James F. Steiner (Jack)

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Contact Information

Harvard-Smithsonian Center for Astrophysics — Rm. B-423
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Research Positions

Astrophysicist, Smithsonian Astrophysical Observatory, CfA	2019 – *present*
Research Scientist, MIT	2018 – 2019
Einstein Postdoctoral Fellow, MIT	2015 – 2018
Guest Faculty, Université Paris Diderot	Spring 2017
Hubble Postdoctoral Fellow, Center for Astrophysics	2012 – 2015
Postdoctoral Associate, University of Cambridge	2012

Education

Ph.D. *Astronomy*, Harvard University — 2012
Advisor: Jeffrey McClintock
Thesis Title: Spin Measurements of Accreting Black Holes: A Foundation for X-ray Continuum Fitting

B.S. *Astrophysics* & B.S. *Applied Mathematics*, Ohio University — 2006

Publication Record

NASA ADS bibliometrics (as of Oct. 2022) — *h*-index: 39 — 103 Refereed articles — Total citations: > 5300 (14 as 1^{st} author)

Selected Honors

Bok Prize	2020
Einstein Fellowship	2015 – 2018
Hubble Fellowship	2012 – 2015
Fireman Prize Fellowship	2012
Harvard Merit Fellowship	2010
Harvard University Certificate of Distinction in Teaching	2008, 2010
Barry M. Goldwater Scholarship	2004 – 2005
Robert Gescy Physics Scholarship	2002

Professional Activities

Chandra X-ray Center, ACIS Operations.
NICER, Cal X-1, IXPE, STROBE-X, LEM, and HSEE Science Teams.
Co-Chair, EAS2021 Symposium Birth, Life, Death of BHs.
SOC, Chandra Frontiers in Time-Domain Science (2020)
Peer Reviewer for ApJ, MNRAS, PASJ, JCAP, and Nature.
NASA IGES and NESSF Reviewer.
NuSTAR Users' Committee Representative (2018-present).

Teaching & Mentorship

Hamilton College Guest Lecture	2020, 2021, 2022
Wheaton College Guest Lecture	2016, 2018
Fudan Winter School on Black Holes (5 Lectures)	Feb. 2014
Harvard University Teaching Fellow ("The Energetic Universe")	2008, 2010
Ohio University Math and Physics Tutor	2002, 2003

Advising & Mentoring Experience:

PhD Students: S. Ubach, Y. Feng, C. Peris, K. Choudhury
Masters Students: B. Ricketts, E. Tregidga
Undergraduate Students: J. Wang, J. Jiang, J. Fenton, T. Rehman
High-School Students: T. Kiker

Selected First-Authored Publications

Self-Consistent Black Hole Accretion Spectral Models and the Forgotten Role of Coronal Comptonization of Reflection Emission
J. F. Steiner, J. A. García, W. Eikmann, *et al.*, 2017, ApJ, 836, 119

The Low-Spin Black Hole in LMC X–3
J. F. Steiner, J. E. McClintock, J. A. Orosz, *et al.*, 2014, ApJL, 793, L29

Modeling the Optical-X-ray Lag in LMC X–3: Insights into BH Accretion Physics
J. F. Steiner, J. E. McClintock, J. A. Orosz, *et al.*, 2014, ApJ, 783, 101

Jet Power and BH Spin: Testing a Relationship and Predicting the Spin of 6 BHs
J. F. Steiner, J. E. McClintock, & R. Narayan, 2013, ApJ, 762, 104

A Broad Iron Line in LMC X–1
J. F. Steiner, R. C. Reis, A. C. Fabian, R. Remillard, *et al.*, 2012, MNRAS, 427, 2552

The Distance, Inclination, and Spin of the Black Hole Microquasar H1743–322
J. F. Steiner, J. E. McClintock, & M. J. Reid, 2012, ApJL, 745, 7

The Spin of the BH XTE J1550–564 via the Continuum-Fitting and Fe-Line Methods
J. F. Steiner, R. C. Reis, J. E. McClintock, *et al.*, 2011, MNRAS, 416, 941

The Constant Inner-Disk Radius of LMC X–3: A Basis for Measuring Black Hole Spin
J. F. Steiner, J. E. McClintock, R. A. Remillard, *et al.*, 2010, ApJL, 718, L117

Selected Co-Authored Publication

Disk, Corona, Jet Connection in the Intermediate State of MAXI J1820+070 Revealed by NICER Spectral-timing Analysis
J. Wang, G. Mastroserio, E. M. Kara, ***et al.***, 2021, ApJ, 910, 3

Deep ensemble analysis for Imaging X-ray Polarimetry
A. Peirson, R. Romani, H. Marshall, **J. F. Steiner**, & L. Baldini, 2021, NIMPA, 986

NICER observations reveal that X-ray transient MAXI J1348-630 is a BH X-ray binary
L. Zhang, D. Altamirano, V. A. Cuneo, ***et al.***, 2020, MNRAS, 499, 851

A NICER View of a Highly Absorbed Flare in GRS 1915+105
J. Neilsen, J. Homan, **J. F. Steiner**, *et al.*, 2020, ApJ, 902, 152

A NICER look at state transitions of the BH MAXI J1535-571 during its reflares
V. A. Cuneo, K. Alabarta, L. Zhang, ***et al.***, 2020, MNRAS, 496, 1001

Relativistic Reflection and Reverberation in GX 339-4 with NICER and NuSTAR
J. Wang, E. M. Kara, **J. F. Steiner**, *et al.*, 2020, ApJ, 899, 44

A Loud Quasi-Periodicity after a Star is Disrupted by a Massive Black Hole
D. R. Pasham, R. A. Remillard, P. C. Fragile, ***et al.***, 2019, Science, 363, 531

The Corona Contracts in a New Black-Hole Transient
E. M. Kara, **J. F. Steiner**, A. C. Fabian, *et al.*, Nature, 2019, 565, 198

A NICER Discovery of a LF QPO in the Soft-intermediate State of MAXI J1535–571
A. L. Stevens, P. Uttley, D. Altamirano, ***et al.***, 2018, ApJ, 865, 15

Improved Reflection Models of Black Hole Accretion Disks
J. A. García, T. Dauser, A. M. Lohfink, ***et al.***, 2015, ApJ, 782, 76

Using Iron Line Reverberation and Spectroscopy to Distinguish Kerr and non-Kerr BHs
J. Jiang, C. Bambi, & **J. F. Steiner**, 2015, JCAP, 5, 25

Long XMM Obs. of IRAS13224–3809: Rapid Variability, High Spin and a Soft Lag
A. C. Fabian, E. M. Kara, D. J. Walton, ***et al.***, 2013, MNRAS, 429, 2917