Oleg Kargaltsev

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Education

6/1999-12/2004 Ph.D., Astronomy & Astrophysics, Pennsylvania State University, USA
Thesis title: "X-ray and Optical Emission from Neutron stars and Pulsar-Wind Nebulae" Advisor: Prof. George Pavlov

9/1996-6/1998 M.S., Theoretical Physics, Moscow Institute of Physics and Technology, Russia, Thesis title: "Gamma-ray bursts bursts on neutron stars"
Advisor: Prof. Yakov Istomin, P.N. Lebedev Physical Institute

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

Positions Held

8/2012-present Assistant Professor, Department of Physics, George Washington University

2/2008-8/2012 Associate Scientist, Department of Astronomy, University of Florida

4/2007-2/2008 Research Associate, Department of Astronomy & Astrophysics, Pennsylvania State University

1/2005-3/2007 Postdoctoral Research Scholar, Department of Astronomy & Astrophysics, Pennsylvania State University

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

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

8/1998-5/1999 Graduate Research Assistant, Department of Physics, University of Kansas.

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

Research Experience

2008-present Multiwavelength studies of compact objects: black holes, neutron stars, pulsars and pulsar-wind nebulae, microquasars.

2001-2008 X-ray and optical observations of neutron stars and pulsar-wind nebulae
Advisor/Supervisor: Prof. George Pavlov, Penn State University

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

Current main research interests

Astrophysics of compact objects and related phenomena: X-ray, optical, and radio observations and theory of black holes, neutron stars (NSs) and pulsar-wind nebulae, gamma-ray bursts, NS cooling, NS magnetospheres, shocks and winds, emission mechanisms, accreting NS/BH binaries, microquasars, radiation from the vicinity of an isolated black hole, white dwarf magnetospheres

Multiwavelength source classification, astronomical data mining

Galactic sources of TeV emission, cosmic ray acceleration and propagation.

Hydrodynamics and MHD (shocks, instabilities, jets), plasma physics

Other interests

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

CMBR Anisotropy and Large-Scale Structure of the Universe.

Teaching experience

Spring/2013 Instructor for Space Astrophysics (AST 2161) at Physics Department. GWU

Fall/2009 Co-Instructor for graduate course High Energy Astrophysics (AST 7939) offered at the Department of Astronomy, University of Florida

1/2000-5/2000 Teaching Assistant for "Nebulae, Galaxies, and Cosmology"ASTRO 480, Department of Astronomy and Astrophysics, Pennsylvania State University

9/1999-12/1999 Teaching Assistant for "Astronomy of the Distant Universe"ASTRO 292, Department of Astronomy and Astrophysics, Pennsylvania State University

Postdoc and student training and supervision

Blagoy Rangelov (postdoc, GWU), Ashwin Shenoy (grad student GWU), Derek Brehm (ugrad student GWU), Jeremy Hare (grad student GWU), Martin Durant (postdoc, University of Florida), Sami-Matias Niemi (postdoc, University of Florida), Deno Stelter (graduate, University of Florida), Anuragini, Viswanathan (graduate, University of Florida), Nastor Lasso (graduate, University of Florida), Adam Ismay (undergraduate, University of Florida), Erika Seguin (undergraduate, University of Florida), Brian Newman (graduate, Penn State), Jared Wong (undergraduate, Penn State), Brian Schmitt (undergraduate, Penn State), Michael Pagano (undergraduate, Penn State)

Awards and fellowships

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

Professional Activities and Organizations

2013/05	Peer reviewer for *Hubble Space Telescope* Cycle 21 panel
2010/06	Peer reviewer for *Chandra* AO-12 panel
2010/04	Peer reviewer for *Fermi* AO-3 panel
2009/08	Peer reviewer for NASA ADP panel
2000-present	Member of Penn State *Chandra* ACIS Team
2008-present	Associate Member of the VERITAS collaboration
2008/03	Peer reviewer for *Suzaku* AO-3 panel
2007-present	Reviewer for ApJ, A&A, PASJ, MNRAS
2007-2011	Member of IXO Science Team
2000-present	American Astronomical Society, Full Member

Astronomical data analysis experience

Fermi Gamma-Ray Observatory: spectral and timing analysis
Chandra X-ray Observatory: imaging, spectroscopy and timing data analysis
XMM-Newton: EPIC imaging spectroscopy, timing
Suzaku X-ray Observatory: XIS/PIN spectroscopy, timing, imaging (XIS)
HST astrometry, photometry, and polarimetry (WFC3, WFPC2, ACS, STIS, NICMOS).
HST spectroscopic and timing data analysis (STIS, ACS, COS)
Spitzer, IRAC photometry
VLA, ATCA imaging

Computer skills

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

Summary of funded research

Principle investigator of **21** NASA and NSF funded programs, including 7 *Chandra* programs, 7 *XMM-Newton* programs, 3 *HST* programs, and 2 *Suzaku* programs. Awarded **$1.5M** (excluding any ``shared'' with other PIs funding) in NSF and NASA funding in 2008-2012.

External funding record: Funded observing, archival, and theory research programs.

2013 NASA ADAP	Principle Investigator, "XMM-NEWTON OBSERVATION OF A NEW ENERGETIC PULSAR", $32K
2013 GO HST Cycle 20	Principle Investigator, "Multiwavelength spectra of the fine structure of the Crab", $29K
2013 Archival Chandra Cycle 14	Principle Investigator, "Unveiling the Nature of Galactic Sources Detected by Chandra", $65K
2013 GO Chandra Cycle 14	Principle Investigator, "PSR J1906+0746: Cheshire cat's grin", $37K
2013 GO Chandra Cycle 14	Principle Investigator, "Multiwavelength spectra of the fine structure of the Crab", $13K
2013 GO Chandra Cycle 14	Principle Investigator, "A comparative study of two outstanding pulsar tails", $69K
2013 GO Chandra Cycle 14	Co-Investigator, "A Legacy Study of the Relativistic Shocks of PWNe", $60K
2012 GO Chandra Cycle 13	Principal Investigator, "Is HESS J1741-302 truly dark?", $35K

2011 TOO XMM -Newton Cycle 10 Principal Investigator, "New SGR 1833-0832"

2011 GO XMM -Newton Cycle 10 Principal Investigator, " A dark twin of the Crab pulsar"

2011 GTO Chandra Cycle 13	Co-Investigator, "*The puzzling outflow from the PSR B1259-63/SS 2883 binary*", $25K
2011 GTO Chandra Cycle 13	Observer, "*Snap-shot survey of new galactic gamma-ray sources.*"
2011 DDT Chandra Cycle 12	Principal Investigator, "Is Swift J1834.9-0846 a magnetar related to SNR W41 and HESS J1834-087?", $6K
2011 GO HST Cycle 19	Co-Investigator (Admin. PI), "*Thermal emission from the famous double pulsar J0737-3039*", $36K
2010 GO HST Cycle 18	Co-Investigator (Admin. PI), "*The magnetar SGR 0418+5729 in the optical and infra-red*", $30K
2010 GO HST Cycle 18	Principal Investigator, "*ACS polarimetry of the Vela pulsar-wind nebula*", $50K
2010 GTO Chandra Cycle 12	Observer, "*Snap-shot survey of new galactic gamma-ray sources.*"
2009 GO Chandra Cycle 11	Principal Investigator, "*The long tail of PSR J1740+1000*", $43.1K
2009 GO Chandra Cycle 11	Co-Investigator, "*Young, hot PSR J1357-6429 and its PWN*", $21.9K
2009 CTO Chandra Cycle 11	Observer, "*Snap-shot survey of unidentified galactic GeV sources*"
2009 GO XMM-Newton Cycle 8	Principal Investigator, "*Searching for PWNe in three center-filled Supernova Remnants*", $40.3K
2009 GO Suzaku Cycle 4	Principle Investigator, "*Crushed plerion HESS J1809-193: TeV to X-ray connection*" , $25.2K
2009 NSF AAG	Principal Investigator, "*Collaborative Research: Unidentified Galactic TeV Sources: Neutron Star Connection*", $252.5K
2009 NASA ADP	Co-Investigator, "*Archival Study of Isolated Pulsars and Their Winds*", $137.3K
2009 NASA ADP	Principal Investigator, "*Multiwavelength study of unidentified extended TeV sources*", $286.2K
2009 VLA	Co-Investigator, "*Crushed plerion from radio to gamma-rays*"
2009 ATCA	Co-Investigator, "*Are the "dark accelerators" dark in radio? Deep imaging of HESS J1616-508*"

2008 GO HST Cycle 17	Co-Investigator, "*Far-UV Phase-resolved Spectroscopy of PSR B0656+14*", $34.6K
2008 GO Chandra Cycle 10	Principal Investigator, "*X-ray emission from the double neutron star binary J1537+1155*", $38.2K
2008 GO (LP) Chandra Cycle 10	Co-Investigator, "*The unique dynamical Vela pulsar-wind nebula*", $78.4K
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 GTO Chandra Cycle 10	Observer, "*Extended emission of microquasar LS 5039*"
2008 GO Suzaku Cycle 3	Co-Investigator, "*Studying the long pulsar tail of the PSR B1929+10 with Suzaku*", $6.2K
2007 VLA	Co-Investigator, "*Resolving Long Pulsar Tails with the VLA*"
2007 GO HST Cycle 16	Co-Investigator, "*Optical-UV Spectrum of the Middle-aged Pulsar B1055-52*"
2007 GO Chandra Cycle 9	Principal Investigator, "*Spatially-resolved spectroscopy of pulsar-wind nebulae*"
2007 GTO Chandra Cycle 9	Observer, "*Snap-shot survey of potential GeV and TeV pulsars*"
2007 GO XMM-Newton Cycle 6	Principal Investigator, "*Search for crushed plerions: TeV to X-ray connection*"
2007 GO XMM-Newton Cycle 6	Principal Investigator, "*Studying the longest pulsar tail*"
2006 GO Chandra Cycle 8	Principal Investigator, "*X-rays from the unusual relativistic binary J1906+0746*"
2006 GO Suzaku Cycle 1	Principal Investigator, "*Solving the mystery of Vela X: Connection to the Vela pulsa*r"
2006 GO XMM-Newton Cycle 5	Principal Investigator, "*Completing the X-ray census of Plerionic Supernova Remnants within 7 kpc*"
2005 GO Chandra Cycle 7	Principal Investigator, "*Resolving pulsar-wind nebula around the energetic PSR J1617-5055*"
2005 GO HST, Cycle 14	Principal Investigator, "*Ultraviolet spectrum of the binary millisecond pulsar J0437-4715*"

2005 GO HST, Cycle 14	Principal Investigator, "*Studying the spectrum of PSR B0656+14 with ACS*"
2004 GO XMM-Newton Cycle 4	Principal Investigator, "*Snap-Shot Survey of Supernova Remnants with Plerionic Components*"
2004 GO Spitzer Cycle 3	Co-Investigator, "*Mid-IR observations of young pulsars*"
2004 GTO Chandra Cycle 6	Observer, "*X-rays from a Double Neutron Star Binary J1537+1155*"
2004 GTO Chandra Cycle 6	Observer, "*Vela-Like PSR B1800-21 and its Environment*"
2003 GTO Chandra Cycle 5	Observer, "*Center-filled SNR G16.85–1.05 and its surroundings*"
2001 GO Chandra Cycle 3	Co-Investigator, "*The dynamical pulsar-wind nebula in the Vela SNR*"

Refereed Publications:

1. Aliu, E. et al. "*Discovery of the TeV Gamma-ray Emission from CTA by VERITAS*", 2012, ApJ, 764, 38

2. Durant, M., **Kargaltsev, O**., Pavlov, G. G., Kropotina, J., & Levenfish, K. "*The Helical Jet of the Vela Pulsar*", 2013, ApJ, 763, 72

3. **Kargaltsev, O.,** Durant, M., & Pavlov, G. G. "*Pulsar Wind Nebulae from X-rays to VHE γ-rays*", 2013, ASPC, 466, 167

4. Posselt, B., Arumugasamy, P., Pavlov, G. G., Manchester, R. N., Shannon, R. M., & **Kargaltsev, O.** "*XMM-Newton Observation of the Very Old Pulsar J0108-1431*", 2012, ApJ, 761, 117

5. Younes, G. Kouveliotou, C., **Kargaltsev, O**., Pavlov, G. G.; Göğüş, E.; Wachter, S. "*XMM-Newton View of Swift J1834.9-0846 and Its Magnetar Wind Nebula*", 2012, ApJ, 757, 39

6. **Kargaltsev, O.,** Durant, M., Misanovic, Z., Pavlov, G. G. "*Absorption Features in the X-ray Spectrum of an Ordinary Radio Pulsar*", 2012, Science, 337, 946

7. Posselt, B., Pavlov, G. G., Manchester, R. N., **Kargaltsev, O.** & Garmire, G. P. "*Chandra Observations of the Old Pulsar PSR B1451-68*", 2012, ApJ, 749, 146

8. **Kargaltsev, O.**, Durant, M., Pavlov, G. G., & Garmire, G. "*Chandra Pulsar Survey (ChaPS)*", 2012, ApJS, 201, 37

9. **Kargaltsev, O.**, Kouveliotou, C., Pavlov, G. G., et al. "*X-ray Observations of a New Unusual Magnetar Swift J1834.9-0846*", 2012, ApJ, 748, 26

10. Durant, M., **Kargaltsev, O.**, Pavlov, G. G., Kowalski, P. M., Posselt, B., van Kerkwijk, M. H., & Kaplan, D. L. "*The spectrum of the recycled PSR J0437-4715 and its white dwarf companion*", 2012,

ApJ, 746, 6

11. **Kargaltsev, O.**, Schmitt, B., Pavlov, G., & Misanovic, Z. "*XMM-Newton Observations of Two Candidate Supernova Remnants*", 2012, ApJ, 745, 99

12. Chang, C. Pavlov, G. G., **Kargaltsev, O.**, & Shibanov, Y. A. "*X-Ray Observations of the Young Pulsar J1357−6429 and Its Pulsar Wind Nebula*", 2012, ApJ, 744, 81

13. Durant, M., **Kargaltsev, O.**, Pavlov, G., & Chang, C. "*Extended X-ray emission in the vicinity of LS 5039: pulsar wind nebula?*", 2011, ApJ, 735, 58

14. Durant, M., **Kargaltsev, O.**, & Pavlov, G. G. "*Search for the Optical Counterpart to SGR 0418+5729*", 2011, ApJ, 742, 77

15. Durant, M., **Kargaltsev, O.**, & Pavlov, G. "*Orbital Variation of the X-Ray Emission from the Double Neutron Star Binary J1537+1155*", 2011, ApJ, 741, 65

16. Mignani, R. P., Pavlov, G. G., & **Kargaltsev, O.** "*VLT observations of the candidate counterpart to PSR J0108-1431*", 2011, A&A, 531, 105

17. Durant, M., **Kargaltsev, O.**, & Pavlov, G. G. "*Multiwavelength Spectroscopy of PSR B0656+14*", 2011, ApJ, 743, 38

18. Pavlov, G., Chang, C., & **Kargaltsev, O.** "*Extended Emission from the PSR B1259-63/SS 2883 Binary Detected with Chandra*", 2011, ApJ, 730, 2

19. Misanovic, Z., **Kargaltsev, O.**, & Pavlov, G. "*Chandra observations of the TeV source HESS J1834–087*", 2011, ApJ, 735, 33

20. Misanovic, Z., **Kargaltsev, O.**, & Pavlov, G. "*XMM-Newton observations of SNRs G27.8+0.6 and G28.8+1.5*", 2010, ApJ, 725, 931

21. Mignani, R. P., Pavlov, G. G., & **Kargaltsev, O.** "*Optical-Ultraviolet Spectrum and Proper Motion of the Middle-aged Pulsar B1055–52*", 2010, ApJ, 720, 1635

22. **Kargaltsev, O.**, & Pavlov, G. G. "*Pulsar-wind nebulae in X-rays and TeV γ -rays*", 2010, AIP Conf. Proc., 1248, 25 (arXiv:1002.0885)

23. **Kargaltsev, O.** & Pavlov, G. G. "*Chandra observation of the relativistic binary J1906+0746*", 2009, ApJ, 702, 433

24. Park, S, **Kargaltsev, O.**, Pavlov, G. G., Mori, K., Slane, P. O., Hughes, J. P., Burrows, D. N., & Garmire, G. P. "*Nonthermal X-Rays from Supernova Remnant G330.2+1.0 and the Characteristics of its Central Compact Object*", 2009, ApJ, 695, 431

25. **Kargaltsev O.**, Pavlov G. G. & Wong J. "*Young energetic pulsar J1617-5055 and its underluminous nebula*", 2009, ApJ, 690, 891

26. Pavlov, G., **Kargaltsev, O.**, Wong, J. A., & Garmire, G. P. "*Detection of X-ray Emission from the Very Old Pulsar J0108-1431*", 2009, ApJ, 691, 458

27. Mignani R., Pavlov G., & **Kargaltsev, O.** "*A possible optical counterpart for the old nearby radio pulsar*", 2008, A&A, 488, 1027

28. **Kargaltsev, O.** & Pavlov, G. G. "*Pulsar-Wind Nebulae in the Chandra Era", in Proc. of "40 Years of Pulsars: Millisecond Pulsars, Magnetars and More*", 2008, AIP Conf. Proc., 983, 171

29. **Kargaltsev O.**, Misanovic Z., Pavlov, G., Wong J., and Garmire G. P. "*X-ray observations of parsec-scale tails behind two middle-aged pulsars*" 2008, ApJ, 684, 542

30. Pavlov G. G., **Kargaltsev O.**, & Brisken W. F. "*Chandra Observation of PSR B1823-13 and its Pulsar Wind Nebula*", 2008, ApJ, 675, 683

31. **Kargaltsev, O.**, Pavlov, G. G., & Garmire, G. P., "*HESS J1804-216 in X-rays and at other wavelengths*", 2007, ApJ, 670, 643

32. **Kargaltsev, O.**, & Pavlov G. G., "*X-ray emission from PSR J1809–1917 and its pulsar wind nebula, possibly associated with the TeV gamma-ray source HESS J1809–193*", 2007, ApJ, 670, 655

33. Pavlov, G., **Kargaltsev, O.**, Garmire, G., & Wolszczan, A., "*X-ray emission from the planet pulsar B1257+12*", 2007, ApJ, 664, 1072

34. **Kargaltsev, O.**, Pavlov, G. G., & Garmire, G. P., "*X-ray emission from PSR B1800-21 and its pulsar-wind nebula*", 2007, ApJ, 660, 1417

35. **Kargaltsev, O.**, & Pavlov, G., "*UV emission from young and middle-aged pulsars*", 2007, Astrophysics and Space Science, 308, 287

36. Park, S., Mori, K., **Kargaltsev, O.**, Slane, P. O., Hughes, J. P., Burrows, D. N.; Garmire, G. P., & Pavlov, G. G., "*Discovery of a Candidate Central Compact Object in the Galactic Nonthermal SNR G330.2+1.0*", 2006, ApJ, 653L, 37

37. **Kargaltsev, O.**, Pavlov, G. G., & Garmire, G. P., "*X-ray Emission from the Double Neutron Star Binary J1537+1155*", 2006, ApJ, 646, 1139

38. **Kargaltsev, O.**, Pavlov, G. G., & Garmire, G. P., "*X-ray Emission from the Nearby PSR B1133+16 and Other Old Pulsars*", 2006, ApJ, 636, 406

39. Romani, R. W., **Kargaltsev, O.**, & Pavlov, G. G., "*The Vela pulsar in UV*", 2005, ApJ, 627, 383

40. **Kargaltsev, O.**, Pavlov, G. G., Romani R. W., & Zavlin, V. E., "*Ultraviolet Emission from the Geminga Pulsar: Connecting X-rays with the Optical*", 2005, ApJ, 625, 307

41. Mignani, R. P., Pulone L., Iannicola, G., Pavlov, G. G., Townsley, L., & **Kargaltsev, O.**, "*Search for the elusive optical counterpart of PSR J0537-6910 with the HST Advanced Camera for Surveys*", 2005, A&A, 431, 569

42. **Kargaltsev, O.**, Pavlov, G. G., & Romani, R. W., "*Ultraviolet Emission from the Millisecond PulsarJ0437-4715*", 2004, ApJ, 602, 327

43. **Kargaltsev, O.**, Pavlov, G. G., Teter, M. A., Sanwal, D., "*The jets of the Vela pulsar*", 2003, New Astronomy Reviews, 47, 487

44. Mignani, R. P., De Luca, A., **Kargaltsev, O.**, Pavlov G. G., Zaggia S., Caraveo P. A., & Becker W., "*Search for the Optical Counterpart of the Vela Pulsar X-ray Nebula*", 2003, ApJ, 594, 419

45. Pavlov, G. G., Teter, M. A., **Kargaltsev, O.**, & Sanwal, D., "*The Variable Jet of the Vela Pulsar*", 2003, ApJ, 591, 1157

46. **Kargaltsev, O.**, Pavlov, G. G., Sanwal, D., & Garmire, G. P., "*The Compact Central Source of the SNR G266.2-1.2*", 2002, ApJ, 580, 1060

47. Pavlov, G. G., **Kargaltsev, O.**, Sanwal D., & Garmire, G. P., "*Variability of the Vela Pulsar Wind Nebula Observed with Chandra*", 2001, ApJ, 554, L189

Non-refereed publications:

1. **Kargaltsev, O.**, Gogus, E., Kouveliotou, C., & Pavlov, G. 2011, "*Unusually strong X-ray pulsations from Swift J1834.9-0846*", The Astronomer's Telegram, 3600, 1

2. Gogus, E., Kouveliotou, C., **Kargaltsev, O.**, & Pavlov, G. 2011, "*Swift J1834.9-0846: Precise X-ray Position and the Confirmation of its Spin Period*", The Astronomer's Telegram, 3576, 1

3. Pavlov, G. G., Misanovic, Z., **Kargaltsev, O.**, & Garmire, G. P. 2011, "*Chandra and XMM-Newton Observations of the Gamma-ray Binary 1FGL J1018.6-5856*", The Astronomer's Telegram, 3228, 1

4. Gogus, E., Kouveliotou, C., **Kargaltsev, O.**, & Pavlov, G. 2011, "*Swift J1834.9-0846: precise X-ray position and the confirmation of its spin period*", GRB Coordinates Network, 12302, 1

5. Paerels, F., Méndez, M., Agueros, M., Baring, M., Barret, D., Bhattacharyya, S., Cackett, E.; Cottam, J., Diaz Trigo, M., Fox, D.; Garcia, M., Gotthelf, E., Hermsen, W., Ho, W., Hurley, K., Konker, P., Juett, A., Kaaret, P., **Kargaltsev, O.**, Lattimer, J., Matt, G., Özel, F., Pavlov, G., Rutledge, R., Smith, R., Stella, L., Strohmayer, T., Tananbaum, H., Uttley, P., van Kerkwijk, M., Weisskopf, M., & Zane, S. 2009, "*The Behavior Of Matter Under Extreme Conditions*", Astro2010: The Astronomy and Astrophysics Decadal Survey, Science White Papers, no. 230 (arXiv:0904.0435v1)

6. Misanovic, Z., Pavlov, G. G. & **Kargaltsev, O.** "*X-ray observations of pulsar J1740+1000*", in Proc. of "8 years of Science with Chandra", (http://cxc.harvard.edu/symposium_2007/proceedings/topic_3.html)

7. **Kargaltsev, O.** & Pavlov, G. G., "*Vela PWN: A new perspective*", 2004, in "Young Neutron Stars and Their Environments" (IAU Symposium 218, ASP Conf. Proc.), eds F. Camilo and B. M. Gaensler, p. 195, (astro-ph/0310767)

8. Sanwal, D., Pavlov, G. G., **Kargaltsev, O.**, Garmire, G. P., Zavlin, V. E., Burwitz, V., Manchester, R. N. & Dodson, R., "*X-ray Spectrum and Pulsations of the Vela Pulsar*", in Neutron Stars in Supernova Remnants, ASP ser., v. 271, p. 353, 2002, eds. P.O. Slane & B. M. Gaensler.

9. **Kargaltsev, O.**, Pavlov, G. G., Sanwal D., & Garmire, G. P., "*The Vela pulsar wind nebula resolved with Chandra*", in Neutron Stars in Supernova Remnants, ASP ser., v. 271, p. 181, 2002, eds. P.O. Slane & B. M. Gaensler.

Conferences and invited talks:

1. Pavlov, G. & **Kargaltsev, O.** "*X-ray properties of rotation-powered pulsars*", 2013, IAU Symposium, 291, 117

2. **Kargaltsev, O.**, Durant, M., Pavlov, G. G., Bykov, A. M., Kropotina, J. & Levenfish, K. "*The Rotating Spiral Structure of the Vela Pulsar Jet*", 2013, American Astronomical Society, AAS Meeting #221, #443.21

3. Arumguasamy, P., Posselt, B., Pavlov, G. G., Manchester, R. N. & Shannon, R. & **Kargaltsev, O.** "*XMM-Newton Observation of the Very Old Pulsar J0108-1431*", 2013, American Astronomical Society Meeting Abstracts, 221, \#412.07

4. **Kargaltsev, O.** "*X-ray and gamma-ray properties of pulsar-wind nebulae*", 2012, invited talk at the Physics Department colloquium at the University of Texas Arlington

5. **Kargaltsev, O.** "*Multiwavelength properties of pulsars and their wind nebulae*" 2012, Dec 12, invited talk at the Supernova Seminar at NASA GSFC

6. **Kargaltsev, O.** "*ELECTROMAGNETIC RADIATION FROM PULSARS AND MAGNETARS*", 2012, Apr 25, University of Zielona Góra, Zielona Gora, Poland

7. **Kargaltsev, O.** "*Pulsar-wind nebulae in X-rays and gamma-rays: highlights, population analysis, and outlook*" 2012, January 18-21, Tucson, Arizona, invited talk at the VERITAS collaboration meeting

8. **Kargaltsev, O.**, Pavlov, G.~G., Durant, M., Kropotina, J., Levenfish, K., Bykov, A. M. "*Resolving The Remarkable Vela Pulsar Wind Nebula In Space And Time With Chandra*." 2011, AAS High Energy Astrophysics Division, 12, #20.09

9. Durant, M., **Kargaltsev, O.**, & Pavlov, G.~G. "*Pulsar Spectra from IR to Gamma-rays*", 2011, AAS High Energy Astrophysics Division, 12, #20.06

10. **Kargaltsev, O.** "*Multiwavelength observations of pulsar wind nebulae*", 2011, July 11-15, St. Petersburg, Russia, invited talk at the "Physics of Neutron Stars - 2011" conference

11. Durant, M., **Kargaltsev, O.**, & Pavlov G. G., "*Pulsar-wind nebulae: Studying particle SED and its evolution with spatially-resolved spectra*", 2011, July 11-15, St. Petersburg, Russia

12. Durant, M., **Kargaltsev, O.**, & Pavlov, G. "*Old But Hot: Ultraviolet Spectrum Of The Millisecond Pulsar J0437-4715*", 2010, Bulletin of the American Astronomical Society, 41, #315.05

13. **Kargaltsev O.** "*Pulsar Wind Nebulae in Gamma-Rays*" , Barnard College, Columbia University, NYC, May 28-29, 2010, invited talk at "VERITAS Workshop on High Energy Galactic Physics"

14. Durant, Martin, **Kargaltsev, O**., & Pavlov, G. "*Old But Hot: Ultraviolet Spectrum Of The Millisecond Pulsar J0437-4715*", AAS Meeting #216, #315.05

15. **Kargaltsev O.** "*Pulsar-wind nebulae in X-rays and TeV gamma-rays*", September 7-11, 2009, Bologna, Italy, invited talk at at "X-ray Astronomy 2009: Present Status, Multi-Wavelength Approach And Future Perspectives"

16. Pavlov, G. & **Kargaltsev, O.** "*Chandra Observations of the Vela Pulsar Wind Nebula*", Chandra's First Decade of Discovery, 22-25 September, 2009 in Boston, MA

17. **Kargaltsev O.** & Pavlov G. "*Pulsar-Wind Nebulae in the Chandra Era*" at "Supernova Remnants And Pulsar Wind Nebulae In The Chandra Era", July 8-10, 2009, Boston, MA

18. Schmitt, B., **Kargaltsev, O.**, & Pavlov, G. G. "*XMM-Newton Observations of Two Candidate Supernova Remnants*" July 8-10, 2009, Boston, MA

19. **Kargaltsev O.** "*Pulsar winds across the electromagnetic spectrum*", Purdue University, October 27, 2009, Lafayette, IN, invited talk at the HEA colloquium at the Department of Physics

20. **Kargaltsev O.** & Pavlov G. "*Chandra observations of Pulsar-Wind Nebulae*" , June 15-18, 2009, Marciana Marina, Isola d'Elba, Italy, invited talk at at "Pulsars in their diversity" conference

21. Park, Sangwook, **Kargaltsev, O**., Pavlov, G., Mori, K., Slane, P. O., Hughes, J. P., Burrows, D. N., & Garmire, G. P. 2009 "*Nonthermal X-Rays from Supernova Remnant G330.2+1.0 and the Characteristics of its Central Compact Object* ", BAAS, 41, 503

22. **Kargaltsev, O.** & Pavlov, G. G. "*Pulsars and Pulsar-Wind Nebulae: TeV to X-Ray Connection*", 2008, TeV Unidentified Sources Workshop, Penn State University, PA, June 2008

23. **Kargaltsev, O.** & Pavlov, G. G. "*X-ray view of Pulsar-Wind Nebulae*", 2008, 37th COSPAR Scientific Assembly, 13-20 July 2008, Montréal, Canada., p.1447

24. Mori, K., **Kargaltsev, O**., Pavlov, G. G. et al. "*Suzaku mapping observations of the Vela X*", 2008, 37th COSPAR Scientific Assembly, 13-20 July 2008, Montréal, Canada., p. 2105

25. **Kargaltsev, O.** & Pavlov, G. G. "*The Puzzles of the Vela Pulsar-Wind Nebula*", 2008, 10th AAS High Energy Astrophysics Division Meeting, HEAD, #21.06

26. Pavlov, G. G., **Kargaltsev, O**., & Wong, J. "*Young Energetic PSR J1617-5055, Its Underluminous Nebula, And TeV Source HESS J1616-508*" ", 2008, 10th AAS High Energy Astrophysics Division Meeting, HEAD, #12.07

27. **Kargaltsev, O.** & Pavlov G. G. "*New puzzles from Vela pulsar-wind nebula*", 2008, AAS High-Energy Astrophysics Division Meeting #10, #12.06

28. **Kargaltsev, O.**, Pavlov, G., Sanwal, D., et al. "*X-ray Emission From Vela-like Pulsar B1800-21 And Other Young Pulsars Observed With Chandra*" 2006, AAS High-Energy Astrophysics Division Meeting #9, #7.57

29. **Kargaltsev, O.**, Pavlov G. G., Garmire, G. P., & Sanwal, D "*Chandra Observations of Radio Pulsars*", 2005, in Six Years of Science with Chandra: Dedicated to Leon Van Speybroeck

30. **Kargaltsev, O**., & Pavlov, G. G., "*X-ray Properties of Pulsars and their Wind Nebulae*", 2004, AAS Meeting 205, #102.14

31. Pavlov, G. G., **Kargaltsev, O**., Romani, R., & Zavlin, V. , "*Far-UV radiation from pulsars: Connecting X-rays with optical*", 2004, American Astronomical Society, HEAD meeting #8, #11.02

32. Pavlov G. G., **Kargaltsev, O**., Zavlin V. E., & Sanwal, D, "*Pulsars and Pulsar-wind Nebulae in the Chandra Era*", 2003, in Four Years of Chandra Observations: A Tribute to Riccardo Giacconi

33. Teter, M. A., Pavlov, G. G., Sanwal, D. & **Kargaltsev, O**. , "*The Twisting Jet from the Vela Pulsar*", 2002, 200th AAS Meeting, #78.06; BAAS, Vol. 34, p.779

34. **Kargaltsev, O**., Pavlov, G. G., Sanwal, D., Garmire, G. P., "*The Compact Central Source of the SNR G266.2-1.2*", 2002, 200th AAS Meeting, #72.02; BAAS, Vol. 34, p.764

35. Pavlov, G. G., Sanwal D., **Kargaltsev, O**., & Garmire, G. P. , "*The Vela Pulsar and its Synchrotron Nebula: Surprises from Chandra*" , 2001, in Two Years of Science with Chandra Symposium in Washington.

These publications have been cited 734 times (as of April 2, 2013) according to NASA ADS.

Public Talks:

"Pulsars and Supernova Remnants" NASA Hyperwall presentation at the 221st American Astrophysical Society Meeting

Press releases:

1. "New Chandra Movie Features Neutron Star Action" NASA/CXC News Release, 01/07/2013

2. "Strange emissions may help unlock mysteries of pulsars ", MSNBC News, 8/23/2012

3. "Geriatric Pulsar Still Kicking", NASA/CXC News Release , 02/26/2009

4. "Firehose-like jet discovered in action", NASA/CXC News Release, 06/30/2003