

Table of Contents

Dedication	xi
Preface	xv
SOC/LOC	xvii
List of Participants	xviii
Conference Photo.....	xxi

I. OBSERVATIONAL PROPERTIES OF AGN

An Overview of AGN Ian Robson	3
HST Observations of Active Galactic Nuclei F. Duccio Macchetto	12
Infrared Emission from AGN David B. Sanders	25
Radio Properties of Quasars and AGN Kenneth I. Kellermann	39
Megamaser Activity in Active Galaxies Willem A. Baan	46
The Mid-Infrared Spectral Properties of Starburst Galaxies and Active Galactic Nuclei Olivier Laurent and I.F. Mirabel	54
VLBI Imaging of Luminous Infrared Galaxies: Starbursts & AGN Harding E. Smith et al.	60
HST Observations of the Jet of 3C120 Gerard Lelièvre et al.	66
Are LINERs Starbursts or Mini-quasars? A Comparative Study of their Ultraviolet Spectra Anuradha Koratkar	71
Near-IR Polarimetry of the Obscured Nucleus in the Circinus Galaxy David M. Alexander et al.	75
Multiwavelength Properties of Narrow-line Seyfert 1's: Studying One Extreme of the AGN Primary Eigenvector Paul Hirst et al.	77
Kinematic Mapping of the Narrow Line Region of NGC4151 Mary E. Kaiser et al.	79
On the Nature of Radio Emission of AGNs: Spectra, Milli-arcsecond Structure and Polarization Yu.A. Kovalev and Y.Y. Kovalev	82
Surface Photometry of Barred AGN Arakelian 564 G. Petrov et al.	84
Spectrophotometry of Selected AGN: Seyfert Galaxy AKN 564 L.S. Slavcheva	87

Global Oscillations of Masing Disks in Megamasers Atsuo T. Okazaki	90
II. OBSERVATIONAL PROPERTIES OF AGN AND RELATED OBJECTS	
Quasars	
Patrick S. Osmer	97
The Evolution and Luminosity of Quasars Vahé Petrosian	105
Blazars: Clues to Jet Physics Rita M. Sambruna	113
Markarian and Seyfert Galaxies Edward Ye. Khachikian	123
Feeding the Central Engine in Giant Radio Galaxies I. Felix Mirabel and O. Laurent	133
On the QSO Content of the First Byurakan Survey and the Completeness of the Palomar Green Survey Philippe Véron et al.	140
2.5 – 11.6 μ Spectrophotometry and Imaging of AGNs Jean Clavel et al.	145
The Second Byurakan Survey: Faint Markarian Galaxies, AGN and QSOs Jivan A. Stepanian	151
Investigation of a New Sample of IRAS Galaxies Areg M. Mickaelian	156
Galaxies in Selected Fields of the Second Byurakan Survey Susanna A. Hakopian and S.K. Balayan	162
Identification of Faint Markarian Galaxies with IRAS Sources V.T. Ayvazyan	168
The Study Of Extended Radio Galaxies M.A. Hovhannisyan	171
The Variability of Optically Selected QSO Sample Keliang Huang and H. Zhou	172
Photometric Monitoring of Selected Quasars: The Highly Luminous Quasar HS 1946+7658 B.M. Mihov et al.	175
Monitoring of 1-22 GHz Instantaneous Spectra of 550 Compact Extragalactic Objects in 1997-1998 Y.Y. Kovalev et al.	177
The Continuum Spectra of the Core of Hotspots of Cygnus-A in the Millimetre and Submillimetre L.L. Leeuw and E.I. Robson	179
Hidden Quasars in Ultraluminous Infrared Galaxies H.D. Tran et al.	181

The Variability of QSOs in the Optical Band Dario Trèvese et al.	184
III. AGN THEORY AND MODELS	
Energy Sources and Physical Processes in Active Galaxies Daniel W. Weedman	191
What Physics Drives the Unified Model? Michael A. Dopita	199
Magnetohydrodynamic Origin of Jets from Accretion Disks Richard V.E. Lovelace et al.	208
Active Galaxies and Cosmic Evolution Malcolm S. Longair	219
The Jets of Quasar 3C 345 and 1803+784 Leonid I. Matveenko and A.I. Witzel	229
Are Gamma-Ray Bursts Signals of Supermassive Black Hole Formation? Kevork Abazajian et al.	235
The Emission Line Properties of the 3CR Radio Galaxies at Redshift One: Shocks, Evolution, and the Alignment Effect Philip Best et al.	241
Accretion Disks and Star Formation Suzy Collin and J.P. Zahn	246
Origin of Blazar Activity Marina M. Romanova	256
Velocity Fields in Spiral Galaxies Alexei M. Fridman and O.V. Khoruzhii	269
Nuclear kpc-sized Disks of Spiral Galaxies Anatoly V. Zasov and A.V. Moiseev	279
Broad Emission Lines in AGN: Phenomenology and Models Jack W. Sulentic et al.	285
Quantized Redshifts - New Physics or Old Muddle? William M. Napier	290
The Nature of the UV-optical Continuum in Seyfert 2 Galaxies Thaisa Storchi-Bergmann et al.	295
An Asymmetric Relativistic Model for FRII Radio Sources Tigran G. Arshakian and M.S. Longair	301
Luminosity Correlation of the X-ray Selected Radio-Loud AGNs Qirong Yuan et al.	306
Black Hole Masses and Unification of Seyferts Rumen Bachev et al.	311
Bardeen-Petterson Effect and Broad HI Profiles of Seyferts Rumen Bachev	313
Estimating the Number of Broad-Line Region Clouds Matthias Dietrich	317

Diffusion Mechanism of Radiation of a Charged Particle on the Randomly Spaced Dust Grains in the X-Rays Z.S. Gevorkian et al.	319
General Discussion of Accretion Disks Vahagn G. Gurzadyan	321
Compact Nuclei of Galaxies and Sources of Their Energy L.S. Grigoryan and G.S. Sahakian.....	323
Magnetic Field Strengths of GPS Radio Sources V.G. Panajyan	324
Quark-Hadron Hybrid Stars as Remnants of Supernovae Explosions Gevorg S. Poghosyan	327
A New Numerical Method for Investigation of Evolution of Stars and Active Galactic Nuclei Avetis A. Sadoyan et al.	330
Can the Sonic Radius in ADAF Be Large? Feng Yuan et al.	332
M87 Solves the Problem of AGN S.G. Iskudarian	334
IV. AGN RELATED PHENOMENA	
Activity in Interacting and Binary Galaxies Yervant Terzian	341
Redshifts of New Galaxies Halton Arp	347
AGN Variability Toshihiro Kawaguchi and S. Mineshige	356
Supernova Types, Star Formation and AGN Massimo Turatto et al.	364
The Gravitational Lens System B1030+074. Discovery and Follow-up Emily Xanthopoulos et al.	373
An Analysis of 900 Optical Rotation Curves David F. Roscoe	379
Variable Sources in Active Galactic Nuclei Vladimir A. Hagen-Thorn et al.	384
A UV Flare at the Center of the Elliptical Galaxy NGC 4552 Lucio M. Buson et al.	389
Emission-Line Galaxies in Shahbazian Compact Groups H. Tiersch et al.	394
Morphology and Photometry of the UV-Excess Galaxy Pair NGC 7770/7771 Gamal B. Ali and A.M.I. Osman	399
The Orientation of Extragalactic Radiosources Relative to the Optical Axes of their Host Galaxies R. Andreasyan and H. Sol	404
Rapid Variations in the Broad H β Profile of the Radio Galaxy 3C 390.3 Norair S. Asatrian et al.	406

Rapid Profile Variations in the Broad H α Line of the Seyfert Galaxy Markarian 6 Norair S. Asatrian et al.	409
Multiwave Monitoring of the Nuclei of Seyfert Galaxies and Quasars at Several Telescopes of FSU and European Countries in the Frame of an INTAS Program N.G. Bochkarev et al.	411
Variability of the Broad Emission H β Profile in 3C390.3 A.N. Burenkov et al.	414
Flare in the Hydrogen Line Region of the NGC 3227 Nucleus on January 12-15, 1977 Iraida Pronik et al.	416
Strong Radio Outbursts in Six Active Galactic Nuclei in 1997-1998 Y.Y. Kovalev	418
Long Term X-ray Variability of Galactic Nuclei John Cunniffe and E.J.A. Meurs	420
Searching for Low-Mass Supermassive Black Holes Michele Cappellari et al.	422
Seyfert Activity in Ring Galaxies Due to Galactic Interactions Tapan K. Chatterjee	424
The Role of Neutral Hydrogen in the Evolution of Spiral and Irregular Galaxies Victor A. Ambartsumian and A.L. Gyulbudaghian	426
Are There Quasars at Non-Cosmological Distances? Haik A. Harutyunian	428
First Ranked Galaxy Morphology and Morphological Content in Groups of Galaxies A.P. Mahtessian and V.H. Movsessian	432
Activity Phenomena Observed at Radio Frequencies in Spiral Galaxies V.H. Malumian	434
Simultaneous UBVRI Light Curves of the Seyfert Galaxy NGC 4151 During the Extraordinary Brightening in 1989-1996 N. Merkulova et al.	436
The Anisotropy in the Distribution of the Major Axes of Elongated Shakhbazian CGCG R.A. Vardanyan	438
NGC 3077: H α Features and the Young Population H. Abdel-Hamid and P. Notni	439
A New Sample of Candidates GPS Radio Sources with Intermediate Flux Densities Gabriel A. Ohanian	442
Determination of the OB Stellar Population of IZw18 on the Basis of its H γ and H δ Absorption Lines A. Sinanyan et al.	444

V. CONFERENCE SUMMARY

- Future Directions in AGN Research
Julian H. Krolik 453

VI. REFLECTIONS OF V.A. AMBARTSUMIAN

- Influence of V. A. Ambartsumian on the Development of Astronomy
Alexander Boyarchuk 467
- Ambartsumian's Greatest Insight - The Origin of Galaxies
Halton Arp 473

