
Vol. 39-The Minnesota Lectures on the Structure and Dynamics of the Milky Way ed. Roberta M. Humphreys	ISBN 0-937707-58-9
Vol. 40-Inside the Stars, IAU Colloquium 137 ed. Werner W. Weiss and Annie Baglin	ISBN 0-937707-59-7
Vol. 41-Astronomical Infrared Spectroscopy: Future Observational Directions ed. Sun Kwok	ISBN 0-937707-60-0
Vol. 42-GONG 1992: Seismic Investigation of the Sun and Stars ed. Timothy M. Brown	ISBN 0-937707-61-9

Vol. 43-Sky Surveys: Protostars to Protogalaxies ed. B. T. Soifer	ISBN 0-937707-62-7
Vol. 44-Peculiar Versus Normal Phenomena in A-Type and Related Stars ed. M. M. Dworetsky, F. Castelli, and R. Faraggiana	ISBN 0-937707-63-5
Vol. 45-Luminous High-Latitude Stars ed. D. D. Sasselov	ISBN 0-937707-64-3
Vol. 46-The Magnetic and Velocity Fields of Solar Active Regions, IAU Colloquium 141 ed. H. Zirin, G. Ai, and H. Wang	ISBN 0-937707-65-1
Vol. 47-Third Decennial US-USSR Conference on SETI ed. G. Seth Shostak	ISBN 0-937707-66-X
Vol. 48-The Globular Cluster-Galaxy Connection ed. Graeme H. Smith and Jean P. Brodie	ISBN 0-937707-67-8
Vol. 49-Galaxy Evolution: The Milky Way Perspective ed. Steven R. Majewski	ISBN 0-937707-68-6
Vol. 50-Structure and Dynamics of Globular Clusters ed. S. G. Djorgovski and G. Meylan	ISBN 0-937707-69-4
Vol. 51-Observational Cosmology ed. G. Chincarini, A. Iovino, T. Maccacaro, and D. Maccagni	ISBN 0-937707-70-8
Vol. 52-Astronomical Data Analysis Software and Systems II ed. R. J. Hanisch, J. V. Brissenden, and Jeannette Barnes	ISBN 0-937707-71-6
Vol. 53-Blue Stragglers ed. Rex A. Saffer	ISBN 0-937707-72-4
Vol. 54-The First Stromlo Symposium: The Physics of Active Galaxies ed. Geoffrey V. Bicknell, Michael A. Dopita, and Peter J. Quinn	ISBN 0-937707-73-2
Vol. 55-Optical Astronomy from the Earth and Moon ed. Diane M. Pyper and Ronald J. Angione	ISBN 0-937707-74-0
Vol. 56-Interacting Binary Stars ed. Allen W. Shafter	ISBN 0-937707-75-9
Vol. 57-Stellar and Circumstellar Astrophysics ed. George Wallerstein and Alberto Noriega-Crespo	ISBN 0-937707-76-7
Vol. 58-The First Symposium on the Infrared Cirrus and Diffuse Interstellar Clouds ed. Roc M. Cutri and William B. Latter	ISBN 0-937707-77-5
Vol. 59-Astronomy with Millimeter and Submillimeter Wave Interferometry ed. M. Ishiguro and Wm. J. Welch	ISBN 0-937707-78-3
Vol. 60-The MK Process at 50 Years: A Powerful Tool for Astrophysical Insight ed. C. J. Corbally, R. O. Gray, and R. F. Garrison	ISBN 0-937707-79-1
Vol. 61-Astronomical Data Analysis Software and Systems III ed. Dennis R. Crabtree, R. J. Hanisch, and Jeannette Barnes	ISBN 0-937707-80-5
Vol. 62-The Nature and Evolutionary Status of Herbig Ae / Be Stars ed. P. S. Thé, M. R. Pérez, and E. P. J. van den Heuvel	ISBN 0-937707-81-3
Vol. 63-Seventy-Five Years of Hirayama Asteroid Families: The role of Collisions in the Solar System History ed. R. Binzel, Y. Kozai, and T. Hirayama	ISBN 0-937707-82-1
Vol. 64-Cool Stars, Stellar Systems, and the Sun, Eighth Cambridge Workshop ed. Jean-Pierre Caillault	ISBN 0-937707-83-X

Vol. 65-Clouds, Cores, and Low Mass Stars ed. Dan P. Clemens and Richard Barvainis	ISBN 0-937707-84-8
Vol. 66- Physics of the Gaseous and Stellar Disks of the Galaxy ed. Ivan R. King	ISBN 0-937707-85-6
Vol. 67-Unveiling Large-Scale Structures Behind the Milky Way ed. C. Balkowski and R. C. Kraan-Korteweg	ISBN 0-937707-86-4
Vol. 68-Solar Active Region Evolution: Comparing Models with Observations ed. K. S. Balasubramaniam and George W. Simon	ISBN 0-937707-87-2
Vol. 69-Reverberation Mapping of the Broad-Line Region in Active Galactic Nuclei ed. P. M. Gondhalekar, K. Horne, and B. M. Peterson	ISBN 0-937707-88-0
Vol. 70-Groups of Galaxies ed. Otto G. Richter and Kirk Borne	ISBN 0-937707-89-9
Vol. 71-Tridimensional Optical Spectroscopic Methods in Astrophysics ed. G. Comte and M. Marcellin	ISBN 0-937707-90-2
Vol. 72-Millisecond Pulsars—A Decade of Surprise, ed. A. A. Fruchter M. Tavani, and D. C. Backer	ISBN 0-937707-91-0
Vol. 73-Airborne Astronomy Symposium on the Galactic Ecosystem: From Gas to Stars to Dust ed. M. R. Haas, J. A. Davidson, and E. F. Erickson	ISBN 0-937707-92-9
Vol. 74-Progress in the Search for Extraterrestrial Life, ed. G. Seth Shostak	ISBN 0-937707-93-7
Vol. 75-Multi-Feed Systems for Radio Telescopes ed. D. T. Emerson and J. M. Payne	ISBN 0-937707-94-5
Vol. 76-GONG '94: Helio- and Astero-Seismology from the Earth and Space ed. Roger K. Ulrich, Edward J. Rhodes, Jr., and Werner Däppen	ISBN 0-937707-95-3
Vol. 77-Astronomical Data Analysis Software and Systems IV ed. R. A. Shaw, H. E. Payne, and J. J. E. Hayes	ISBN 0-937707-96-1
Vol. 78-Astrophysical Applications of Powerful New Databases ed. S. J. Adelman and W. L. Wiese	ISBN 0-937707-97-X
Vol. 79-Robotic Telescopes: Current Capabilities, Present Developments, and Future Prospects for Automated Astronomy ed. Gregory W. Henry and Joel A. Eaton	ISBN 0-937707-98-8
Vol. 80-The Physics of the Interstellar Medium and Intergalactic Medium ed. A. Ferrara, C. F. McKee, C. Heiles, and P. R. Shapiro	ISBN 0-937707-99-6
Vol. 81-Laboratory and Astronomical High Resolution Spectra ed. A. J. Sauval, R. Blomme, and N. Grevesse	ISBN 1-886733-01-5
Vol. 82-Very Long Baseline Interferometry and the VLBA, ed. J. A. Zensus, P. K. Diamond, and P. J. Napier	ISBN 1-886733-02-3

Vol. 83-Astrophysical Applications of Stellar Pulsation, IAU Colloquium 155
ed. R. S. Stobie and P. A. Whitelock ISBN 1-886733-03-1

Vol. 84-The Future Utilisation of Schmidt Telescopes, IAU Colloquium 148
ed. Jessica Chapman, Russell Cannon, Sandra Harrison, and Bambang Hidayat ISBN 1-886733-05-8

Inquiries concerning these volumes should be directed to the:

Astronomical Society of the Pacific
CONFERENCE SERIES
390 Ashton Avenue
San Francisco, CA 94112-1722
415-337-1100
e-mail [asp @ stars.sfsu.edu](mailto:asp@stars.sfsu.edu)

ASTRONOMICAL SOCIETY OF THE PACIFIC
CONFERENCE SERIES



Volume 84

THE FUTURE UTILISATION OF SCHMIDT TELESCOPES

**IAU Colloquium 148
held 7-11 March 1994 in Bandung, Indonesia**

**Edited by
Jessica Chapman, Russell Cannon,
Sandra Harrison, and Bambang Hidayat**

TABLE OF CONTENTS

Preface	xxi
Organising Committees	xxii
List of Participants	xxiii
Participants Photograph	xxvii

I. INTRODUCTION

Formal Opening	3
<i>W. Arismunandar</i>	
Welcome Speech	5
<i>B. Hidayat</i>	
Schmidt Telescopes: Their Past, Present and Future	8
<i>R. D. Cannon</i>	

II. HISTORY

The Bosscha Observatory Schmidt Telescope	15
<i>E. van Albada-van Dien</i>	

III. THE USE OF CCDS IN SCHMIDT TELESCOPES

The Use of CCDs on Schmidt Telescopes	21
<i>T. E. Armandroff</i>	
Schmidt CCD Astronomy at BAO	30
<i>J.-S. Chen</i>	
CCD Cameras for the Kiso 105 cm Schmidt Telescope	33
<i>S. Yoshida, T. Aoki, T. Soyano, K. Tarusawa, M. Sekiguchi, M. Doi, N. Kashikawa, S. Okamura, K. Shimasaku, M. Yagi, N. Yasuda</i>	
Asteroid Surveys and other CCD Projects using the Observatoire de la Côte D'Azur (OCA) Schmidt Telescope	38
<i>A. Maury</i>	

Astronomy with the Automated Patrol Telescope	44
<i>B. D. Carter, M. C. B. Ashley, C. S. Bembrick, P. W. Brooks P. Mitchell, J. W. V. Storey</i>	
Near-Infrared Imaging with the 105 cm Kiso Schmidt	48
<i>T. Ichikawa, K. Tarusawa, K. Yanagisawa, N. Itoh</i>	
TAUMOK – Multi-Object Spectroscopy with the Tautenburg Schmidt Telescope	52
<i>S. Marx, H. Lehmann, M. Pluto, R. Ziener</i>	
CCDs on the Curtis Schmidt Telescope	53
<i>P. Seitzer, N. Houk</i>	
First Results for CCD Observations with the 70 cm Meniscus Telescope	56
<i>O. M. Kurtanidze, T. M. Kvernadze</i>	
Use of CCDs in Schmidt Telescopes for the Investigation of H α Emission of Flare Stars	60
<i>G. Szécsényi-Nagy</i>	
The Nova and Supernova Star Patrol at Abastumani	65
<i>G. N. Kimeridze, T. M. Kvernadze</i>	

IV. OTHER TECHNICAL DEVELOPMENTS

Multi-fibre Spectroscopy with Schmidt Telescopes	71
<i>F. G. Watson</i>	
Fibre Optic Light Guide for the Telescope: Some Experiments	81
<i>A. Handojo, N. Fachrizal</i>	
On the Applicability of Fibre-Fed Multi-Object Spectrographs in Flare Star Research	85
<i>G. Szécsényi-Nagy</i>	
From Milliarcsecond Proper Motions to the Discovery of Dark Matter: Some Winning Cards still in the hands of Photographic Astronomy	90
<i>J. Guibert, J. Souchay</i>	
Wide-field Astronomy with Tech Pan Film – A Positive Outlook for Schmidt Photography	96
<i>Q. A. Parker, S. Phillipps, D. Morgan</i>	

V. ASTRONOMY FROM OPTICAL FIBRE FEEDS

A Search for M32-like Galaxies in the Fornax Cluster using FLAIR	107
<i>B. Holman, M. Drinkwater, M. Gregg</i>	
Compact Galaxies in the Virgo Field	111
<i>M. J. Drinkwater, E. Hardy, J. M. Yearsley</i>	
The Latest Results from the Durham/UKST Galaxy Redshift Survey	116
<i>A. Broadbent, T. Shanks, R. Fong, Q. A. Parker, F. G. Watson</i>	
Detecting Extra-solar Planetary Transits with a Schmidt	124
<i>I. R. Parry, F. G. Watson, B. E. Carrasco</i>	
A Magnitude Limited Redshift Survey near the SGP	129
<i>Q. A. Parker</i>	

VI. MAJOR SURVEYS AND ARCHIVING

Sky Surveys and Atlases from the Large Schmidt Telescopes	137
<i>D. H. Morgan</i>	
Schmidt Telescope Plate Archives	148
<i>M. Tsvetkov, K. Stavrev, K. Tsvetkova, A. Mutafov</i>	
<i>M.-E. Michailov</i>	
A Southern Digital Sky Survey using the UK Schmidt Telescope	156
<i>B. A. Peterson</i>	
Searching for Near-Earth Asteroids with the UK Schmidt Telescope at the AAO	159
<i>D. I. Steel, R. H. McNaught, G. J. Garradd, K. S. Russell</i>	
<i>D. J. Asher</i>	
Near-Earth Asteroids on Archival Schmidt Plates	170
<i>R. H. McNaught, D. I. Steel, K. S. Russell, G. V. Williams</i>	

VII. DIGITISATION OF SCHMIDT DATA

Digitisation, Archiving and Distribution of Photographic Data from Schmidt Surveys	177
<i>B. M. Lasker</i>	

The Analysis of Digitised Objective Prism Spectra	186
<i>J. Stock</i>	
A Deep Wide Field Survey from Digitally Stacked Schmidt Plates	192
<i>M. R. S. Hawkins</i>	
Faint Features of Galaxies revealed by the Digital Co-addition of Schmidt Plates	200
<i>S. N. Kemp, J. Meaburn</i>	

VIII. SCHMIDT ASTROMETRY

Schmidt-plate Astrometry - Dinosaurs in Action	209
<i>I. N. Reid</i>	
Guide Star Catalog Revisited - The Determination of Proper Motions	218
<i>S. Röser, U. Bastian, A. V. Kuzmin</i>	
Proper Motions from Schmidt Plate Scans at STScI	224
<i>D. J. MacConnell, W. J. Roberts, R. L. Williamson II</i>	
Proper Motion Survey in the Pleiades	228
<i>J. Souchay, E. Schilbach</i>	
An Attempt to Derive the Proper Motion for Blanco Cluster 1	232
<i>B. Hidayat, P. Wiyanto</i>	
Astrometry with Schmidt Telescopes for Probing the Galaxy	234
<i>C. A. Murray</i>	
Astrometric Programmes of the Abastumani Observatory	241
<i>S. M. Chanturiya, R. I. Inasaridze, R. I. Kiladze</i>	
<i>O. M. Kurtanidze</i>	
The Importance of Schmidt Astrometry for the Optical Identification of Sources Detected in other Wavebands	245
<i>A. Savage, R. D. Cannon</i>	

IX. GALACTIC STRUCTURE AND STELLAR SURVEYS

Large Scale Galactic Structure	259
<i>G. Gilmore, R. Ibata</i>	

The Tautenburg Schmidt Telescope and Galactic Proper Motion Studies	267
<i>E. Schilbach, R.-D. Scholz, S. Hirte</i>	
The Stellar Space Distributions of dA and gK Stars	271
<i>D. N. Dawanas, B. Hidayat</i>	
Determination of the C/M5+ Ratio in the Galactic Disk	276
<i>F. J. Fuenmayor</i>	
The Edinburgh-Cape Blue Object Survey	280
<i>R. S. Stobie, D. Kilkenny, D. O'Donoghue, A. Chen</i>	
The Michigan 10-Degree Blue Spectral Survey as a Basis for Future Deep Schmidt Surveys	292
<i>N. Houk, T. von Hippel</i>	
A Southern Sky Survey of Low Mass Stars and Brown Dwarfs	296
<i>A. D. Thackrah, M. R. S. Hawkins</i>	
A Search for Late M Supergiant Stars in the Direction of $-2^\circ < b < 2^\circ$ and Galactic Longitude $351^\circ < l < 1^\circ$	301
<i>M. Raharto, K. Ishida, B. Hidayat, T. Ichikawa, K. Hamajima</i>	
An Infrared Colour Discriminator for Giant and Supergiant Optical M Stars	307
<i>M. Raharto</i>	
IRAS Identification of Complete Samples of Cool Carbon Stars: Results for a Region in Carina	311
<i>F. J. Fuenmayor, J. Stock</i>	
Aitoff Projection Plots and Other Statistical Results for Stars in Volumes 1-4 of the Michigan Catalogue of MK Types for the HD Stars ...	315
<i>N. Houk, J. Sowell, S. Austin</i>	
A Near-IR Survey of the Southern Galactic Plane	316
<i>D. J. MacConnell, R. F. Wing, E. Costa H.</i>	

X. STELLAR ASTRONOMY

Objective-Prism Spectroscopy: Retrospective and Prospective	323
<i>D. J. MacConnell</i>	
A Large Number of Herbig-Haro Candidates Found by the Contrast Enhancement and Unsharp Masking Technique	331
<i>K. Ogura</i>	

Why We Need a Deep Spectral Survey of the Milky Way	337
<i>O. M. Kurtanidze, M. G. Nikolashvili</i>	
Measurement of Rose Indices on a Kiso 4-Degree Objective Prism Plate ...	344
<i>S. G. Lee</i>	
The CIDA Schmidt Objective-Prism Survey: Fields in Taurus-Auriga and Ophiucus	347
<i>C. Briceño, N. Calvet</i>	
A Deep Spectral Survey of Peculiar A-Type Stars	353
<i>O. M. Kurtanidze, M. G. Nikolashvili</i>	
The Star Forming Regions of Orion	357
<i>T. Kogure</i>	
Studies of Extended Southern Galactic Clusters and Loose Star Groupings using the Bosscha Schmidt Telescope	365
<i>S. D. Wiramihardja, B. Hidayat, I. Tejawijaya, Hakim, L. Malasan</i>	
Detailed Studies of Trapezium-type Multiple Stellar Systems	370
<i>G. N. Salukvadze, G. Sh. Javakhishvili, O. M. Kurtanidze</i>	
A Survey of Emission-Line Stars in the Outer Part of the Orion Star-Forming Region	374
<i>S. D. Wiramihardja, M. Nakano, T. Kogure</i>	
Nature of Emission-Line Stars in the Outer Orion Region	376
<i>M. Nakano, P. J. McGregor</i>	
The Search for Stellar Variability in M67: Ensemble Photometry with the Burrell Schmidt Telescope	380
<i>M. D. Joner, E. G. Hintz, T. Stephens, K. A. Nelson, H. Moore J. W. Moody</i>	
The Stellar Structure of the Orion Spiral Arm in Selected Directions.	
I. The Galactic Anticenter	384
<i>T. M. Kvernadze</i>	
Surveys for H α Emission-Line Stars using the Bosscha Schmidt Telescope	388
<i>B. Hidayat, K. Ogura, M. Shinohara</i>	

XI. GALAXIES

The Study of Stellar Populations and Dynamics in the Small Magellanic Cloud using the UKST	397
<i>D. Hatzidimitriou</i>	
Star Counts and Spectral Classification in Star Formation Regions of the Magellanic Clouds	405
<i>M. Kontizas, D. H. Morgan, Y. Bellas-Vellidis, E. Kontizas</i>	
Merger in M31's Bulge and 3-D Accretion – A BVRI CCD Study at Kiso ..	409
<i>Y. Sofue</i>	
The UKST survey of Planetary Nebulae in the Small Magellanic Cloud ..	415
<i>D. H. Morgan</i>	
Photometry of Galaxies on Kiso Schmidt Plates	419
<i>T. Ichikawa</i>	
A Survey for Low Surface Brightness Galaxies using Tech Pan Film	428
<i>J. M. Schwartzenberg, S. Phillipps, Q. A. Parker</i>	
Multi-Wavelength Imaging of Galaxies - Using Kiso Schmidt CCD Photometry	432
<i>W. van Driel</i>	
Out of the Archive: Faint Features of Bright Galaxies	436
<i>D. Malin, B. Hadley</i>	
Survey Catalogues of Kiso Ultraviolet-Excess Galaxies	443
<i>N. Miyachi-Isobe, B. Takase, S. Okamura</i>	
CCD Observations of Gravitational Lenses and Extragalactic Supernovae with the Brorfelde Schmidt Telescope	450
<i>R. Florentin-Nielsen, H. E. Joergensen</i>	
Comments on Extragalactic Objective-Prism Work	456
<i>W. P. Bidelman</i>	

XII. COSMOLOGY

Schmidt Telescopes and Quasar Surveys	459
<i>P. C. Hewett</i>	

Observational Constraints on Cosmological Models	470
<i>T. Padmanabhan</i>	
Cosmology with Stacked Schmidt Plates	478
<i>S. J. McNally, J. A. Peacock, M. R. S. Hawkins</i>	
A Study of the Variability and Proper Motions of Quasars based on Tautenburg Schmidt Plates	486
<i>H. Meusinger, S. Klose, R. Ziener, R. -D. Scholz</i>	
Compact Groups of Galaxies found using the COSMOS Catalogue	490
<i>D. G. Barnes, M. J. Drinkwater</i>	
Quasar Spectroscopy with FLAIR	497
<i>Q. A. Parker, R. G. Clowes, F. G. Watson</i>	
An Optical Study of a Sample of Active Galaxies	503
<i>C. Surace, G. Comte, J. Guibert, O. Moreau</i>	
BVRI CCD Photometry of Galaxies in Abell Clusters: Hubble Types from Undersampled Data	505
<i>J. W. Moody, E. G. Hintz, M. D. Joner</i>	
Galaxy Clustering in the Southern Hemisphere	510
<i>C. A. Collins</i>	
The Red Bright Quasar Survey (RBQS)	522
<i>K. M. Sealey, M. J. Drinkwater, M. J. Irwin, J. K. Webb</i>	
A Deep Multicolour CCD Survey for Quasar Candidates with the OCA Schmidt Telescope	528
<i>O. Moreau, E. Gosset, P. Royer</i>	

XIII. FUTURE PROSPECTS FOR COOPERATION

Possible Collaborative Network with Small Telescopes and a Standard CCD in Japan	537
<i>S. Isobe</i>	
Regional Co-operation	542
<i>K. Ishida</i>	
Regional Co-operation: The Case in Astronomy	546
<i>B. Hidayat</i>	

XIV. CONCLUDING REMARKS

Conference Summary	553
<i>R. D. Cannon</i>	
Closing Speech	556
<i>W. Arismunandar</i>	
Author Index	557