

Curriculum Vitae of Henric Krawczynski

Wilfred R. and Ann Lee Konneker Distinguished Professor in Physics

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Education

Yale University	Astrophysics	Post-Doctoral 2000-2001
Max-Planck-Institut für Kernphysik	Astrophysics	Post-Doctoral 1997-2000
University of Hamburg, Germany	Physics	Ph. D. in Physics, 1997
University of Hamburg, Germany	Physics	Diploma in Physics, 1994

Appointments

Washington University in St. Louis	Wilfred R. and Ann Lee Konneker Distinguished Professor in Physics	2023- ~
Washington University in St. Louis	Chair of the Physics Department	2022- ~
Washington University in St. Louis	Professor	2011-2019
Washington University in St. Louis	Associate Professor	2007-2011
Washington University in St. Louis	Assistant Professor	2002-2007
Yale University	Lecturer	2001-2002

Research Interests

Experimental High-Energy Astrophysics (PI of the Balloon-Borne X-ray Telescope XL-Calibur and the DR-TES mission, development of X-ray and gamma-ray detectors), Theoretical and Observational Astrophysics (test of strong gravity with X-ray observations, modeling of the emission from blazars, microquasars, quasars and gravitationally lensed quasars).

Management Experience

Krawczynski has been the principal investigator (PI) of twenty seven grants (mostly NASA) and the co-investigator of six grants. He has been the principal investigator of *X(L)-Calibur* since 2011. He led the X-Calibur experiment on flights in 2016 (Fort Sumner, NM), 2018/19 (McMurdo), and 2022 (Esrangle, Sweden). Krawczynski is the PI of two NASA grants for the development of cryogenic X-ray detectors. The projects include launching a dilution refrigerator and a prototype detector on a one-day stratospheric balloon flight from Fort Sumner, NM, in September 2023. Krawczynski's NASA sponsored work includes the analysis of X-ray data from the NICER, NuSTAR, Swift, and Chandra satellites. Krawczynski is co-leading the Washington University ballooning support group consisting of two electrical engineers, a mechanical technician and an electrical technician. At Washington University, Krawczynski

was the primary advisor of 7 post-doctoral researchers and 15 graduate students. Currently he advises 7 graduate students.

Publications and Impact (See Appendix for Full Publication List, status of Feb. 2019)

<i>Refereed Journal Papers</i>	260
<i>Conference Proceedings</i>	21
<i>Books</i>	1
<i>h-Index</i>	82 (Google Scholar)
<i>Total Citations</i>	22,078 (Google Scholar)

Selected Recent Journal Articles

- 1) Ingram, A., M. Ewing, A. Marinucci, and 105 colleagues 2023, "The X-ray polarization of the Seyfert 1 galaxy IC 4329A", *Monthly Notices of the Royal Astronomical Society*, 525, 5437-5449, <https://ui.adsabs.harvard.edu/abs/2023MNRAS.525.5437I>
- 2) Mushtukov, A. A., S. S. Tsygankov, J. Poutanen, and 103 colleagues 2023, "X-ray polarimetry of X-ray pulsar X Persei: another orthogonal rotator?", *Monthly Notices of the Royal Astronomical Society*, 524, 2004-2014, <https://ui.adsabs.harvard.edu/abs/2023MNRAS.524.2004M>
- 3) Doroshenko, V., J. Poutanen, J. Heyl, and 109 colleagues 2023, "Complex variations in X-ray polarization in the X-ray pulsar LS V +44 17/RX J0440.9+4431", *Astronomy and Astrophysics*, 677, A57, <https://ui.adsabs.harvard.edu/abs/2023A&A...677A..57D>
- 4) Marin, F., E. Churazov, I. Khabibullin, and 101 colleagues 2023, "X-ray polarization evidence for a 200-year-old flare of Sgr A*", *Nature*, 619, 41-45, <https://ui.adsabs.harvard.edu/abs/2023Natur.619...41M>
- 5) Bucciantini, N., R. Ferrazzoli, M. Bachetti, and 98 colleagues 2023, "Simultaneous space and phase resolved X-ray polarimetry of the Crab pulsar and nebula", *Nature Astronomy*, 7, 602-610, <https://ui.adsabs.harvard.edu/abs/2023NatAs...7..602B>
- 6) Shirazi, F., E. Gau, M. A. Hossen, and 18 colleagues 2023, "511-CAM mission: a pointed 511 keV gamma-ray telescope with a focal plane detector made of stacked transition edge sensor microcalorimeter arrays", *Journal of Astronomical Telescopes, Instruments, and Systems*, 9, 024006, <https://ui.adsabs.harvard.edu/abs/2023JATIS...9b4006S>
- 7) Iyer, N. K., M. Kiss, M. Pearce, and 31 colleagues 2023, "The design and performance of the XL-Calibur anticoincidence shield", *Nuclear Instruments and Methods in Physics Research A*, 1048, 167975, <https://ui.adsabs.harvard.edu/abs/2023NIMPA104867975I>
- 8) Xie, F., A. Di Marco, F. La Monaca, and 90 colleagues 2022, "Vela pulsar wind nebula X-rays are polarized to near the synchrotron limit", *Nature*, 612, 658-660, <https://ui.adsabs.harvard.edu/abs/2022Natur.612..658X>
- 9) Krawczynski, H., F. Muleri, M. Dovčiak, and 111 colleagues 2022, "Polarized x-rays constrain the disk-jet geometry in the black hole x-ray binary Cygnus X-1", *Science*, 378, 650-654, <https://ui.adsabs.harvard.edu/abs/2022Sci...378..650K>
- 10) Taverna, R., R. Turolla, F. Muleri, and 93 colleagues 2022, "Polarized x-rays from a magnetar", *Science*, 378, 646-650, <https://ui.adsabs.harvard.edu/abs/2022Sci...378..646T>