

**Variable Stars: New Frontiers****86th Spring Meeting of the AAVSO Sion–St. Luc, Switzerland, May 26–31, 1997****Table of Contents**

Group Photograph	ii
Preface	
J. A. Mattei, M. Grenon	8
Welcoming Address	
S. Berthet	10
Address to AAVSO Participants	
M. Delaloye	12
Acknowledgements	13
Meeting Hosts, Local Organizing Committee, Scientific Organizing Committee, and Meeting Co-Sponsors	14
List of Participants	15
<b>Part 1. Mapping the Sky: Variable Objects from Sky Surveys</b>	
The Impact of Ground-Based Monitoring by Variable Star Observers ( <i>Abstract</i> )	
J. A. Mattei	18
The HIPPARCOS Mission—A New Era for Variable Star Astronomy ( <i>Abstract</i> )	
M. Grenon, L. Eyer	18
Long-Term High-Precision Monitoring of Variable Stars	
G. Burki	19
The Massive Variable Star Returns From the Search for MACHOs ( <i>Abstract</i> )	
K. H. Cook	29
Some EROS Survey Results for Variable Stars in the Magellenic Clouds	
J. P. Beaulieu, R. Ferlet, J. B. Marquette, A. Vidal-Madjar	30
In Quest of Variable Stars With Near-Infrared Surveys ( <i>Abstract</i> )	
N. Epchtein	32
The Impact on Interactive Binary Research: 18.5 Years of Space Observations With the IUE Satellite ( <i>Abstract</i> )	
R. Viotti, D. de Martino, B. T. Gänsicke, R. González-Riestra	32
X-Ray Observations in the AXAF Era and NASA's Public Outreach Plans ( <i>Abstract</i> )	
F. R. Harnden, Jr.	33
Interferometric Surveys and Results on Variable Stars: Now and in the Future	
M. Karovska	34
Supernova Searches	
P. M. Garnavich	42
Discovering Supernovae Using a CCD Camera ( <i>Abstract</i> )	
M. Armstrong	48
Robotic Telescopes on the Internet and the Study of Variable Stars ( <i>Abstract</i> )	
J. Baruch	48
The Three-Reflection, Two-Mirror Telescope (TRT): A Compact Instrument for Wide Field Astronomy ( <i>Abstract</i> )	
M. Amoretti, M. Badiali, C. La Padula, D. Nanni, A. Preite-Martinez, A. Vignato, R. Viotti	49
Stellar Spectra and the “Virtual Observatory” Project	
R. E. Griffin	50

*Table of Contents continued on following pages*

**Part 2. The Status of Stellar Variability****Section 2A. Pulsating Stars**

Overview of Stellar Pulsations and Driving Mechanisms in Relation to the Evolution of Stars ( <i>Abstract</i> ) A. Maeder	58
Pulsating B Stars Discovered by HIPPARCOS ( <i>Abstract</i> ) C. Aerts, C. Waelkens, P. De Cat, K. Kolenberg, E. Kestens, M. Grenon, L. Eyer	58
Stellar Variability in the Lower Part of the Classical Instability Strip ( <i>Abstract</i> ) E. Poretti, F. Musazzi	59
CCD Light Curves for Unstudied RR Lyrae Variables in the Core of M5 ( <i>Abstract</i> ) V. Ripepi	59
New CCD Photometry of RR Lyrae Stars in NGC 3201 ( <i>Abstract</i> ) A. Piersimoni, V. Ripepi	60
A High-Speed Photometric Survey of Normal and Peculiar A-Type Stars ( <i>Abstract</i> ) O. M. Kurtanidze, M. G. Nikolashvili	60
New Insights Into the S Doradus Phenomenon and the Micro-Variations of Eight Luminous Blue Variables ( <i>Abstract</i> ) M. de Groot, A. M. van Genderen, C. Sterken	60
Comparison of Visual and Photoelectric Photometry for Bright Cepheids ( <i>Abstract</i> ) G. Foster, W. M. Lowder, E. J. Oravec	61
Linear Polarimetric Variations of RV Tauri Stars ( <i>Abstract</i> ) K. Yoshioka, K. Saijo, H. Sato	61
What Makes a Star Act Like a Mira?—and Other Conclusions From Dynamical Atmosphere Models L. A. Willson	62
Ground-Based and ISO Observations of Semiregular and Mira Variables J. Hron	72
Pulsation Modes and Fundamental Parameters of Mira Stars ( <i>Abstract</i> ) D. Barthès	81
Four Neglected Southern Mira Stars ( <i>Abstract</i> ) T. A. Cragg	81
R Centauri, an Interesting Southern Variable J. R. Garcia, S. A. Dominguez	82
Statistical Period Analysis of Mira Type Variables ( <i>Abstract</i> ) H. Sato, K. Saijo, K. Yoshioka, J. A. Mattei	84
Correlations Between Characteristics of Mean Light Curves of Long Period Variables I. L. Andronov, L. S. Kudashkina	85
Period Analysis of the Light Curves of Three Semiregular Variables: AA Cygni, U Delphini, and RX Bootis J. Speil	88
Microvariability of Red Giant Stars N. Mowlavi, A. Jorissen	91
The First Radial Velocity Curve for CK Camelopardalis ( <i>Abstract</i> ) N. A. Gorynya, N. N. Samus	97
<b>Section 2B. Cataclysmic Variables</b>	
Cataclysmic Variables: From Radio to Gamma-Rays B. Warner	98
New Insights on Cataclysmic Variables From HST Spectroscopy E. M. Sion	107
The EUVE Dwarf Novae Project ( <i>Abstract</i> ) C. W. Mauche, J. A. Mattei	123

*Table of Contents continued on following pages*

Unsolved Problems in the Evolution of Interacting Binary Stars R. F. Webbink	124
Backyard Research on Cataclysmic Variables by a Consortium of Professional and Amateur Astronomers: DV UMa—A Case Study T. Vanmunster	132
The RXTE, ROSAT, IUE, EUVE, Optical Campaign Covering the 45-day Supercycle of V1159 Orionis ( <i>Abstract</i> ) P. Szkody, K. Honeycutt, J. Robertson, A. Silber, D. W. Hoard, L. Pastwick, I. Hubeny, J. Cannizzo, W. Liller, R. Zissell, G. Walker, C. la Dous, J. Drew	135
High Resolution Time-resolved UCLES Spectroscopy of AE Aqr: I. The Secondary Star Revealed ( <i>Abstract</i> ) J. Echevarria, F. Diego, D. Mills, R. C. Smith	136
The Characteristics of the Cool Component of the Cataclysmic Variable AE Aquarii From HIPPARCOS Observations M. Friedjung	137
Parameters of the Dwarf Nova SS Cygni Obtained From <i>UBV</i> Photoelectric Light Curve Analysis I. Voloshina, T. Khruzina	141
Statistical Analyses of the AAVSO Light Curves of Z Camelopardalis and AH Herculis ( <i>Abstract</i> ) T. Ak, M. T. Özkan	144
Recent CCD-Image Observations of RW Ursae Minoris H. H. Esenoğlu, M. T. Özkan	145
The UV Luminosity of Z Cam Type Dwarf Novae ( <i>Abstract</i> ) M. T. Özkan, H. Gülseçen, H. H. Esenoğlu, T. Ak, A. T. Saygac	148
Analysis of AAVSO Records of the Star Z Camelopardalis ( <i>Abstract</i> ) B. D. Oppenheimer, J. A. Mattei, S. Kenyon	148
Polars, a Growing Family B. T. Gänsicke, K. Beuerman, J. A. Mattei	149
Photometric Observations of Four Old Novae for Timescales From Decades to Minutes ( <i>Abstract</i> ) S. Yu. Shugarov, E. P. Pavlenko	152
The Variability of Stars—Supernovae Precursors O. A. Tsiopa	153
A Catalogue of X-Ray Binaries ( <i>Abstract</i> ) O. Guseinov, A. T. Saygac, A. Allakhverdiyev, H. Çalıskan	158
Information About New Books on Highly Evolved Close Binary Stars ( <i>Abstract</i> ) A. M. Cherepashchuk, N. A. Katysheva, T. S. Khruzina, S. Yu. Shugarov	158
<b>Section 2C. Symbiotic Stars</b>	
Variability and Orbital Parameters for Symbiotic Stars H. M. Schmid	159
The Light Curves of Classical Symbiotic Stars A. Skopal	163
The Photometry of Four Symbiotic Stars: UV Aur, TX CVn, BF Cyg, and V1016 Cyg for the Last 100 Years ( <i>Abstract</i> ) S. Yu. Shugarov, O. A. Ul'janikhina	168
Far-Ultraviolet Spectroscopy of Symbiotic Stars H. M. Schmid, I. Appenzeller, J. Krautter, H. Mandel, J. Barnstedt, M., Gözl, M. Grewing, W. Gringel, C. Haas, W. Hopfensitz, N. Kappelmann, G. Krämer	169
HIPPARCOS Astrometric Observations of Symbiotic Stars ( <i>Abstract</i> ) A. Emanuele, R. Viotti, D. Cardini, M. Badiali	172
The Ultraviolet History of the Outbursting Symbiotic Stars Z Andromedae and AG Draconis ( <i>Abstract</i> ) R. González-Riestra, R. Viotti, J. Greiner, T. Iijima, M. Maesano, J. A. Mattei, F. Montagni	172
Periodic and Aperiodic Variability of Symbiotic Stars ( <i>Abstract</i> ) L. L. Chinarova	173

*Table of Contents continued on following pages*

**Section 2D. Other Binary Systems**

Light Curve Solution for Early-Type Binary Systems With Radiative Interaction H. Drechsel	174
Classification of Fine Effects in the Light Curves of Eclipsing Binary Stars ( <i>Abstract</i> ) I. Kudzej	177
On the Feasibility of Using Eclipsing Binary Timings as Probes for Extrasolar Planets R. D. Bengt, Jr.	178
Determining the Period of the Eclipsing Binary: DHK41 ( <i>Abstract</i> ) D. H. Kaiser, G. Frey	180
Database of Times of Minima for Eclipsing Binaries as Part of a General Multiple Stars Database ( <i>Abstract</i> ) M. Kurpińska-Winiarska	180
Observational Evidence for a Third Body in AS Camelopardalis ( <i>Abstract</i> ) V. S. Kozyreva, A. I. Zakharov	181
An Unusual Brightening of the Eclipsing Binary RZ Cassiopeiae W. M. Lowder	182
How to Improve Reliability of Visual Data of Eclipsing Binaries ( <i>Abstract</i> ) J. Šilhán	184
Light Curves of Some Chromospherically Active Binary Stars ( <i>Abstract</i> ) G. Taş, E. Işık, S. Evren, Z. Tunca	184
Eccentric Eclipsing Binaries: Tests of General Relativity M. Wolf, L. Šarounová	185
Now Is the Time to Revisit V725 Sagittarii A. Wehlau, T. Atcheson, S. Demers	187

**Section 2E. Other Variable Sources and Data Analysis**

Photoelectric Photometry of Two Chromospherically Active Stars: HD 29697 (=V834 Tauri) and HD 82443 E. Işık, G. Taş, S. Evren, Z. Tunca	190
Flare Star Research—A New Field of Astronomy for Photometrists Observing With CCD Cameras G. Szécsényi-Nagy	194
Monitoring Blazars at Abastumani Observatory ( <i>Abstract</i> ) O. M. Kurtanidze, M. G. Nikolashvili	197
Thoughts on a Database of Light Curve Extrema of Periodic Variable Stars ( <i>Abstract</i> ) M. Zejda	197
“Asymptotic Parabola” Fit for Light Curves I. L. Andronov, V. I. Marsakova	198
Non-Parametric Methods for Periodogram Analysis: Test Function Interrelations and Properties I. L. Andronov, L. L. Chinarova	201
Time Series Analysis of Amateur Observations: Various Methods and Some Results I. L. Andronov	204

**Part 3. Reports From Institutions and Groups**

The <i>General Catalogue of Variable Stars</i> in a Changing World ( <i>Abstract</i> ) N. N. Samus	206
The AAVSO and Its Activities ( <i>Abstract</i> ) J. A. Mattei	206
Observing Down Under ( <i>Abstract</i> ) F. M. Bateson, A. F. Jones	207
Present Activities of the Hungarian Astronomical Association-Variable Star Section (HAA-VSS) ( <i>Abstract</i> ) L. L. Kiss	207

*Table of Contents continued on following pages*

Variable Star Observing in Latin America: Past and Future ( <i>Abstract</i> ) J. R. Garcia	208
AFOEV Report ( <i>Abstract</i> ) J. Gunther	208
Variables Down South ( <i>Abstract</i> ) M. D. Overbeek	208
Report of the Bundesdeutsche Arbeitsgemeinschaft für Veränderliche Sterne (BAV) W. Quester	209
Ten Years of VSOLJ ( <i>Abstract</i> ) K. Saijo, S. Sakuma	210
The Brno Regional Network of Observers (B.R.N.O.)—Variable Star Section of the Czech Astronomical Society—and Its Activities M. Zejda	211
The François-Xavier Bagnoud Observatory G. Meynet, M. Grenon, J. -C. Pont, R. Arnold, J. Breguet, R. Durussel, J. -M. Gremaud, M. Henzen, E. Maeder, Y. Revaz, F. Taugwalder, F. Zuber	214
Project <i>Jelly-Fish</i> : Observations of Semiregular Variable Stars ( <i>Abstract</i> ) P. Hajek	222
Astronomical Activities in Lithuania A. Kučinskis	223
Photoelectric Photometry At Szeged Observatory ( <i>Abstract</i> ) L. L. Kiss, G. Kaszás	226
Photoelectric Photometry With a Small Automatic Telescope ( <i>Abstract</i> ) E. N. Walker, M. S. Gough, R. D. Pickard	226
PICA Project—a Short Description ( <i>Abstract</i> ) J. Mánek	226
Observations of Some Unique Variable Stars At the Crimean Astrophysical Observatory E. P. Pavlenko	227
V403 Cygni, BF Canis Minoris, and EG Cancri: Recent Observations of Three Variable Stars Discovered by Huruhata in Japan, Part 1 ( <i>Abstract</i> ) S. Sakuma	230
Totally Eclipsed Sun Culminating Over Hungary—Meteorological Expectations for the 1999 August Event ( <i>Abstract</i> ) G. Szécsényi-Nagy	230
<b>Part 4. Workshop on Data Collection and Distribution</b>	
Issues on Finder Charts and Comparison Star Sequences ( <i>Abstract</i> ) W. M. Lowder, J. A. Mattei	231
Is the <i>Guide Star Catalog</i> Usable for Making Variable Star Estimates? J. Gunther	232
CCDV, What Is It? R. E. Royer	234
Issues on Data Distribution ( <i>Abstract</i> ) J. A. Mattei	236
Issues and Strategies for the Future A. V. Holm	237
<b>Part 5. Workshop on Astronomy Education</b>	
Preamble M. Grenon, J. A. Mattei	245

*Table of Contents continued on following page*

Teaching Astronomy: Why and How? J. R. Percy	248
The European Association for Astronomy Education ( <i>Abstract</i> ) M. Reichen	255
New Practical Astronomy Activities in French Education ( <i>Abstract</i> ) J. Ripert, J. Sert	255
The “Astronomy On-Line” Project ( <i>Abstract</i> ) R. M. West	256
Contributions of Amateur Astronomy to Education M. Motta	257
AAVSO Education Project— <i>Hands-On Astrophysics</i> ( <i>Abstract</i> ) J. A. Mattei, J. R. Percy	260
The Stars for All—Géospace: an Interface Between Astronomy and Its Popularization ( <i>Abstract</i> ) B. Pellequer	260
Classroom Astronomy Via Remotely-Controlled Telescopes ( <i>Abstract</i> ) B. S. Duff	261
The High-Energy Astrophysics Learning Center—and More! L. A. Whitlock	262
Hands-On Activities for the Classroom ( <i>Abstract</i> ) D. L. Young	266
Introducing Variable Stars Without Using Sophisticated Technology M. Kohl	267
Astronomy Education in Greece M. Metaxa	272
A Light Pollution Laboratory Exercise for Introductory Astronomy Students R. D. Benge, Jr., J. Vines	274
The Astronomy Laboratory Program at Collin County Community College, Plano, Texas ( <i>Abstract</i> ) M. L. Broyles	276
“StarChild” Applications in a Classroom Setting E. Truelove, J. Dejoie	277
An Introduction to Astronomy and Astrophysics for Urban High School Students W. Wilkerson	279
The Use of 35mm Slides of Variable Stars in Astronomy Education J. R. Percy, L. Syczak, J. A. Mattei, J. Chumack, M. Saladyga	281
Variable Star Research Projects for Outstanding Senior High School Students J. R. Percy	284
Author Index	288