

## Contents of Volume 13 (2004)

### Number 1

*V. Laugalys, A. Kazlauskas, R. P. Boyle, F. J. Vrba, A. G. D. Philip, V. Straižys.*

CCD photometry of the M67 cluster in the Vilnius system. II. New photometry of high accuracy. ....	1
<i>S. J. Adelman, H. Caliskan.</i>	
Revised elemental abundances of the MCP star HD 8441. ....	35
<i>K. Pyragas, K. Svirskas, L. Pyragas.</i>	
On the motion of test bodies affected by small external high-frequency forces in the Kaluza-Klein theory of gravitation. ....	41
<i>E. K. Grasberg, D. K. Nadyozhin.</i>	
On the problem of highly non-adiabatic and isothermal shock waves. ....	51
<i>S. Matulaityté.</i>	
The old Vilnius University Observatory (in German) ....	61
SELECTED PAPERS OF THE MINISYMPOSIUM "ACTIVE STARS AND INTERACTING BINARIES", 2003 AUGUST 29–30, BUDAPEST	
<i>L. Hric.</i>	
Preface. ....	85
<i>L. Hric, R. Gális, A. Dobrotka.</i>	
An active quarter of the century in research of cataclysmic variables. ....	87
<i>P. Selvelli.</i>	
The collective UV behavior of old novae. ....	93
<i>V. Šimon.</i>	
Long-term activity of dwarf novae and variations of the recurrence time of their outbursts. ....	101
<i>L. Leedjäv.</i>	
High-velocity jets from symbiotic stars and other astrophysical systems. ....	109
<i>M. Friedjung.</i>	
Super-Eddington winds of novae and other objects. ....	116
<i>V.-V. Pustynski, I. Pustynnik.</i>	
Modeling the irradiated atmospheres of unevolved companions in pre-cataclysmic binaries. ....	122
<i>L. Schmidtbreick, C. Tappert, R. Mennickent, A. Bianchini.</i>	
The carbon-rich nova V 840 Oph. ....	128
<i>R. Gális, L. Hric, K. Petrík.</i>	
Long-term photometric and spectroscopic behavior of a symbiotic system AG Dra. ....	132

<i>P. G. Niarchos, K. D. Gazeas.</i> CCD photometry and modeling of the overcontact system NSV 223.....	138
<i>P. G. Niarchos, K. D. Gazeas.</i> A CCD photometric study of the near-contact system OT Cep.....	142
<i>P. Molik, M. Wolf.</i> Eclipsing binaries in the blue envelope of the period-color diagram.....	145
<i>D. Kotnik-Karuza, R. Jurdana-Šepić, Z. Majlinger</i> Molecular spectroscopy of CH Cyg in the 1998–2000 active phase.....	148
<i>M. Vaňko, Š. Parimucha, T. Pribulla, D. Chochol.</i> New parameters of the contact binary systems YY CrB and EQ Tau.....	151
<i>O. Sholukhova, S. Fabrika, M. Roth, T. Becker.</i> B 416 – a B[e]-supergiant in interacting binary?.....	156
<i>A. Dobrotka, L. Hric, K. Petřík.</i> Fluctuation of the mass transfer rate in T CrB.....	159
<i>N. Werner, J. J. M. in 't Zand, L. Natalucci et al.</i> The transition from outburst to low level activity in the low-mass X-ray binary SAX J1747.0-2853.....	163
<i>G. V. Lipunova, V. F. Suleimanov.</i> Radial dependences of physical parameters in $\alpha$ -disk as a consequence of two vertical structure solutions.....	167

## Number 2

PROCEEDINGS OF THE MINISYMPOSIUM “PHYSICS OF  
GAMMA-RAY BURSTS”, 2003 AUGUST 29–30, BUDAPEST

<i>A. Mészáros.</i> Preface.....	175
<i>P. Mészáros, S. Kobayashi, S. Razzaque, B. Zhang.</i> Gamma-ray bursts: an overview.....	177
<i>W. S. Pačiesas.</i> The BATSE gamma-ray burst legacy.....	187
<i>L. Amati.</i> The BeppoSAX revolution in gamma-ray burst science.....	193
<i>M. Matsuoka, N. Kawai, A. Yoshida et al.</i> The gamma-ray burst alert system and the results of HETE-2.....	201
<i>L. G. Balázs, Z. Bagoly, I. Horváth et al.</i> Physical difference between the short and long gamma-ray bursts.....	207
<i>J. Hakkila, T. W. Giblin, R. J. Roiger et al.</i> Subgroups of gamma-ray bursts.....	211
<i>I. Horváth, A. Mészáros, L. G. Balázs, Z. Bagoly.</i> Where is the third subgroup of gamma-ray bursts?.....	217

<i>J. P. Norris.</i>	
Gamma-ray bursts and cosmology .....	221
<i>Z. Bagoly, I. Csabai, A. Mészáros, P. Mészáros et al.</i>	
Redshifts of the long gamma-ray bursts .....	227
<i>R. Vavrek, L. G. Balázs, A. Mészáros et al.</i>	
Sky distribution of gamma-ray bursts: an observational test of the Friedmannian Universe models .....	231
<i>S. Klose.</i>	
Gamma-ray burst afterglows in the Very Large Telescope era .....	235
<i>M. Boër.</i>	
Monitoring counterparts of gamma-ray bursts and detecting orphan afterglows with agile robotic telescopes .....	241
<i>M. I. Andersen, J. Hjorth, J. Sollerman et al.</i>	
Towards the nature of progenitors of long gamma-ray bursts .....	247
<i>V. Šimon, R. Hudec, G. Pizzichini, N. Masetti.</i>	
Analysis of the optical afterglows of gamma-ray bursts by color indices .....	253
<i>E. H. Semkov, A. P. Borisova.</i>	
Gamma-ray burst optical observations at Rozhen Observatory .....	257
<i>Y. Urata, S. Nishiura, T. Miyata, H. Mito et al.</i>	
Multiband optical follow-up observations of GRB 020813 at Kiso and Bisei observatories .....	261
<i>H. C. Spruit.</i>	
Gamma-ray burst central engines .....	266
<i>M. Livio.</i>	
Astrophysical jets .....	273
<i>T. Bulik, K. Belczynski.</i>	
Compact object mergers as progenitors of short gamma-ray bursts .....	280
<i>M. E. Dieckmann, B. Eliasson, A. Stathopoulos, A. Ynnerman.</i>	
Kinetic simulation of electron injection by electrostatic waves .....	284
<i>V. Berezhinsky, B. Hnatyk, A. Vilenkin.</i>	
Superconducting cosmic strings as gamma-ray burst engines .....	289
<i>S. Ryś.</i>	
Similarities between radio-source structure and gamma-ray bursts .....	293
<i>S. Simić.</i>	
A model of internal gamma-ray burst shocks .....	297
<i>E. E. Fenimore, K. McLean, D. Palmer et al.</i>	
Swift's ability to detect gamma-ray bursts .....	301
<i>G. Cutispoto, F. M. Zerbi, G. Chincarini.</i>	
The REM/ROSS project .....	307
<i>G. G. Lichti, M. Briggs, R. Diehl et al.</i>	
Measurements of gamma-ray bursts with GLAST .....	311
<i>P. Mészáros, S. Kobayashi, S. Razzaque, B. Zhang.</i>	
High energy neutrinos and gravitational waves from gamma-ray bursts .....	317

<i>L. Vlahos, G. Voyatzis, D. Papadopoulos.</i> Are gamma-ray bursts driven by gravitational waves? .....	324
<i>C.-I. Björnsson, F. Ryde, S. Larsson, L. Borgonovo et al.</i> Roland Svensson (1950–2003), in Memoriam .....	329

### Number 3

#### PROCEEDINGS OF THE MINISYMPOSIUM “EARLY STAGES OF STAR FORMATION”, 2003 AUGUST 26–27, BUDAPEST

<i>M. Kun.</i> Preface .....	340
<i>Z. Haiman.</i> Formation of the first massive stars and the reionization history of the Universe .....	341
<i>F. Palla.</i> The slow mode of star formation: a critical appraisal .....	349
<i>J. Bally.</i> Dynamical and radiation processes in star and planet formation .....	357
<i>R. S. Klessen, J. Ballesteros-Paredes.</i> Gravoturbulent fragmentation .....	365
<i>A.-K. Jappsen, R. S. Klessen.</i> Protostellar angular momentum evolution during gravoturbulent fragmentation .....	373
<i>Y. Li, R. S. Klessen, M.-M. Mac Low.</i> Formation of stellar clusters in turbulent molecular clouds: effects of the equation of state .....	377
<i>S. Schmeja, R. S. Klessen.</i> Time-varying protostellar mass accretion rates .....	381
<i>M. A. de Avillez, D. Breitschwerdt.</i> Does the interstellar magnetic field follow the Chandrasekhar-Fermi law? ....	386
<i>Ph. André, A. Belloche, P. Hennebelle, D. Ward-Thompson.</i> Detailed studies of cloud cores: probing the initial conditions for protostellar collapse .....	392
<i>A. Bacmann.</i> Large deuterium fractionation in pre-stellar cores .....	402
<i>O. Krause, R. Vavrek, S. Birkmann, U. Klaas et al.</i> Early stages of massive star formation revealed by ISO .....	407
<i>B. Posselt, R. Klein, K. Schreyer, Th. Henning.</i> Dense cloud cores in massive star-forming regions .....	411
<i>S. J. Leeks, L. Spinoglio, L. Montinaro, M. Benedettini, S. Viti.</i> Physical conditions of high-luminosity star-forming regions observed by ISO-LWS .....	415

<i>K. Tachihara, H. Yamamoto, T. Onishi, A. Mizuno, Y. Fukui.</i> H <sup>13</sup> CO <sup>+</sup> dense molecular condensations in nearby star-forming regions .....	419
<i>H. Yamamoto, T. Onishi, K. Tachihara, A. Mizuno, Y. Fukui.</i> Dense cores and protostellar collapse in nearby star-forming regions .....	424
<i>Z. T. Kiss, L. V. Tóth, M. Miller, Y. Yonekura.</i> CO measurements of optically dark clouds in Cepheus .....	430
<i>M. Kun, D. Apai, I. Pascucci, S. Nikolić, M. Eredics.</i> Initial conditions of low, intermediate and high mass star formation .....	434
<i>L. V. Tóth, O. Krause, C.-H. Kim, Y.-S. Park, S. Hotzel, C. del Burgo, D. Lemke.</i> A faint ISO globule ISOSS J 20380+6352 .....	439
<i>L. V. Tóth, R. Vavrek, D. Lemke.</i> Star formation in the Taurus molecular ring .....	443
<i>M. Rengel, D. Froebrich, S. Wolf, J. Eislöffel.</i> Modeling the continuum emission from Class 0 protostellar sources .....	449
<i>D. Semenov, Y. Pavluchenkov, Th. Henning, E. Herbst, E. van Dishoeck.</i> On the feasibility of chemical modeling of a protoplanetary disk .....	454
<i>D. Wiebe, D. Semenov, Th. Henning.</i> The ionization structure of protoplanetary disks from the chemical perspective.	459
<i>P. Abraham, M. Kun.</i> ISOPHOT-S spectral atlas of young stellar objects .....	464
<i>V. Könyves, A. Moór, Cs. Kiss, P. Abraham.</i> Young stellar objects in L 1188 .....	470
<i>L. P. Błazzkiewicz, A. J. Kus.</i> Methanol survey towards star-forming sites: morphology of 12.24 and 6.7 GHz spectra .....	474
<i>V. A. Demichev, L. I. Matveyenko.</i> H <sub>2</sub> O supermaser in Orion KL – the first period of activity .....	478
<i>D. Froebrich, A. Scholz.</i> The enigmatic outflow alignments in small globules: a case study of IC 1396 W.	483
<i>S. Nikolić, M. Kun.</i> An extended CO outflow emerging from 2MASS 22140872+7015052 .....	487
<i>J. Eislöffel, A. Scholz, B. López Martí.</i> The formation and early evolution of very low-mass objects .....	491
<i>P. Persi, M. Gómez.</i> Young brown dwarfs in the Chamaeleon cloud complex .....	500
<i>V. Joergens, R. Neuhäuser, M. Fernández.</i> Formation and early evolution of brown dwarfs in Cha I .....	505
<i>O. Chesneau, Ch. Leinert, F. Przygodda et al.</i> First MIDI science observations on VLT .....	510

<i>Á. Kóspál, P. Ábrahám, Sz. Csizmadia.</i> Long-term evolution of FU Ori type stars at infrared wavelengths.....	518
<i>E. T. Whelan, T. P. Ray, C. J. Davis.</i> Near-infrared/optical studies of outflows and jets from young stellar objects.....	522
<i>F. McGroarty, T. P. Ray, J. Bally.</i> Parsec-scale outflows from intermediate-mass sources and classical T Tauri stars.....	528
<i>J. Woitke, J. Eisloffel, F. Bacciotti, D. Coffey, T. P. Ray.</i> HST/STIS observations of rotation of T Tauri jets.....	533
<i>E. H. Semkov.</i> Photometric and spectroscopic study of the fuor candidates V1184 Tau and V350 Cep.....	538
<i>À. Gras-Velázquez, T. P. Ray.</i> Do weak-line T Tauri stars have circumstellar material?.....	543
<i>S. Yu. Mel'nikov.</i> Search for accretion events of circumstellar matter in UX Ori stars.....	548

#### Number 4

<i>J. Zdanavičius, K. Zdanavičius, V. Straizys, A. Kazlauskas, K. Černis, C. W. Chen, W. P. Chen, R. P. Boyle, G. Tautvaišienė.</i> Seven-color photometry of the open cluster NGC 2395 area.....	555
<i>T. Kipper.</i> Carbon stars in the UVES Paranal Observatory project.....	573
<i>J. Schultz, P. Hakala, J. Huovelin.</i> Polarimetric survey of low-mass X-ray binaries.....	581
<i>P. M. Warhurst.</i> Rotation of the CP2 star HD 65712.....	597
<i>A. A. Berezhnoy, N. Hasebe, A. Fujimura, O. B. Khavroshkin, H. Mizutani, H. Osaki, A. E. Volvach, N. Yamashita.</i> Radio observations of the Moon during Leonid meteor showers in 1999 and 2001.....	601

PROCEEDINGS OF THE MINISYMPOSIUM “SYNERGIES  
IN WIDE-FIELD OBSERVATIONS”, 2003 AUGUST 29–30,  
BUDAPEST

<i>D. Trevese, F. Vagnetti.</i> Preface.....	611
<i>R. A. Street.</i> Transit hunting programs: progress and discoveries.....	613
<i>A. Boattini.</i> Searching for Near Earth Objects.....	621
<i>R. U. Claudi, C. Barbieri, P. Bruno, S. Magrin, S. Mottola.</i> The NEO and exoplanet search with the refurbished Schmidt telescope at Asiago.....	628
<i>M. Kontizas, F. Maragoudaki, E. Kontizas, E. Livanou, D. Sinachopoulos, P. Gavras.</i> Wide-field photometry for tracing the evolution of nearby galaxies and their star formation: Magellanic Clouds.....	632
<i>D. Coia, B. McBreen, L. Metcalfe, A. Biviano, B. Altieri, Y. Mellier, S. Ott, J. P. Kneib, B. O’Halloran.</i> Luminous infrared galaxies in the cluster Cl 0024+1654.....	638
<i>M. R. S. Hawkins.</i> AGN variability: models and observations.....	642
<i>F. Vagnetti, D. Trevese.</i> Spectral variability of quasars from the MACHO project database.....	649
<i>A. M. Mickaelian.</i> Search for active galaxies using the First Byurakan Survey.....	655
<i>V. Zitelli, D. Trevese, F. Vagnetti.</i> Spectroscopical confirmation of variability-selected active galactic nuclei.....	661
<i>C. Barbieri, C. Blanco, B. Bucciarelli, R. Coluzzi, A. Di Paola, L. Lanteri, G. Li Causi, E. Marilli, P. Massimino, S. Mottola, R. Nesci, A. Omizzolo, F. Pedichini, F. Rampazzi, C. Rossi, S. Sclavi, R. Stagni, M. Tsvetkov, R. Viotti.</i> Digitizing of plate archives of the Italian observatories and Specola Vaticana.....	665
<i>R. Nesci, C. Rossi, S. Sclavi, S. Gaudenzi, A. M. Mickaelian, L. A. Sargsyan, L. K. Erastova.</i> Digitizing the Markarian Survey: first tests of its scientific importance.....	671
<i>T. P. Sergeeva, A. V. Sergeev, L. K. Pakulyak, V. V. Golovnya.</i> Wide-field plate archive of the Main Astronomical Observatory of Ukraine: electronic plate collection.....	677
<i>E. Cappellaro, M. Capaccioli, D. Mancini, G. Sedmak, A. Baruffolo, E. Cascone, L. Greggio.</i> VST and OmegaCAM for variability.....	683
<i>N. Brosch.</i> Wide-field astronomy at the Wise Observatory.....	690

<i>A. de Ugarte Postigo, A. J. Castro-Tirado, T. J. Mateo Sanguino, M. T. Fernández Palomo, J. Á. Berná Galiano, J. M. Castro Cerón, P. Páta, J. Soldán, M. Bernas, R. Hudec, M. Jelínek, S. Vitek, P. Kubánek, S. McBreen, J. Gorosabel, C. E. García Dabó, T. Soria, B. A. de la Morena Carretero, J. Torres Riera.</i>	Robotic observatory tools for wide-field observations.....	696
<i>G. Maciejewski, A. Niedzielski.</i>	A semi-automatic variability search .....	700
<i>L. Schmidtbreick, L. Germany, R. Mendez, E. Rassia, F. Selman.</i>	From Wide-Field Imager to VLT Survey Telescope .....	704
<i>R. A. Street.</i>	SuperWASP: wide-angle search for planets .....	707