

Curriculum Vitae

Dr. Oleg Kargaltsev

Personal details

Contact address: Department of Astronomy, 205 Bryant Space Center, University of Florida Gainesville, FL, 32611, USA

Phone: (352) 392 2052 Ext. 213 (Work), (814)404-6378 (Cell phone). Email: oyk100@astro.ufl.edu

Education

6/1999-12/2004 Ph.D., Astronomy & Astrophysics, Penn State University, State College, PA, USA

9/1996-6/1998 M.S., Astrophysics, Moscow Institute of Physics and Technology, Russia

1992-1996 B.S., Physics, Moscow Institute of Physics and Technology, Russia

Positions Held

2/2008-present Associate Scientist, University of Florida

4/2007-2/2008 Research Associate, Pennsylvania State University

1/2005-3/2007 Postdoctoral Research Scholar, Pennsylvania State University

6/2000-12/2004 Graduate Research Assistant, Dept. of Astronomy and Astrophysics, Penn State University.

Supervisor: George G. Pavlov, Ph.D. (**Topic:** X-ray and optical observations of neutron stars and pulsar-wind nebulae)

9/1999-5/2000 Graduate Teaching Assistant, Dept. of Astronomy and Astrophysics, Penn State University

8/1998-5/1999 Graduate Research Assistant, Dept. of Physics and Cosmology, University of Kansas.

Supervisors: Dave Besson, Ph.D. (**Topic:** Radio Ice Cherenkov Experiment)
Adrian L. Mellot, Ph.D. (**Topic:** Large scale distribution of clusters of galaxies)

9/1996-5/1998 Research Assistant, P.N. Lebedev Physical Institute, Moscow, Russia.

Supervisor: Yakov N. Istomin, Ph.D. (**Topic:** Modeling spectra from the bursts on the neutron star surface)

Research Experience

- 2000-present X-ray and optical observations of neutron stars and pulsar-wind nebulae.
Current Collaborators: Prof. George Pavlov (Penn State Univ.), Dr. Slava Zavlin (Marshall Space Flight Center, Huntsville), Dr. Roberto Mignani (Mullard Space Science Laboratory University College London)
- 1999-2000 Modeling GRB optical afterglow lightcurves.
Advisor: Prof. Peter I. Mészáros, Penn State University
- 1998-1999 Radio Ice Cherenkov Experiment
Advisor: Prof. Dave Besson, University of Kansas
- Large scale distribution of clusters of galaxies
Advisor: Prof. Adrian L. Melott, University of Kansas
- 1996-1998 Origin of gamma-ray bursts. Neutron stars atmospheres.
Advisor: Prof. Yakov N. Istomin, P. N. Lebedev Physical Institute, Moscow, Russia

Approved observing, archival and theory proposals:

- 2008, GO HST Cycle 16, Co-Investigator, "Optical-UV Spectrum of the Middle-aged Pulsar B1055-52"
- 2008, GO Chandra Cycle 10, Principal Investigator, "X-ray emission from the double neutron star binary J1537+1155"
- 2008, GO (Large Program) Chandra Cycle 10, Co-Investigator, "The unique dynamical Vela pulsar-wind nebula"
- 2008, GO Chandra Cycle 10, Co-Investigator, "Imaging the binary plerion"
- 2008, GO Chandra Cycle 10, Co-Investigator, "X-ray observations of a TeV-emitting pulsar tail"
- 2008, GTO Chandra Cycle 10, Observer, "Snap-shot survey of compact radio-bright SNRs"
- 2008, GO Suzaku Cycle 3, Co-Investigator, "Studying the long pulsar tail of the PSR B1929+10 with Suzaku"
- 2007, VLA, Co-Investigator, "Resolving Long Pulsar Tails with the VLA"
- 2007-GO, NASA Chandra X-ray Observatory – Cycle 9, Principal Investigator, "Spatially-resolved spectroscopy of pulsar-wind nebulae"
- 2007-GTO, NASA Chandra X-ray Observatory – Cycle 9, Observer, "Snap-shot survey of potential GeV and TeV pulsars"
- 2007-GO, ESA X-ray Multi-Mirror Mission – Cycle 6, Principal Investigator, "Search for crushed plerions: TeV to X-ray connection"

2007-GO, ESA X-ray Multi-mirror Mission – Cycle 6, Principal Investigator, “Studying the longest pulsar tail”

2006-GO, NASA Chandra X-ray Observatory – Cycle 8, Principal Investigator, “X-rays from the unusual relativistic binary J1906+0746”

2006-GO, NASA Hubble Space Telescope – Cycle 15, Principal Investigator, “ACS polarimetry of the Vela pulsar-wind nebula”

2006-GO, JAXA/NASA/ESA Suzaku X-ray Observatory – Cycle 1, Principal Investigator, “Solving the mystery of Vela X: Connection to the Vela pulsar”

2006-GO, ESA X-ray Multi-mirror Mission – Cycle 5, Principal Investigator, “Completing the X-ray census of Plerionic Supernova Remnants within 7 kpc”

2005-GO, NASA Chandra X-ray Observatory – Cycle 7, Principal Investigator, “Resolving pulsar-wind nebula around the energetic PSR J1617-5055”

2005-GO, NASA Hubble Space Telescope – Cycle 14, Principal Investigator, “Ultraviolet spectrum of the binary millisecond pulsar J0437-4715”

2005-GO, NASA Hubble Space Telescope – Cycle 14 – Cycle 14, Principal Investigator, “Studying the spectrum of PSR B0656+14 with ACS”

2004-GO, ESA X-ray Multi-mirror Mission – Cycle 4, Principal Investigator, “Snap-Shot Survey of Supernova Remnants with Plerionic Components”

2004-GTO, NASA Chandra X-ray Observatory – Cycle 6, Observer, “X-rays from a Double Neutron Star Binary J1537+1155”

2004-GTO, NASA Chandra X-ray Observatory – Cycle 6, Observer, “Vela-Like PSR B1800-21 and its Environment”

2003-GTO, NASA Chandra X-ray Observatory – Cycle 5, Observer, “Center-filled SNR G16.85–1.05 and its surroundings”

2001-GO, NASA Chandra X-ray Observatory – Cycle 3, Co-Investigator, “The dynamical pulsar-wind nebula in the Vela SNR”

Main research interests

Neutron stars and related phenomena (X-ray and optical observations and theory of neutron stars and pulsar-wind nebulae: NS cooling models, NS magnetospheres, shocks and winds, emission mechanisms, accreting NS/BH binaries, microquasars).

Gamma-ray bursts (X-ray observations, fireball-shock scenario, GRB-supernova connection, optical and X-ray afterglows).

Other research interests

Astrophysics of Compact Objects, Hydrodynamics and MHD (shocks, instabilities, jets). Observational signatures of black holes.

Galactic sources of TeV emission.

CMBR Anisotropy and Large-Scale Structure of the Universe.

Awards and fellowships

2003-2004	Graduate Alumni Association Dissertation Award
2001-2002	Zaccheus Daniel Foundation for Astronomical Science, Travel Grant
1998-2001	Braddock Fellowship (for excellence in studying)
1996,1998	I. E. Tamm Theoretical Department fellowship at P. N. Lebedev Physical Institute
1997-1998	Russian Foundation for Fundamental Research, grant #96-02-18203

Professional Activities and Organizations

2008-present	Associate Member of VERITAS collaboration
2007-present	Reviewer for ApJ and A&A
2008/03	Peer reviewer for Suzaku AO-3 panel
2000-present	Member of Penn State Chandra X-ray Observatory ACIS Team led by Prof. G. Garmire.
2007-present	Member of Constellation X Science Team
2000-present	Member of Penn State Chandra ACIS Team
2000-present	American Astronomical Society, Full Member
1998-present	American Physical Society, Full Member

Astronomical data analysis experience

Chandra ACIS and HRC imaging, spectroscopy and timing data analysis
XMM EPIC imaging spectroscopy, timing
Astrometry, photometry and polarimetry with HST WFPC, ACS, STIS and NICMOS.
HST STIS spectroscopic and timing data analysis

Computer skills

Astronomical data analysis with FTOOLS, IRAF, STSDAS, CIAO, XSPEC, XMM SAS
Programming in C/C++, IDL, Java, TCL, HTML, Matlab, Mathematica, Perl, Shell script, CL
Knowledge of Unix (Solaris, Linux), Windows OSs.