

Britton Jeter | Curriculum Vitae

Home Address

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Education

University of Waterloo

Waterloo, ON

Ph.D. Physics

Sept. 2014–Sept. 2020

- Thesis: Messier 87: A Laboratory for Exploring AGN Variability using the Event Horizon Telescope.
- Supervisor: Avery Broderick

University of Illinois at Urbana-Champaign

Urbana, IL

B.S. Physics with Minor in Mathematics, High Distinction

Sept. 2010–May. 2014

Employment

Academia Sinica

Taipei

Institute for Astronomy and Astrophysics, Postdoctoral Fellow

Nov. 2021–Present

University of Waterloo

Waterloo, ON

Department of Physics and Astronomy, Postdoctoral Fellow

Oct. 2020–Oct. 2021

Research Interests

- Supermassive Black Holes
- Accretion Physics
- Relativistic Jet Launching
- Active Galactic Nuclei
- Very Long Baseline Interferometry
- Bayesian Imaging and Modelling

Roles and Representation

American Astronomical Society

Member

2023–Present

Early Career Council, EHT

Member

2023–2024

Science Organizing Committee, 2023 EHT Summer Meeting

Member

2023

Model Comparison and Feature Extraction Working Group, EHT

Working Group Coordinator

2022–Present

Awards & Honours

Awards as a contributor to the Event Horizon Telescope.....

Group Award (A)

Royal Astronomical Society

2021

2020 AAS Bruno Rossi Prize

American Astronomical Society (AAS)

2020

2020 Einstein Medal

Albert Einstein Society

2019

2020 Breakthrough Prize in Fundamental Physics <i>Fundamental Physics Prize Foundation</i>	2019
Diamond Achievement Award <i>National Science Foundation</i>	2019
Ph.D. Awards.....	
International Doctoral Student Award <i>University of Waterloo</i>	2014–2020
Value: \$ 6,000 per year	
Marie Curie Award <i>University of Waterloo</i>	2014–2020
Value: \$ 6,000 per year	
Science Doctoral Award <i>University of Waterloo</i>	2014–2020
Value: \$ 3,000 per year	

Teaching Experience

- ASIAA Postdoctoral Fellow.....
- "How Do We See Black Holes", Taiwan Astronomical Museum Summer Camp Lecture, Aug. 2024
 - "Observing Black Holes", ASIAA Summer Student Lecture, Jul. 2024
- University of Waterloo Graduate Teaching Assistant.....
- PHYS 375 Stars Winter 2019
 - SCI 237 Exploring The Universe (Survey Course) Fall 2018
 - PHYS 275 Planets Fall 2017
 - PHYS 122 Waves, Electricity, and Magnetism Winter 2017
 - SCI 238 Introductory Astronomy Winter 2016, Winter 2018
 - ECE 105 Mechanics for Engineers Fall 2015, Fall 2016
 - PHYS 175 Introduction to the Universe Winter 2015
 - PHYS 111L Mechanics Lab Fall 2014

Professional Talks

- Jul. 2024, European Astronomical Society (EAS) Meeting, Padova, Italy, "New EHT Results of the M87* Shadow: Multi-Epoch Constraints on a New Simulation Library", (Invited)
- Jun. 2024, ASIAA Lunch Talks, Taipei, Taiwan, "Recent Updates from the EHT: M87 2018 and Sgr A* Polarimetry in 2017"
- May 2024, Taiwan Astronomical Society (ASROC) Meeting, "The First results of the Greenland Telescope Project (2): New Observations from the Event Horizon Telescope of M87*'s persistent black hole shadow", (Invited)
- Jan. 2024, American Astronomical Society (AAS) Winter Meeting, New Orleans, Louisiana, "Multi-Year Imaging of M87* with the EHT", (Invited)
- Dec. 2023, NTNU Energetic Universe Workshop, Taipei, Taiwan, "How to Weigh Super-massive Black Holes", (Invited)
- Nov. 2023, East Asia VLBI Workshop (EAVW), Shanghai, China, "The EHT in the Present and Future", (Invited)

- May 2022, ASIAA Colloquium, Taipei, Taiwan, "Our Supermassive Black Hole: The First Sagittarius A* Results from the Event Horizon Telescope", with C. Romero-Cañizales

Outreach Talks

- Jan. 2024, ASIAA Public Talk, Taipei, Taiwan, "M87* One Year Later", Presenter and Panelist
- Feb. 2022, ASIAA Teacher's Workshop, Taipei, Taiwan, "Uncovering the Mysteries of Black Holes"
- Aug. 2022, Astronomy on Tap, Taipei, Taiwan, "Black Hole Bestiary: Undead Stars and Primordial Old Ones"

Technical Skills

Bash, Python, Mat-Lab, C++

Publications

First Author Refereed Publications.....

- [1] **Britton Jeter** and Avery E. Broderick. "Reconciling EHT and Gas-dynamics Measurements in M87: Is the Jet Misaligned at Parsec Scales?" *ApJ* 908.2, 139 (Feb. 2021), p. 139.
- [2] **Britton Jeter**, Avery E. Broderick, and Roman Gold. "Differentiating disc and black hole-driven jets with EHT images of variability in M87". *MNRAS* 493.4 (Apr. 2020), pp. 5606–5616.
- [3] **Britton Jeter**, Avery E. Broderick, and B. R. McNamara. "Impact of Accretion Flow Dynamics on Gas-dynamical Black Hole Mass Estimates". *ApJ* 882.2, 82 (Sept. 2019), p. 82.

Ph.D. Thesis.....

- [1] **Britton Jeter**. *Messier 87: A Laboratory for Exploring AGN Variability using the Event Horizon Telescope*. 2020.

Other Papers.....

- [1] Alexander W. Raymond, Sheperd S. Doeleman, Keiichi Asada, Lindy Blackburn, Geoffrey C. Bower, Michael Bremer, et al. "First Very Long Baseline Interferometry Detections at 870 μm ". *AJ* 168.3, 130 (Sept. 2024), p. 130.
- [2] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Juan Carlos Algaba, Richard Anantua, et al. "First Sagittarius A* Event Horizon Telescope Results. VIII. Physical Interpretation of the Polarized Ring". *ApJL* 964.2, L26 (Apr. 2024), p. L26.
- [3] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Juan Carlos Algaba, Richard Anantua, et al. "First Sagittarius A* Event Horizon Telescope Results. VII. Polarization of the Ring". *ApJL* 964.2, L25 (Apr. 2024), p. L25.
- [4] G. F. Paraschos, J. -Y. Kim, M. Wielgus, J. Röder, T. P. Krichbaum, E. Ros, et al. "Ordered magnetic fields around the 3C 84 central black hole". *A&A* 682, L3 (Feb. 2024), p. L3.

- [5] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Juan Carlos Algaba, Richard Anantua, et al. "The persistent shadow of the supermassive black hole of M 87. I. Observations, calibration, imaging, and analysis". *A&A* 681, A79 (Jan. 2024), A79.
- [6] J. Y. Koay, K. Asada, S. Matsushita, C. -Y. Kuo, C. -W. L. Huang, C. Romero-Cañizales, et al. "Absolute Flux Density Calibration of the Greenland Telescope Data for Event Horizon Telescope Observations". *arXiv e-prints*, arXiv:2312.02759 (Dec. 2023), arXiv:2312.02759.
- [7] Pablo Torne, Kuo Liu, Ralph P. Eatough, Jompoj Wongphechauxsorn, James M. Cordes, Gregory Desvignes, et al. "A Search for Pulsars around Sgr A* in the First Event Horizon Telescope Data Set". *ApJ* 959.1, 14 (Dec. 2023), p. 14.
- [8] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Juan Carlos Algaba, Richard Anantua, et al. "First M87 Event Horizon Telescope Results. IX. Detection of Near-horizon Circular Polarization". *ApJL* 957.2, L20 (Nov. 2023), p. L20.
- [9] Freek Roelofs, Michael D. Johnson, Andrew Chael, Michael Janssen, Maciek Wielgus, Avery E. Broderick, et al. "Polarimetric Geometric Modeling for mm-VLBI Observations of Black Holes". *ApJL* 957.2, L21 (Nov. 2023), p. L21.
- [10] Ben S. Prather, Jason Dexter, Monika Moscibrodzka, Hung-Yi Pu, Thomas Bronzwaer, Jordy Davelaar, et al. "Comparison of Polarized Radiative Transfer Codes Used by the EHT Collaboration". *ApJ* 950.1, 35 (June 2023), p. 35.
- [11] Svetlana Jorstad, Maciek Wielgus, Rocco Lico, Sara Issaoun, Avery E. Broderick, Dominic W. Pesce, et al. "The Event Horizon Telescope Image of the Quasar NRAO 530". *ApJ* 943.2, 170 (Feb. 2023), p. 170.
- [12] Avery E. Broderick, Dominic W. Pesce, Roman Gold, Paul Tiede, Hung-Yi Pu, Richard Anantua, et al. "The Photon Ring in M87*". *ApJ* 935.1, 61 (Aug. 2022), p. 61.
- [13] Sara Issaoun, Maciek Wielgus, Svetlana Jorstad, Thomas P. Krichbaum, Lindy Blackburn, Michael Janssen, et al. "Resolving the Inner Parsec of the Blazar J1924-2914 with the Event Horizon Telescope". *ApJ* 934.2, 145 (Aug. 2022), p. 145.
- [14] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Juan Carlos Algaba, Richard Anantua, et al. "First Sagittarius A* Event Horizon Telescope Results. IV. Variability, Morphology, and Black Hole Mass". *ApJL* 930.2, L15 (May 2022), p. L15.
- [15] Maciek Wielgus, Nicola Marchili, Iván Martí-Vidal, Garrett K. Keating, Venkatesh Ramakrishnan, Paul Tiede, et al. "Millimeter Light Curves of Sagittarius A* Observed during the 2017 Event Horizon Telescope Campaign". *ApJL* 930.2, L19 (May 2022), p. L19.
- [16] Boris Georgiev, Dominic W. Pesce, Avery E. Broderick, George N. Wong, Vedant Dhruv, Maciek Wielgus, et al. "A Universal Power-law Prescription for Variability from Synthetic Images of Black Hole Accretion Flows". *ApJL* 930.2, L20 (May 2022), p. L20.
- [17] Joseph Farah, Peter Galison, Kazunori Akiyama, Katherine L. Bouman, Geoffrey C. Bower, Andrew Chael, et al. "Selective Dynamical Imaging of Interferometric Data". *ApJL* 930.2, L18 (May 2022), p. L18.

- [18] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Juan Carlos Algaba, Richard Anantua, et al. “First Sagittarius A* Event Horizon Telescope Results. I. The Shadow of the Supermassive Black Hole in the Center of the Milky Way”. *ApJL* 930.2, L12 (May 2022), p. L12.
- [19] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Juan Carlos Algaba, Richard Anantua, et al. “First Sagittarius A* Event Horizon Telescope Results. V. Testing Astrophysical Models of the Galactic Center Black Hole”. *ApJL* 930.2, L16 (May 2022), p. L16.
- [20] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Juan Carlos Algaba, Richard Anantua, et al. “First Sagittarius A* Event Horizon Telescope Results. III. Imaging of the Galactic Center Supermassive Black Hole”. *ApJL* 930.2, L14 (May 2022), p. L14.
- [21] Avery E. Broderick, Roman Gold, Boris Georgiev, Dominic W. Pesce, Paul Tiede, Chunchong Ni, et al. “Characterizing and Mitigating Intraday Variability: Reconstructing Source Structure in Accreting Black Holes with mm-VLBI”. *ApJL* 930.2, L21 (May 2022), p. L21.
- [22] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Juan Carlos Algaba, Richard Anantua, et al. “First Sagittarius A* Event Horizon Telescope Results. VI. Testing the Black Hole Metric”. *ApJL* 930.2, L17 (May 2022), p. L17.
- [23] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Juan Carlos Algaba, Richard Anantua, et al. “First Sagittarius A* Event Horizon Telescope Results. II. EHT and Multiwavelength Observations, Data Processing, and Calibration”. *ApJL* 930.2, L13 (May 2022), p. L13.
- [24] Kaushik Satapathy, Dimitrios Psaltis, Feryal Özel, Lia Medeiros, Sean T. Dougall, Chi-Kwan Chan, et al. “The Variability of the Black Hole Image in M87 at the Dynamical Timescale”. *ApJ* 925.1, 13 (Jan. 2022), p. 13.
- [25] Michael Janssen, Heino Falcke, Matthias Kadler, Eduardo Ros, Maciek Wielgus, Kazunori Akiyama, et al. “Event Horizon Telescope observations of the jet launching and collimation in Centaurus A”. *Nature Astronomy* 5 (July 2021), pp. 1017–1028.
- [26] Ramesh Narayan, Daniel C. M. Palumbo, Michael D. Johnson, Zachary Gelles, Elizabeth Himwich, Dominic O. Chang, et al. “The Polarized Image of a Synchrotron-emitting Ring of Gas Orbiting a Black Hole”. *ApJ* 912.1, 35 (May 2021), p. 35.
- [27] Prashant Kocherlakota, Luciano Rezzolla, Heino Falcke, Christian M. Fromm, Michael Kramer, Yosuke Mizuno, et al. “Constraints on black-hole charges with the 2017 EHT observations of M87*”. *Phys. Rev. D* 103.10, 104047 (May 2021), p. 104047.
- [28] EHT MWL Science Working Group, J. C. Algaba, J. Anczarski, K. Asada, M. Baloković, S. Chandra, et al. “Broadband Multi-wavelength Properties of M87 during the 2017 Event Horizon Telescope Campaign”. *ApJL* 911.1, L11 (Apr. 2021), p. L11.
- [29] Ciriaco Goddi, Iván Martí-Vidal, Hugo Messias, Geoffrey C. Bower, Avery E. Broderick, Jason Dexter, et al. “Polarimetric Properties of Event Horizon Telescope Targets from ALMA”. *ApJL* 910.1, L14 (Mar. 2021), p. L14.

- [30] Event Horizon Telescope Collaboration, Kazunori Akiyama, Juan Carlos Algaba, Antxon Alberdi, Walter Alef, Richard Anantua, et al. "First M87 Event Horizon Telescope Results. VIII. Magnetic Field Structure near The Event Horizon". *ApJL* 910.1, L13 (Mar. 2021), p. L13.
- [31] Event Horizon Telescope Collaboration, Kazunori Akiyama, Juan Carlos Algaba, Antxon Alberdi, Walter Alef, Richard Anantua, et al. "First M87 Event Horizon Telescope Results. VII. Polarization of the Ring". *ApJL* 910.1, L12 (Mar. 2021), p. L12.
- [32] Maciek Wielgus, Kazunori Akiyama, Lindy Blackburn, Chi-kwan Chan, Jason Dexter, Sheperd S. Doeleman, et al. "Monitoring the Morphology of M87* in 2009-2017 with the Event Horizon Telescope". *ApJ* 901.1, 67 (Sept. 2020), p. 67.
- [33] Jae-Young Kim, Thomas P. Krichbaum, Avery E. Broderick, Maciek Wielgus, Lindy Blackburn, José L. Gómez, et al. "Event Horizon Telescope imaging of the archetypal blazar 3C 279 at an extreme 20 microarcsecond resolution". *A&A* 640, A69 (Aug. 2020), A69.
- [34] Roman Gold, Avery E. Broderick, Ziri Younsi, Christian M. Fromm, Charles F. Gammie, Monika Mościbrodzka, et al. "Verification of Radiative Transfer Schemes for the EHT". *ApJ* 897.2, 148 (July 2020), p. 148.
- [35] Avery E. Broderick, Roman Gold, Mansour Karami, Jorge A. Preciado-López, Paul Tiede, Hung-Yi Pu, et al. "THEMIS: A Parameter Estimation Framework for the Event Horizon Telescope". *ApJ* 897.2, 139 (July 2020), p. 139.
- [36] F. Roelofs, M. Janssen, I. Natarajan, R. Deane, J. Davelaar, H. Olivares, et al. "SYMBA: An end-to-end VLBI synthetic data generation pipeline. Simulating Event Horizon Telescope observations of M 87". *A&A* 636, A5 (Apr. 2020), A5.
- [37] Oliver Porth, Koushik Chatterjee, Ramesh Narayan, Charles F. Gammie, Yosuke Mizuno, Peter Anninos, et al. "The Event Horizon General Relativistic Magnetohydrodynamic Code Comparison Project". *ApJS* 243.2, 26 (Aug. 2019), p. 26.
- [38] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Keiichi Asada, Rebecca Azulay, et al. "First M87 Event Horizon Telescope Results. III. Data Processing and Calibration". *ApJL* 875.1, L3 (Apr. 2019), p. L3.
- [39] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Keiichi Asada, Rebecca Azulay, et al. "First M87 Event Horizon Telescope Results. V. Physical Origin of the Asymmetric Ring". *ApJL* 875.1, L5 (Apr. 2019), p. L5.
- [40] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Keiichi Asada, Rebecca Azulay, et al. "First M87 Event Horizon Telescope Results. IV. Imaging the Central Supermassive Black Hole". *ApJL* 875.1, L4 (Apr. 2019), p. L4.
- [41] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Keiichi Asada, Rebecca Azulay, et al. "First M87 Event Horizon Telescope Results. II. Array and Instrumentation". *ApJL* 875.1, L2 (Apr. 2019), p. L2.
- [42] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Keiichi Asada, Rebecca Azulay, et al. "First M87 Event Horizon Telescope Results. VI. The Shadow and Mass of the Central Black Hole". *ApJL* 875.1, L6 (Apr. 2019), p. L6.
- [43] Event Horizon Telescope Collaboration, Kazunori Akiyama, Antxon Alberdi, Walter Alef, Keiichi Asada, Rebecca Azulay, et al. "First M87 Event Horizon Telescope Results. I. The Shadow of the Supermassive Black Hole". *ApJL* 875.1, L1 (Apr. 2019), p. L1.