



Gabriel Szász

Curriculum Vitae

Education

- 2000–2005 **Master's Degree in Physics**, *Faculty of Mathematics, Physics and Informatics, Comenius University, Bratislava, Slovakia.*
- 2007 **Summer School**, *6th NEON Observing School, Asiago, Italy.*
- 2008 **Summer School**, *IMPRS Summer School, Heidelberg, Germany.*
Art & Craft of Astronomical Instrumentation — from Optical to Infrared Wavelengths

Master's thesis

- title *Photometric Study of Large Outbursts of the Supersoft X-Ray Source V Sagittae*
- supervisor RNDr. Ladislav Hric, CSc.
- description We carried out photometric measurements of the well-known supersoft X-ray source V Sagittae during its large outbursts. We obtained the first long-term time-resolved photometric dataset (approx. 800 hours of actual observing time) showing never-before-seen details of this unexplained feature.

Experience

Research

- 2008–2011 **Research Assistant**, *Department of Theoretical Physics and Astrophysics, Faculty of Science, Masaryk University, Brno, Czech Republic.*
- Research and academic activities involving model atmospheres, data mining, data reduction & analysis, scientific paper reviewing, conference organizing, and teaching assistance.
- o Developed and maintained *mCPod database* (mcpod.physics.muni.cz)
 - o Developed and maintained *VarSCAN database* (varscan.physics.muni.cz)
 - o Designed, developed and maintained following Web sites:
 - official Web sites of the *Department of Theoretical Physics and Astrophysics* divisions: (astro.physics.muni.cz / theor.physics.muni.cz / edu.physics.muni.cz)
 - *Ernst Mach's Days in Brno 2008* conference Web site (bdem2008.physics.muni.cz)
 - *BinKey* conference Web site (binkey.physics.muni.cz).
 - o T.A. Classes for the *Introduction to Physics of Stars and Stellar Systems* course.

Professional

- 2011–present **Quality Assurance Engineer**, *Red Hat Czech, s.r.o., Brno, Czech Republic.*
- Customer-oriented software testing and continuous integration.
Development of the test automation framework.

- 2015 **Contractor**, *Department of Theoretical Physics and Astrophysics, Faculty of Science, Masaryk University*, Brno, Czech Republic.
Setup, optimization & maintenance of the department internal Web hosting server. Migration of all applications to the new hardware (phoenix.physics.muni.cz).
- 2006 **Conference Technician**, *Congress Business Travel, Ltd.*, Prague, Czech Republic.
Support Staff during the 26th General Assembly of the International Astronomical Union.

Languages

- Slovak **Native/bilingual proficiency**
 Czech **Native/bilingual proficiency**
 English **Full professional proficiency**
 Spanish **Limited working proficiency**
 German **Elementary proficiency**
 Portugese **Elementary proficiency**

Computer skills

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| photometry | IRAF/PyRAF, MIDAS, SExtractor, development | C, C++, Java, Python, Ruby, Shell Scripting, FORTRAN |
| | Munipack/C-Munipack | |
| data analysis | SciPy/NumPy, Matlab/Octave, testing | pytest, TestNG, Selenium, Jenkins CI, Puppet, Ansible, Beaker |
| | IDL, matplotlib, gnuplot, MPICH | |
| sys. admin | UNIX, Linux, Fedora, CentOS, web design | PHP, HTML, CSS, MySQL, PostgreSQL, WordPress |
| | RHEL, RHEV-M, OpenStack | |

Interests

Astrophysics

- observing instrumentation and analysis, direct imaging, adaptive optics, interferometry, spectroscopy, spectrophotometry, astropolarimetry
- data data mining, advanced observing & data reduction techniques
- star clusters Galactic open clusters, stellar parameters and evolution
- accretion Herbig Ae/Be stars, CVs, AGNs, accretion disc geometry
- exoplanets protoplanetary discs, planet formation, astrobiology

Computer Science

- computing parallel processing, MPI
- programming Linux, C, Python
- virtualization libvirt, KVM/QEMU, OpenStack

Miscellaneous

- speaking Toastmasters International, TED
- biology evolutionary biology, molecular biology, biophysical chemistry, molecular medicine
- health molecular nutrition, functional fitness
- sports kettlebell lifting, swimming, skiing, hiking

Certifications

- Red Hat Certified Engineer (Red Hat License 120-011-796)
- Red Hat Certified System Administrator (Red Hat License 120-011-796)

Publications

- [1] M. Chrastina, G. Szász, K. Petřík, and L. Hric. Photometry of variable stars at Hlohovec I.: Aparature. *Perseus*, 1, 2005.
- [2] M. Chrastina, G. Szász, K. Petřík, and L. Hric. Photometry of variable stars at Hlohovec IV.: Supersoft X-ray source QR And. *Perseus*, 1, 2005.
- [3] M. Chrastina, G. Szász, K. Petřík, and L. Hric. Supersoft X-ray sources. *Perseus*, 1, 2005.
- [4] M. Chrastina, G. Szász, K. Petřík, and L. Hric. Updated ephemeris, (O-C) diagrams and light fluctuations of the supersoft X-ray source QR And. *Open European Journal on Variable Stars, Proceedings of the 37th Conference on Variable Star Research*, 23:78, 2006.
- [5] J. Janík, Z. Mikulášek, G. Szász, M. Zejda, P. Zvěřina, J. Zverko, and J. Žižňovský. Chemically peculiar stars, magnetic stars, photometry. *Magnetic Stars. Proceedings of the International Conference, held in the Special Astrophysical Observatory of the Russian AS, Aug 27–Sep 1, 2010*, pages 476–478, 2011.
- [6] Z. Mikulášek, J. Janík, J. Žižňovský, M. Zejda, M. Netolický, M. Vaňko, P. Zvěřina, B. Kučerová, M. Ceniga, and G. Szász. On-line database of photometric observations of magnetically peculiar stars. *Proceedings of the International Conference, held in the Special Astrophysical Observatory of the Russian AS, Physics of Magnetic Stars, Aug 28–31 2006*, pages 296–299, 2007.
- [7] Z. Mikulášek, G. Szász, J. Krtička, J. Zverko, J. Žižňovský, M. Zejda, and T. Gráf. Rotational periods of magnetic chemically peculiar stars. *eprint arXiv:0905.2565*, 2009.
- [8] T. Pribulla, D. Baluďanský, D. Chochol, M. Chrastina, Š. Parimucha, K. Petřík, G. Szász, M. Vaňko, and M. Zboril. New minima of selected eclipsing close binaries. *Information Bulletin on Variable Stars*, 5668(1), 2005.
- [9] G. Szász. New variable stars in BX Pegasi and V Sagittae fields. Student's thesis project, Comenius University, 2005.
- [10] G. Szász, M. Chrastina, and K. Petřík. Modification of the photometry software at Hlohovec. *Perseus*, 6:14–19, 2003.
- [11] G. Szász, M. Chrastina, K. Petřík, and L. Hric. Photometry of the supersoft X-ray source V Sagittae during its large outburst in 2004. *Open European Journal on Variable Stars, Proceedings of the 37th Conference on Variable Star Research*, 23:80, 2006.