Curriculum Vitae

Personal Details

Name, title	Laurens Keek, Dr.	Address	Raamstraat 3
Gender	Male		2316 BA
Date of birth	11 April 1980		Leiden, The Netherlands
Nationality	The Netherlands	Email	laurens@xrb.space

Employment

2018	Scientist/Engineer at cosine Innovations
2015–2017	Visiting Assistant Research Scientist at the University of Maryland, CRESST, and NASA/GSFC with Dr. T. E. Strohmayer
2013–2015	Postdoctoral Fellow of the Center for Relativistic Astrophysics at the Georgia Institute of Technology, with Prof. Dr. D. R. Ballantyne
2011–2013	Visiting Research Associate of the Joint Institute for Nuclear Astrophysics at the National Superconducting Cyclotron Laboratory and the Department of Physics & Astronomy of Michigan State University, with Prof. Dr. E. F. Brown
2009–2011	Research Associate of the Joint Institute for Nuclear Astrophysics at the School of Physics and Astronomy, University of Minnesota, with Prof. Dr. A. Heger

Education

December 1 2008	Ph. D. Physics and Astronomy, Utrecht University Research done in part at SRON Netherlands Institute for Space Research Supervisors: Prof. Dr. N. Langer, Dr. J. J. M. in 't Zand, Prof. Dr. M. Méndez Thesis: *Probing Thermonuclear Burning on Accreting Neutron Stars*
June 28 2004	M. S. Theoretical Physics and Astrophysics, Utrecht University Supervisor: Prof. Dr. J. Smit Thesis*: Sterile Neutrinos as Dark Matter*

Research Interests

Observation of Type I X-ray bursts from accreting neutron stars, and their theoretical interpretation using numerical simulations. This topic has a strong connection to neutron star astrophysics, X-ray astronomy, accretion physics, stellar evolution models, and nuclear astrophysics.

Skills

Analysis of X-ray observations (Chandra, XMM-Newton, BeppoSAX, RXTE, HETE-2, Swift, Suzaku, NuSTAR, MAXI, NICER); usage and modification of stellar evolution codes (Binary Evolution Code, KEPLER, MESA); computer programming (Python, Fortan, C, C++, Pascal, Perl, Java, Basic, x86 assembly, Bash, etc.) with a special interest in web development (Php, Django, MySQL, Javascript, HTML, CSS, etc.).

Languages

Dutch (native), English (fluent), German (basic), French (basic)

Teaching and Outreach

2017	Dissertation Committee at University of Basel
2015	Mentor undergraduate student project *Burst Reflection with Future Observatories*
2015	Mentor undergraduate student project *Anisotropy and Accretion Disk Shapes*
2014	Public Observatory talk *The X-ray Sky: Black Holes and Neutron Stars*
2014	Judge students' posters at Georgia Tech Research & Innovation Conference
2014	Mentor undergraduate student project *Simulating X-Ray Bursts with MESA*
2014	Participate in workshop *Philosphy of Teaching*
2013	Participate in workshop *Partners in Teaching: Active Learning*
2013	Society of Physics Students (MSU Chapter) Seminar (undergraduate audience)
2012	Participate in workshop *How People Learn: A Cognitive Science Perspective*
2011	Teach a lecture in a graduate level course on stellar evolution
2009–present	Assist (under)graduate students with research projects
2009	Talk at Minnesota Astronomical Society: *X-ray bursts from neutron stars*
2008	Talk at SRON Open Day: *Hoge Energie Astrofysica op SRON*
2006–2007	Teach master class for high school students: *Hoge Energie Astrofysica op SRON*
2006–2007	Teach exercise classes for undergraduate and graduate courses in astronomy

Other Academic Activities

	Referee manuscripts for Physical Review Letters, The Astrophysical Journal, Monthly Notices of the Royal Astronomical Society, Astronomy & Astrophysics, Progress in Particle and Nuclear Physics, Journal of Astrophysics Peer Review Panels for NASA observatories Chandra, NuSTAR, and RXTE
2017-	eXTP Observatory Science Working Group
2016	Collaborator on OHMAN NASA proposal
2016-	Collaborator on proposed STROBE-X X-ray observatory
2015–	Affiliated Scientist of the Science Team of the *NICER* X-Ray observatory
2015-2017	International Team *Nuclear Reactions in Superdense Matter* at the International Space Science Institute, Bern, Switzerland
2015	Member of the SOC of ESA workshop *40 years of X-ray bursts: extreme explosions in dense environments*
2012–	LOFT Observatory Science Working Group
2012–2013	International Team *Thermonuclear Bursts: Probing Neutron Stars and their Accretion Environments* at the International Space Science Institute, Bern, Switzerland
2011–2012	International Team *Mapping neutron stars with Type I X-ray bursts* at the International Space Science Institute, Bern, Switzerland
2010	Create web interface for MINBAR catalog
2009–2011	Co-organize nuclear physics seminar at University of Minnesota
2005–2007	Editorial Assistant for journal Astronomy and Astrophysics

Awards

2017	$7,500	NuSTAR data analysis grant from NASA
2017	€1,488	AHEAD visitor program
2016	$2,248	International travel grant from American Astronomical Society
2016	AUD 4,163	Distinguished visitor at Monash Centre for Astrophysics
2009	$38,562	Chandra data analysis grant from Harvard CfA
2007	¥400,000	Foreign graduate student invitation program, Tokyo Inst. of Technolog
2006-2008	€1,950	Travel and thesis grants from LKBF

Conferences and Seminars

1. 9/19/2017 Lubbock, TX, USA, STROBE-X Science Working Group meeting. **Invited** talk: *Type I X-Ray Bursts: Populations, Rare Specimen, and Disk Interaction*
2. 8/22/2017 Sun Valley, ID, USA, American Astronomical Society HEAD meeting. **Invited** talk: *Planning and Early Observations for Neutron Star X-Ray Binary Science with NICER*
3. 5/3/2017 Utrecht, The Netherlands, SRON Netherlands Institute for Space Research. Colloquium: *Ready for Launch: The Neutron Star Interior Composition Explorer*
4. 2/1/2017 Bern, Switzerland, ISSI International Team. Talk: *Long Thermonuclear Burst from IGR J17062-6143: Deep Ignition and the Impact on its Surroundings*
5. 11/18/2016 JINA-CEE online seminar: *Long Thermonuclear Burst from IGR J17062-6143: Deep Ignition and the Impact on its Surroundings*
6. 11/16/2016 Washington, DC, USA, George Washington University seminar: *Long Thermonuclear Burst from IGR J17062-6143: Deep Ignition and the Impact on its Surroundings*
7. 7/18/2016 Clayton, VC, Australia, MoCA distinguised visitor at Monash University. Two seminars: *X-ray reflection spectra from accreting neutron stars and AGN* and *Short recurrence time X-ray bursts*
8. 6/27/2016 Tokyo, Japan, X-ray burst workshop at RIKEN. Talk: *Better burst parameters through X-ray reflection*
9. 6/20/2016 Niigata, Japan, Nuclei in the Cosmos conference. **Invited** talk: *Superbursts out of the ashes of X-ray bursts from neutron stars*
10. 5/23/2016 Athens, OH, USA, JINA-CEE International Symposium on Neutron Stars in Multi-Messenger Era. **Invited** talk: *Carbon Creation and Superbursts on Neutron Stars*
11. 5/22/2016 Athens, OH, USA, Workshop "Experiments for X-ray Burst Nucleosynthesis". **Invited** talk: *X-ray burst models: nucleosynthesis in the next dimension!*
12. 4/3/2016 Naples, FL, USA, American Astronomical Society HEAD meeting. Poster: *X-ray reflection of thermonuclear bursts from neutron stars*
13. 12/15/2015 Greenbelt, MD, USA, NICER Science Meeting at NASA/GSFC. Talk: *X-ray reflection from thermonuclear bursts and superbursts*
14. 12/9/2015 Bern, Switzerland, ISSI International Team. Talk: *Anisotropic reflection of carbon flames*
15. 6/17/2015 Madrid, Spain, 40 years of X-ray bursts conference at ESA. Talk: *Superbursts: how to create carbon fuel and ignite it*

16. 11/18/2014 Montreal, Canada, Joint Astrophysics Colloquium at McGill University: *Blasting an accretion disk with X-ray superbursts from neutron stars*
17. 8/18/2014 Chicago, IL, USA, American Astronomical Society HEAD meeting. Poster: *A superburst's impact on the accretion disk around the neutron star in 4U 1636-536*
18. 6/19/2014 Dublin, Ireland, The X-Ray Universe 2014 conference. Talk: *The Impact of an X-Ray Superburst from the Neutron Star in 4U 1636-536 on the Accretion Disk*
19. 6/10/2014 Bern, Switzerland, ISSI International Team. Talk: *The Impact of an X-Ray Superburst from the Neutron Star in 4U 1636-536 on the Accretion Disk*
20. 2/25/2014 Greenbelt, MD, USA, NASA. Goddard Astrophysics Science Division colloquium *Taking the temperature of accreting neutron stars with superbursts*
21. 2/24/2014 College Park, MD, USA, University of Maryland. Nuclear physics seminar: *Thermonuclear burning in the envelope of accreting neutron stars: uncertainties from nuclear physics*
22. 11/16/2013 Atlanta, GA, USA, Astro-GR@Atlanta conference
23. 8/22/2013 Melbourne, Australia, ISSI South workshop. Two talks: *Detailed Comparison of Models to the PCA Superburst from 4U 1636–536*, and *Uncertainties in nuclear physics, the transition of burning regimes, and helium superbursts*
24. 8/12/2013 Melbourne, Australia, Monash University. Astronomy seminar: *Studying uncertainties in nuclear physics using common thermonuclear explosions*
25. 5/30/2013 South Bend, IN, USA, Joint Institute for Astrophysics meeting. Poster: *Reaction Rates and the Stability of Nuclear Burning on Accreting Neutron Stars*
26. 4/11/2013 Monterey, CA, USA, American Astronomical Society HEAD meeting. Talk: *First Models of Neutron Star X-Ray Bursts with Too Short Recurrence Times*
27. 3/29/2013 Detroit, MI, USA, Compact Objects in Michigan conference. Talk: *Oscillating around the transition from bursts to stable burning on neutron stars*
28. 10/9/2012 Detroit, MI, USA, Nuclear Astrophysics Town Meeting
29. 10/7/2012 East Lansing, MI, USA, Frontiers in Nuclear Astrophysics. **Invited** talk: *Superburst ignition on accreting neutron stars*
30. 9/5/2012 Detroit, MI, USA, Wayne State University. Nuclear/Particle/Astronomy seminar: *Superbursts: carbon detonations on accreting neutron stars*
31. 8/16/2012 Chicago, IL, USA, Low-Energy Community meeting. Talk: *X-ray observations: an outlook*
32. 8/7/2012 Cairns, Australia, Nuclei in the Cosmos conference. **Invited** talk: *Superbursts: recent models and observations*
33. 7/26/2012 Melbourne, Australia, Thermonuclear burst workshop. Two talks: *Status of X-ray burst modeling*, and *Photospheric radius expansion in superburst precursors from neutron stars*
34. 3/28/2012 Utrecht, The Netherlands, SRON. Astronomy colloquium: *Superbursts, and how to understand them from simulations*
35. 3/10/2012 Bern, Switzerland, ISSI International Team. Talk: *Superbursts on neutron stars with hydrogen and helium-rich envelopes*
36. 3/1/2012 South Bend, IN, USA, Joint Institute for Astrophysics meeting. Talk: *X-ray bursts and superbursts on neutron stars*
37. 12/12/2011 East Lansing, MI, USA, JINA Webinar broadcast to MSU, UChicago, ANL, ASU, and ND. Seminar: *Superbursts and X-ray burst quenching on neutron*

stars

38. 9/10/2011 Newport, RI, USA, American Astronomical Society HEAD meeting. Talk: *Calm after the storm: burst quenching after a superburst on a neutron star*
39. 7/14/2011 Seattle, WA, USA, Institute for Nuclear Theory workshop on Astrophysical Transients. Talk: *Calm after the storm: burst quenching after a superburst*
40. 6/2/2011 Los Alamos, NM, USA, Neutrino & Nuclear Astrophysics workshop. Talk: *New and rare X-ray bursts from accreting neutron stars*
41. 3/31/2011 Bern, Switzerland, ISSI International Team. Talk: *Shock and awe: modeling the detonation of superbursts in neutron stars*
42. 3/25/2011 Amsterdam, The Netherlands, University of Amsterdam. High energy astronomy seminar: *Probing the neutron star crust with superbursts*
43. 3/24/2011 Bonn, Germany, Universität Bonn. Stellar physics seminar: *Probing accreting neutron stars with superbursts*
44. 3/16/2011 Utrecht, The Netherlands, SRON and Utrecht University. Astronomy colloquium: *Shock and awe: modeling the detonation of superbursts in neutron stars*
45. 11/10/2010 Los Alamos, NM, USA, Los Alamos National Laboratory. LA astro seminar: *Rare thermonuclear bursts from accreting neutron stars*
46. 11/5/2010 Santa Fe, NM, USA, APS DNP meeting. Talk: *Recurring superbursts from neutron stars*
47. 10/22/2010 Lake Geneva, WI, USA, Frontiers in Nuclear Astrophysics. Talk: *Detailed models of recurring superbursts*
48. 10/19/2010 South Bend, IN, USA, Joint Institute for Astrophysics meeting. Poster: *Superbursts from accreting neutron stars*
49. 7/27/2010 Leiden, The Netherlands, Lorentz Center X-ray bursts and burst oscillations workshop. **Invited** talk: *Rip mix burn: rotational mixing and burning of accreted material*
50. 7/21/2010 Bremen, Germany, COSPAR assembly. Two talks: *Detailed models of recurring superbursts* and *Thousands of observed thermonuclear X-ray bursts*
51. 2/16/2010 Caen, France, CompStar school and workshop. Talk: *X-ray bursts: thermonuclear burning on neutron stars*
52. 11/22/2009 East Lansing, MI, USA, Michigan State University/NSCL. Seminar: *X-ray bursts with too short recurrence times*
53. 6/28/2009 East Lansing, MI, USA, National Nuclear Physics Summer School
54. 6/22/2009 Utrecht, The Netherlands, A decade of spinning stars workshop. Talk: *Rotational mixing in the fastest spinning neutron stars*
55. 5/19/2009 Santa Fe, NM, USA, Defining the neutron star crust, conference. Talk: *X-ray bursts with too short recurrence times*
56. 3/20/2009 Los Alamos, NM, USA, Los Alamos National Laboratory. Theory seminar: *Recurring X-ray bursts from neutron stars*
57. 11/18/2008 Minneapolis, MN, USA, University of Minnesota. Nuclear physics seminar: *Thermonuclear burning on accreting neutron stars*
58. 10/21/2008 Amsterdam, The Netherlands, University of Amsterdam. Astronomy seminar: *Thermonuclear burning on accreting neutron stars*
59. 9/8/2008 Copenhagen, Denmark, 7th INTEGRAL workshop. Talk: *On burning regimes and long duration X-ray bursts*
60. 4/14/2008 Amsterdam, The Netherlands, A decade of accreting millisecond pulsars

conference.

61. 5/8/2008 Dalfsen, The Netherlands, Nederlandse Astronomen Conferentie. Talk: *First superburst from a classical transiently accreting neutron star*
62. 8/12/2007 Montreal, Canada, 40 Years of Pulsars conference. Poster: *First superburst from a classical low-mass X-ray binary transient*
63. 3/16/2007 Tokyo, Japan, High Energy Radiation from Compact Objects workshop. Talk: *Superbursts from low mass X-ray Binaries*
64. 3/9/2007 Tokyo, Japan, Tokyo Institute of Technology. Seminar: *X-ray bursts from neutron stars in binaries*
65. 8/17/2006 Montreal, Canada, Mc Gill University. Astronomy seminar: *X-ray burst triplets*
66. 5/30/2006 Dalfsen, The Netherlands, SRON Science Days. Talk: *X-ray Bursts from Neutron Stars in Binaries*
67. 5/11/2006 Cefalu, Italy, The Multicolored Landscape of Compact Objects conference. Poster: *The superburst recurrence time in luminous persistent LMXBs*
68. 10/7/2005 Dwingeloo, The Netherlands, NOVA Fall School. Talk: *The superburst recurrence time*
69. 8/22/2005 Amsterdam, The Netherlands, A Life In Stars conference. Poster: *The superburst recurrence time in luminous persistent LMXBs*
70. 5/18/2005 Blankenberge, Belgium, Nederlandse Astronomen Conferentie. Poster: *A lower limit to the superburst recurrence time in luminous sources*

Publications

Refereed Journals — first author

A&A: Astronomy and Astrophysics; ApJ: The Astrophysical Journal; MNRAS: Monthly Notices of the Royal Astronomical Society; PRL: Physical Review Letters; PASA: Publications of the Astronomical Society of Australia

1. **Keek, L.** Arzoumanian, Z., Chakrabarty, D., et al. 2018, ApJ Letters Volume 856, L37, *NICER Detection of Strong Photospheric Expansion during a Thermonuclear X-Ray Burst from 4U 1820–30*
2. **Keek, L.** Arzoumanian, Z., Bult, P., et al. 2018, ApJ Letters Volume 855, L4, *NICER Observes the Effects of an X-Ray Burst on the Accretion Environment in Aql X-1*
3. **Keek, L.**, Heger, A. 2017, ApJ Volume 842, Issue 2, article id. 113, 10 pp. *Thermonuclear Bursts with Short Recurrence Times from Neutron Stars Explained by Opacity-driven Convection*
4. **Keek, L.**, Iwakiri, W., Serino, M., Ballantyne, D. R., in 't Zand, J. J. M., & Strohmayer, T. E. 2017, ApJ Volume 836, Issue 1, article id. 111, 15 pp. *X-ray Reflection and An Exceptionally Long Thermonuclear Helium Burst from IGR J17062-6143*
5. **Keek, L.**, Wolf, Z., Ballantyne, D. R. 2016, ApJ Volume 826, Issue 1, article id. 79, 13 pp. *Accretion disk signatures in Type I X-ray Bursts: prospects for future missions*
6. **Keek, L.**, Ballantyne, D. R. 2015, MNRAS Volume 456, Issue 3, 12pp. *Revealing the accretion disk corona in Mrk 335 with multi-epoch X-ray spectroscopy*

7. **Keek, L.**, Cumming, A., Wolf, Z., Ballantyne, D. R., Suleimanov, V., Kuulkers, E., Strohmayer, T. E. 2015, MNRAS Volume 454, Issue 4, 8 pp. *The imprint of carbon combustion on a superburst from the accreting neutron star 4U 1636-536*
8. **Keek, L.**, Heger, A. 2015, MNRAS Letters Volume 456, Issue 1, 5pp. *Carbon production on accreting neutron stars in a new regime of stable nuclear burning*
9. **Keek, L.**, Ballantyne, D. R., Kuulkers, E., Strohmayer, T. E. 2014, ApJ Letters Volume 797, Issue 2, article id. L23, 6 pp. *X-Raying an Accretion Disk in Realtime: the Evolution of Ionized Reflection during a Superburst from 4U 1636-536*
10. **Keek, L.**, Ballantyne, D. R., Kuulkers, E., Strohmayer, T. E. 2014, ApJ Volume 789, Issue 2, article id. 121, 10 pp. *Characterizing the Evolving X-Ray Spectral Features during a Superburst from 4U 1636-536*
11. **Keek, L.**, Cyburt, R. H., Heger, A. 2014, ApJ Volume 787, Issue 2, article id. 101, 11 pp. *Reaction Rate and Composition Dependence of the Stability of Thermonuclear Burning on Accreting Neutron Stars*
12. **Keek, L.** 2012, ApJ 756, Issue 2, article id. 130, 8 pp. *Photospheric Radius Expansion in Superburst Precursors from Neutron Stars*
13. **Keek, L.**, Heger, A., & in 't Zand, J. J. M. 2012, ApJ Volume 752, Issue 2, article id. 150, 13 pp. *Superburst Models for Neutron Stars with Hydrogen- and Helium-rich Atmospheres*
14. **Keek, L.**, Heger, A. 2011, ApJ Volume 743, Issue 2, article id. 189, 15 pp. *Multi-Zone Models of Superbursts from Accreting Neutron Stars*
15. **Keek, L.**, Galloway, D. K., in 't Zand, J. J. M., Heger, A. 2010, ApJ Volume 718, Issue 1, pp. 292-305 *Multi-instrument X-ray Observations of Thermonuclear Bursts with Short Recurrence Times*
16. **Keek, L.**, Langer, N., In 't Zand, J. J. M. 2009, A&A Volume 502, Issue 3, pp.871-881 *The effect of rotation on the stability of nuclear burning in accreting neutron stars*
17. **Keek, L.**, In 't Zand, J. J. M., Kuulkers, E., Cumming, A., Brown, E. F., Suzuki, M. 2008, A&A Volume 479, Issue 1, pp.177-188 *First superburst from a classical low-mass X-ray binary transient*
18. **Keek, L.**, In 't Zand, J. J. M., & Cumming, A. 2006, A&A Volume 455, Issue 3, pp.1031-1036 *The superburst recurrence time in luminous persistent LMXBs*

Refereed Journals — coauthor

* First author is a student (co-)advised by me.

19. Strohmayer, T. E., Arzoumanian, Z., ..., **Keek, L.**, et al. 2018, ApJ Letters Volume 858, Issue 2, article id. L13, 7 pp. *NICER Discovers the Ultracompact Orbit of the Accreting Millisecond Pulsar IGR J17062–6143*
20. Ludlam, R. M., Miller, J. M., ..., **Keek, L.**, et al. 2018, ApJ Letters Volume 858, Issue 1, article id. L5, *Detection of Reflection Features in the Neutron Star Low-mass X-Ray Binary Serpens X-1 with NICER*
21. Chambers, F. R. N., Watts, A. L.; Cavecchi, Y., Garcia, F., **Keek, L.** 2018, MNRAS Volume 477, Issue 4, p4391–4402 *Superburst oscillations: ocean and crustal modes excited by carbon-triggered type I X-ray bursts*
22. Galloway, D. K., In 't Zand, J. J. M., Chenevez, J., **Keek, L.**, et al. 2018, ApJ Letters, Volume 857, Issue 2, article id. L24, *The Influence of Stellar Spin on*

Ignition of Thermonuclear Runaways

23. In't Zand, J. J. M., Visser, M. E. B., . . . , **Keek, L.**, et al. 2017, A&A, Volume 606, id.A130, 17 pp. *Neutron star cooling and the rp process in thermonuclear X-ray bursts*
24. Galloway, D. K., Goodwin, A. J., **Keek, L.** 2017, PASA Volume 34, id.e019 12 pp. *Thermonuclear Burst Observations for Model Comparisons: A Reference Sample*
25. Ong, W.-J., Langer, C., Montes, F., . . . , **Keek, L.**, et al. 2017, Physical Review C *Low-lying level structure of ^{56}Cu and its implications on the rp process*
26. Strohmayer, T. E., **Keek, L.** 2017, ApJ Letters, Volume 836, Issue 2, article id. L23, 5 pp. *IGR J17062-6143 Is an Accreting Millisecond X-Ray Pulsar*
27. Cyburt, R. H., Amthor, A. M., Heger, A., Johnson, E., **Keek, L.**, Meisel, Z., Schatz, H., & Smith, K. 2016, ApJ Volume 830, Issue 2, article id. 55, 20 pp. *Dependence of X-Ray Burst Models on Nuclear Reaction Rates*
28. He, C.-C.*, **Keek, L.** 2015, ApJ accepted, 12 pp. *Anisotropy of X-ray bursts from neutron stars with concave accretion disks*
29. Lyu, M., Mendez, M., Zhang, G., **Keek, L.** 2015, MNRAS Volume 454, Issue 1, p.541-549 *Spectral and timing analysis of the mHz QPOs in the neutron-star low-mass X-ray binary 4U 1636-53*
30. In 't Zand, J. J. M., **Keek, L.**, Cavecchi, Y 2014, A&A Volume 568, A69, 11 pp. *Relativistic outflow from two thermonuclear shell flashes on neutron stars*
31. Langer, C., Montes, F., Aprahamian, A., Bardayan, D. W., Bazin, D., Brown, B. A., . . . , **Keek, L.**, et al. 2014, PRL Volume 113, 032502, 5 pp. *Determining the rp-Process Flow through ^{56}Ni: Resonances in ^{57}Cu(p,γ)^{58}Zn Identified with GRETINA*
32. Schatz, H., Gupta, S., Möller, P., Beard, M., Brown, E. F., . . . , **Keek, L.**, et al. 2014, **Nature** Volume 505, Issue 7481, pp. 62-65 *Strong neutrino cooling by cycles of electron capture and β^- decay in neutron star crusts*
33. In 't Zand, J. J. M., Homan, J., **Keek, L.**, Palmer, D. M. 2012, A&A Volume 547, id.A47, 8 pp. *Superexpansion as a possible probe of accretion in 4U 1820-30*
34. Altamirano, D., **Keek, L.**, Cumming, A., Sivakoff, G. R., Heinke, C. O., Wijnands, R., Degenaar, N., Homan, J., & Pooley, D. 2012, MNRAS Volume 426, Issue 2, pp. 927-934. *A superburst candidate in EXO 1745–248 as a challenge to thermonuclear ignition models*
35. Linares, M., Altamirano, D., Chakrabarty, D., Cumming, A., **Keek, L.** 2011, ApJ Volume 748, Issue 2, article id. 82, 13 pp. *Millihertz quasi-periodic oscillations and thermonuclear bursts from Terzan 5: A showcase of burning regimes*
36. In 't Zand, J. J. M., **Keek, L.**, Cumming, A., Heger, A., Homan, J., & Méndez, M. 2009, A&A Volume 497, Issue 2, pp.469-480 *Long tails on thermonuclear X-ray bursts from neutron stars: a signature of inward heating?*
37. In 't Zand, J. J. M., Bassa, C. G., Jonker, P. G., **Keek, L.**, Verbunt, F., Méndez, M., Markwardt, C. B. 2008, A&A Volume 485, Issue 1, pp.183-194 *An X-ray and optical study of the ultracompact X-ray binary A 1246-58*
38. Boirin, L., **Keek, L.**, Méndez, M., Cumming, A., In 't Zand, J. J. M., Cottam, J., Paerels, F., Lewin, W. H. G. 2007, A&A Volume 465, Issue 2, pp.559-573 *Discovery of X-ray burst triplets in EXO 0748-676*

Other Publications

39. Galloway, D. K. & **Keek, L.** 2017 *Thermonuclear X-ray bursts* (review to be published as book chapter)
40. Iwakiri, W., **Keek, L.**, Serino, M., et al. 2015, The Astronomer's Telegram, No.8253 *Swift/XRT observation of superburst from IGR J17062-6143/Swift J1706.6-6146*
41. In 't Zand, J. J. M., ..., **Keek, L.**, et al. 2015, White Paper in Support of the Mission Concept of LOFT: *The LOFT perspective on neutron star thermonuclear bursts*
42. Feroci, M., ..., **Keek, L.**, et al. 2012, Proceedings of SPIE *LOFT: the Large Observatory For X-ray Timing*
43. **Keek, L.** & In 't Zand, J. J. M. 2008, Proceedings of the 7th INTEGRAL Workshop. 8 - 11 September 2008 Copenhagen, Denmark. *On burning regimes and long duration X-ray bursts* (refereed)
44. Jonker, P. G. & **Keek, L.** 2008, The Astronomer's Telegram *AX J1754.2-2754: back in outburst*

Accepted Observing Proposals

- **Keek, L.**, Strohmayer, T. E. 2017, NuSTAR Proposal *NICER+NuSTAR: broadband observation of X-ray bursts from 4U 1636-536* (reaccepted in 2018)
- **Keek, L.**, In 't Zand, J. J. M., Jonker, P. G., Méndez, M. 2008, Chandra Proposal *Taking the temperature of the superburster 4U 1608-522 after an outburst* (reaccepted in 2009 and 2011)
- **Keek, L.**, In 't Zand, J. J. M., Jonker, P. G., Méndez, M. 2007, XMM-Newton Proposal ID #05558401 *Taking the temperature of the superburster 4U 1608-522 after an outburst* (reaccepted in 2010)
- **Keek, L.** & Jonker, P. G. 2007, Chandra Proposal (Director's Discretionary Time) *The cold neutron star in the long-duration transient AX J1754.2-2754*