

Michael D. Johnson

CONTACT INFORMATION

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EDUCATION

University of California, Santa Barbara, Santa Barbara, California
Ph.D. Physics June 2013
M.A. Physics February 2010
University of Southern California, Los Angeles, California
B.S. Physics, B.S. Mathematics (summa cum laude) June 2007

PROFESSIONAL HISTORY

Harvard University
Principal Investigator, Black Hole Initiative 2023 – Present
Lecturer, Department of Astronomy 2019 – Present
Smithsonian Astrophysical Observatory
Federal Astrophysicist (Radio & Geoastronomy Division) 2016 – Present
Inaugural Member of the Harvard Black Hole Initiative
Harvard-Smithsonian Center for Astrophysics
Postdoctoral Fellow (with Shep Doeleman) 2013 – 2016
University of California, Santa Barbara, Department of Physics
Research Assistant (with Carl Gwinn) 2009 – 2013
Teaching Assistant 2007 – 2011

HONORS & AWARDS

INDIVIDUAL:

New Horizons in Physics Prize, Breakthrough Foundation 2024
Panelist for NSF Press Conference Reporting EHT Results on Sgr A* 2022
Will Morrison Memorial Lecture, Smithsonian Institution 2020
John D. Schopp Memorial Lecture, San Diego State University 2020
89th Joseph Henry Lecture, Philosophical Society of Washington 2020
Max Planck Society Sabbatical Award 2019
The Bloomberg 50 2019
Smithsonian Institution, Secretary's Research Award 2018
Hubble Fellowship; Einstein Fellowship; Radboud Excellence Fellowship (declined) 2016

EHT COLLABORATION:

Royal Astronomical Society 2021 Group Award (A) 2021
Breakthrough Prize in Fundamental Physics 2020
Nelson P. Jackson Aerospace Award 2020
Einstein Medal, Albert Einstein Society (Switzerland) 2020
AAS Bruno Rossi Prize 2020
Smithsonian Ingenuity Award 2019
NSF Diamond Achievement Award 2019

PROFESSIONAL SERVICE

ngEHT Project Scientist	2020 – 2023
EHT Science Council (Chair: 2022 – Present)	2019 – Present
Chief Editor, ngEHT Special Issue in <i>Galaxies</i>	2022
EHT Awards Selection Committee	2020
EHT Proposal Working Group Lead	2017 – 2019
EHT Imaging Working Group Lead	2017 – 2019
SMA Fellowship Committee	2019, 2020
CfA Fellowship Committee	2016, 2017 (chair)
NRAO Science Review Panelist	2017
HST DDT Reviewer	2016
NSF Grant Reviewer: AST	2015
Peer Reviewer: Physical Review D, Physical Review X, Physical Review Letters, Physical Review Reports, ApJ, MNRAS, Astronomy & Astrophysics, Science, Nature Astronomy, Natural Sciences, Galaxies, Experimental Astronomy, Journal of Astron. Instrumentation	

TEACHING EXPERIENCE

Teaching Assistant, UCSB Department of Physics	2007 – 2011
<i>Lower Division:</i> Basic Astronomy, Mechanics	
<i>Upper Division:</i> Optics, Electromagnetism ($\times 2$), Mathematical Methods ($\times 3$)	
<i>Graduate:</i> Electromagnetic Theory ($\times 2$)	
Named the UCSB Physics “Outstanding Teaching Assistant” of 2008–2009.	

RECENT STUDENTS

Graduate:

Erandi Chavez (Harvard Astronomy)	2022 – Present
Dominic Chang (Harvard Physics)	2020 – Present
Daniel Palumbo (currently a Harvard BHI Fellow)	2017 – 2023
<i>2023 EHT PhD Thesis Award</i>	
<i>2021 EHT Early Career Award</i>	
Sara Issaoun (currently an Einstein Fellow at the CfA)	2018 – 2021
Supervised as an SAO Predoctoral Fellow from Radboud University	
<i>2022 Christiaan Huygens Science Prize</i>	
<i>2021 NHFP Einstein Fellow</i>	
<i>2021 SMA Fellow</i>	
<i>2021 L’Oreal Rising Talent Prize</i>	
<i>2021 EHT Thesis Award</i>	
<i>2020 EHT Early Career Award</i>	
Andrew Chael (Harvard Physics; currently a Postdoc at Princeton)	2014 – 2019
Co-supervised with Ramesh Narayan and Shep Doeleman	
<i>2021 Princeton Center for Theoretical Science; John Archibald Wheeler Fellow</i>	
<i>2020 EHT Early Career Award</i>	
<i>2020 EHT Thesis Award</i>	
<i>2019 NHFP Einstein Fellow</i>	

2019 Institute for Theory and Computation Keto Prize
 Zoe Zhu (Harvard Physics; currently a Postdoc at Stanford) 2018
2022 Stanford Science Fellowship
2017 Harvard Peirce Fellowship
 Freek Roelofs (currently a Postdoctoral Fellow at the CfA) 2016 – 2017
 Supervised as an SAO Predoctoral Fellow from Radboud University
2021 EHT Thesis Award

Undergraduate:

Justin Vega (currently a Graduate Student at Columbia) 2022
2023 NSF GRFP Awardee
 Zachary Gelles (currently a Graduate Student at Princeton) 2019 – 2022
2022 NSF GRFP Awardee
2020 Harvard PRISE Fellowship
 Joseph Farah (currently a Graduate Student at USCB) 2018 – 2021
2021 Apker Winner
2021 NSF GRFP Awardee
2020 Apker Finalist
2019 Goldwater Scholar
 Sanger Steel (currently an MLOps Engineer at Chattr) 2019
 Rodrigo Cordova (currently a Graduate Student at Princeton) 2017 – 2018
 Nina Hooper (currently CEO of Abrility) 2014

External Thesis Examiner:

Daniel Baker (PhD Thesis; University of Toronto) 2022
 Alex Faustmann (PhD Thesis; Stellenbosch University) 2022
 Tariq Blecher (MSc Thesis; Rhodes University) 2017

OUTREACH

Bringing Black Holes to Life 2022 – Present
 Developing a program on black holes for neurodiverse students and special education classrooms. Working with award-winning physics instructor Matt Heer on a pilot program at Platteville High School in Wisconsin.
 Invited Speaker at University of Dallas “Science Week” September 2020
 Guest Presentation at the Frost Museum of Science November 2019
 Speaker and Panelist at “Instant Expert” by *New Scientist* Spring 2018
 CfA Observatory Night Talk (YouTube) Spring 2017
 Astronomy for Everyone Spring 2014
 Helped run a neuro-diversity workshop for high school students with dyslexia, ADHD, and autism spectrum disorders.
 Family Ultimate Science Exploration (FUSE) Spring 2012
 Trained instructors and taught two sessions of FUSE, which presents core scientific principles to underrepresented middle-school students and their families.
 School for Scientific Thought Fall 2011
 Developed and taught a five-week course for 22 high-school students, *Studying the Symphony of Waves: the Physics of Music and the Music of Physics*. Designed interactive activities to teach wave physics and signal processing.

SELECTED PRESS AND MEDIA

Articles on research I have led:

- “Infinite Visions Were Hiding in the First Black Hole Image’s Rings”
New York Times, 2020 ([link](#))
- “Scientists Predict Countless Rings of Light Encircle Black Holes”
Sky & Telescope, 2020 ([link](#))
- “Space Opera: How Black Holes Film and Play Epic Movies of the Universe”
SYFY, 2020 ([link](#))
- “Infinite subrings may be the next frontier for photographing black holes”
Space.com, 2020 ([link](#))
- “Black holes’ infinite rings reveal how massive these cosmic behemoths really are”
Inverse, 2020 ([link](#))
- “There are infinite rings of light around black holes. Here’s how we could see them”
ScienceAlert, 2020 ([link](#))
- “What’s the last thing you’d see as you fell into a black hole?”
The Bad Astronomer (SYFY), 2020 ([link](#))
- “How Astronomers Could Sharpen The Image Of A Black Hole”
Forbes, 2020 ([link](#))
- “Research team discovers path to razor-sharp black hole images”
Phys.org, 2020 ([link](#))
- “Black hole ‘subrings’ could be seen by putting a telescope on the Moon”
Physics World, 2020 ([link](#))
- “Astronomers Discover Way to Get Sharp Images of Black Hole’s Photon Rings”
SciNews, 2020 ([link](#))
- “Revealing the black hole at the heart of the galaxy”
Phys.org, 2019 ([link](#))
- “Earth-Space Telescope System Produces Hot Surprise”
Astronomy.com, 2016 ([link](#))
- “Our ‘Magnetic’ Black Hole”
Sky & Telescope, 2015 ([link](#))
- “Magnetic fields near the Milky Way’s black hole seen for the first time”
Physics World, 2015 ([link](#))
- “Globe-spanning telescope array glimpses magnetic field around Milky Way’s black hole”
Science Magazine, 2015 ([link](#))

Articles on EHT results:

- “The Milky Way’s Black Hole Comes to Light”
New York Times, 2022 ([link](#))
- “Supermassive black hole at centre of Milky Way seen for first time”
The Guardian, 2022 ([link](#))
- “Shadow of Milky Way’s giant black hole seen for the first time”
Science Magazine, 2022 ([link](#))

- “EHT Captures Image of SMBH at Center of Milky Way”
Washington Post, 2022 ([link](#))
- “Black Hole at Heart of Milky Way Imaged for First Time”
Discover Magazine, 2022 ([link](#))
- “Astronomers reveal first image of black hole at the center of the Milky Way”
CBS, 2022 ([link](#))
- “Astronomers capture first image of black hole at center of Milky Way”
Axios, 2022 ([link](#))
- “Black Hole at Center of Milky Way Pictured for First Time”
NBC, 2022 ([link](#))
- “Scientists unveil image of ‘gentle giant’ black hole at Milky Way’s center”
Daily Mail, 2022 ([link](#))
- “Breaking Down the Mind-Bending Milky Way Black Hole Image”
CNET, 2022 ([link](#))
- “Scientists Unveil First-Ever Picture of SMBH at Center of Milky Way”
Boston Globe, 2022 ([link](#))
- “Supermassive Black Hole Photo Proves Einstein Right Over 100 Years On”
Newsweek, 2022 ([link](#))
- “The Most Intimate Portrait Yet of a Black Hole”
New York Times, 2021 ([link](#))
- “Black hole ‘subrings’ could be seen by putting a telescope on the Moon”
Physics World, 2020 ([link](#))
- “1 year after epic black hole photo, Event Horizon Telescope team is dreaming very big”
Space.com, 2020 ([link](#))
- “Scientists Unveil First Black Hole Image”
Sky & Telescope, 2019 ([link](#))
- “Seeing the unseeable: Scientists reveal first photo of black hole”
Reuters, 2019 ([link](#))

Personal features:

- “Bringing Black Holes to Light”
CfA Featured Profile, 2022 ([link](#))
- “Unveiling Our Galaxy’s Black Hole”
CfA Twitter (189k views), 2022 ([link](#))

SELECTED SCIENTIFIC PRESENTATIONS

242 nd AAS Meeting	June 2023
Harvard BHI Conference	May 2023
UC Berkeley Department of Astronomy – Colloquium	Feb 2023
Black hole astrophysics with VLBI 2023 (NAOJ)	Feb 2023
Observing the Universe in Motion: 5 Years of GRAVITY Workshop	Oct 2022
UC Berkeley Department of Astronomy – Colloquium	Sept 2022
EHT/ngEHT Collaboration Meeting (×2)	June 2022

ngEHT History, Philosophy, and Culture Workshop – Invited Presentation	March 2022
National Radio Science Meeting (URSI) – Invited Presentation	Jan 2022
Advanced Prototype Engineering Technology Symposium – Invited Talk	Dec 2021
Moscow Institute of Physics and Technology – Invited Colloquium	Nov 2021
Center for Astrophysics Harvard & Smithsonian – Colloquium	Nov 2021
Regular black holes in quantum gravity workshop – Invited Presentation	Oct 2021
NRAO – 6 th US/China Science and Technology Workshop	June 2021
European VLBI Network – Invited Seminar	March 2021
First EHT Polarization Results – Special Guest Panel at the BHI	March 2021
237 th AAS Meeting – Invited Presentation	Jan 2021
Annual Smithsonian Weekend – Special Guest Panel	May 2020
Smithsonian Institution – Will Morrison Memorial Lecture	Dec 2020
San Diego State University – John D. Schopp Memorial Lecture	Nov 2020
Annual Smithsonian Weekend – Special Guest Panel	May 2020
Philosophical Society of Washington – 89 th Joseph Henry Lecture	May 2020
APS April Meeting – Invited Presentation	April 2020
National Science Foundation – Virtual Press Briefing	April 2020
American Physical Society Editorial Offices – Invited Colloquium	March 2020
Astro Space Center, Lebedev Physical Institute – Invited Colloquium	March 2020
University of Florida – Physics Colloquium	Jan 2020
235 th AAS Meeting – Coordinator of EHT Special Session	Jan 2020
235 th AAS Meeting – Invited Presentation	Jan 2020
JSI Workshop – Invited Presentation	Nov 2019
RadioAstron AGN Workweek – Invited Presentation (×2)	Oct 2019
UCLA – Astrophysics Colloquium	Oct 2019
Galactic Center Workshop, Yokohama – Invited Presentation	Oct 2019
UCF – Physics Colloquium	Sept 2019
Caltech Keck Institute for Space Studies – Invited Lecture	Sept 2019
Smithsonian UK Trust Symposium, Oxford – Invited Presentation	Sept 2019
Stanford Blazar Workshop – Invited Presentation	Aug 2019
Perimeter Dynamics Workshop – Invited Presentation	Aug 2019
Harvard-Smithsonian CfA – Summer Colloquium	June 2019
BHI Conference – EHT Panelist	May 2019
RadioAstron AGN Working Week – Solicited Presentation (×2)	May 2019
MIT Lincoln Laboratory – Research Lecture	April 2019
Harvard Science Center – Research Public Lecture	April 2019
Harvard Science Center – Special Guest Panel	April 2019
MIT Media Lab – Special Guest Panel	April 2019
Princeton Gravity Initiative, Inaugural Meeting – Invited Presentation	March 2019
COSPAR – Solicited Presentation (×2)	July 2018
Half a Century of Blazars and Beyond, Turin – Invited Presentation	June 2018
Astronomy Colloquium, Columbia University	Feb 2018
Blazars at the Highest Resolution, MPIfR (remote)	Dec 2017
29 th Int'l Texas Symposium on Relativistic Astrophysics – Solicited	Dec 2017
NEROC Symposium, MIT Haystack – Invited Presentation	Nov 2017

CfA Astrostatistics Day – Invited Presentation	Oct 2017
Scintillometry with Pulsar VLBI, CITA – Invited Presentation	Oct 2017
NRAO Science Futures III Workshop, Berkeley – Solicited Presentation	Aug 2017
Polarised Emission from Astrophysical Jets, Ierapetra – Invited Presentation	June 2017
BHI Conference – Invited Presentation	May 2017
Physics and Astronomy Colloquium, Dartmouth College	April 2017
Space Science Seminar, UMass Lowell	March 2017
EHT Collaboration Meeting, Cambridge, MA – Invited Presentation	Nov 2016
Harvard/UMD/UA TCAN Collaboration Meeting – Invited Presentation	Oct 2016
Harvard-Smithsonian CfA Postdoc Symposium – Invited Presentation	Oct 2016
Harvard-Smithsonian CfA, Inst. for Theory and Computation Luncheon	Oct 2016
Harvard Black Hole Initiative (BHI) Colloquium	Sept 2016
Blazars through Sharp Multi-Wavelength Eyes, Spain – Invited Presentation	May 2016
ASIAA, Taipei, M87 Workshop – Oral Presentation	May 2016
ITC Astrostatistics Seminar – Invited Presentation	March 2016
CfA High-Energy Group Meeting – Invited Presentation	March 2016
MIT High Energy Astrophysics Group Meeting – Invited Presentation	Feb 2016
MPIfR, High-Resolution VLBI Workshop – Invited Presentation ($\times 2$)	Nov 2015
14 th Marcel Grossmann Meeting, Rome – Invited Presentation	July 2015
RadioAstron Int'l Science Council, Bonn, Germany – Invited Presentation	June 2015
Leiden University, mm-VLBI Data Workshop – Invited Presentation ($\times 2$)	June 2015
Lebedev Physics Institute Radio Seminar, Moscow – Invited Presentation	March 2015
Harvard-Smithsonian CfA, Inst. for Theory and Computation Luncheon	March 2015
EHT2014, Perimeter Institute – Invited Presentation ($\times 2$)	Nov 2014
Boston University – Tuesday Lunch Talk	Oct 2014
224 th AAS Meeting, Boston – Oral Presentation	June 2014
223 th AAS Meeting, Washington, DC – Oral Presentation	Jan 2014
Harvard-Smithsonian CfA – Radio and Geoastronomy Lunch Talk	Jan 2014
Curtin Institute of Radio Astronomy, Perth, Australia – Invited Talk	Nov 2013
Brandeis University – Radio Lunch Talk	Oct 2013
Harvard-Smithsonian CfA – Radio and Geoastronomy Lunch Talk	March 2013
221 st AAS Meeting, Long Beach, CA – Dissertation Talk	Jan 2013
NRAO Charlottesville – TUNA Lunch Talk	Dec 2012
Carnegie Observatories – Theoretical Astrophysics in Southern California [†]	Nov 2012
Stanford KIPAC – Tea Talk	Oct 2012
Berkeley RAL – Radio Astronomy Seminar	Oct 2012
Harvard-Smithsonian CfA – Radio and Geoastronomy Lunch Talk	Sept 2012
Max Planck Institute for Radio Astronomy, Bonn, Germany – Colloquium	July 2012
RadioAstron Int'l Science Council, Pushchino, Russia – Oral Presentation	June 2012
220 th AAS Meeting, Anchorage, Alaska – Oral Presentation	June 2012
Arecibo Observatory – Colloquium	April 2012
UCSB – Astrophysics Seminar	Feb 2012

[†]Awarded prize for the best talk by a graduate student.

PUBLICATIONS (ADS; GOOGLE SCHOLAR)

Total refereed publications: 126

Publications as lead author: 19 (+2 EHTC publications as co-lead of the writing team)

Total citations: 13,603 (ADS), 16,203 (Google Scholar)

h-index: 50 (ADS), 56 (Google Scholar)

(Students leading papers are underlined)

138. Torne, P., K. Liu, R. P. Eatough, J. Wongphechauxsorn, J. M. Cordes, et al. 2023. *A Search for Pulsars around Sgr A* in the First Event Horizon Telescope Data Set*, ApJ, 959, 14, ADS
137. Ayzenberg, D., L. Blackburn, R. Brito, S. Britzen, A. E. Broderick, et al. 2023. *Fundamental Physics Opportunities with the Next-Generation Event Horizon Telescope*, arXiv, arXiv:2312.02130, ADS
136. Event Horizon Telescope Collaboration, K. Akiyama, A. Alberdi, W. Alef, J. C. Algaba, et al. 2023. *First M87 Event Horizon Telescope Results. IX. Detection of Near-horizon Circular Polarization*, ApJL, 957, L20, ADS
135. Roelofs, F., **M. D. Johnson**, A. Chael, M. Janssen, M. Wielgus, et al. 2023. *Polarimetric Geometric Modeling for mm-VLBI Observations of Black Holes*, ApJL, 957, L21, ADS
134. Kadler, M., D. A. Riechers, A. K. Baczko, H. Beuther, F. Bigiel, et al. 2023. *A Collection of German Science Interests in the Next Generation Very Large Array*, arXiv, arXiv:2311.10056, ADS
133. Doeleman, S. S., J. Barrett, L. Blackburn, K. L. Bouman, A. E. Broderick, et al. 2023. *Reference Array and Design Consideration for the Next-Generation Event Horizon Telescope*, Galaxies, 11, 107, ADS
132. Palumbo, D. C. M., G. N. Wong, A. Chael, & **M. D. Johnson**. 2023. *Demonstrating Photon Ring Existence with Single-baseline Polarimetry*, ApJL, 952, L31, ADS
131. **Johnson, M. D.**, S. S. Doeleman, J. L. Gómez, & A. E. Broderick. 2023. *From Vision to Instrument: Creating a Next-Generation Event Horizon Telescope for a New Era of Black Hole Science*, Galaxies, 11, 92, ADS
130. Prather, B. S., J. Dexter, M. Moscibrodzka, H.-Y. Pu, T. Bronzwaer, et al. 2023. *Comparison of Polarized Radiative Transfer Codes Used by the EHT Collaboration*, ApJ, 950, 35, ADS
129. **Johnson, M. D.**, K. Akiyama, L. Blackburn, K. L. Bouman, A. E. Broderick, et al. 2023. *Key Science Goals for the Next-Generation Event Horizon Telescope*, Galaxies, 11, 61, ADS
128. Wang, J. P., B. Bilyeu, D. Boroson, D. Caplan, B. Robinson, et al. 2023. *High-rate 256+ Gbit/s laser communications for enhanced high-resolution imaging using space-based very long baseline interferometry (VLBI)*, SPIE, 12413, 1241308, ADS
127. Chael, A., S. Issaoun, D. W. Pesce, **M. D. Johnson**, A. Ricarte, et al. 2023. *Multifrequency Black Hole Imaging for the Next-generation Event Horizon Telescope*, ApJ, 945, 40, ADS

126. Chatterjee, K., A. Chael, P. Tiede, Y. Mizuno, R. Emami, et al. 2023. *Accretion Flow Morphology in Numerical Simulations of Black Holes from the ngEHT Model Library: The Impact of Radiation Physics*, *Galaxies*, 11, 38, ADS
125. Issaoun, S., D. W. Pesce, F. Roelofs, A. Chael, R. Dodson, et al. 2023. *Enabling Transformational ngEHT Science via the Inclusion of 86 GHz Capabilities*, *Galaxies*, 11, 28, ADS
124. Jorstad, S., M. Wielgus, R. Lico, S. Issaoun, A. E. Broderick, et al. 2023. *The Event Horizon Telescope Image of the Quasar NRAO 530*, *ApJ*, 943, 170, ADS
123. Roelofs, F., L. Blackburn, G. Lindahl, S. S. Doeleman, **M. D. Johnson**, et al. 2023. *The ngEHT Analysis Challenges*, *Galaxies*, 11, 12, ADS
122. Ricarte, A., **M. D. Johnson**, Y. Y. Kovalev, D. C. M. Palumbo, & R. Emami. 2023. *How Spatially Resolved Polarimetry Informs Black Hole Accretion Flow Models*, *Galaxies*, 11, 5, ADS
121. Tiede, P., **M. D. Johnson**, D. W. Pesce, D. C. M. Palumbo, D. O. Chang, et al. 2022. *Measuring Photon Rings with the ngEHT*, *Galaxies*, 10, 111, ADS
120. Pesce, D. W., D. C. M. Palumbo, A. Ricarte, A. E. Broderick, **M. D. Johnson**, et al. 2022. *Expectations for Horizon-Scale Supermassive Black Hole Population Studies with the ngEHT*, *Galaxies*, 10, 109, ADS
119. Gelles, Z., K. Chatterjee, **M. D. Johnson**, B. Ripperda, & M. Liska. 2022. *Relativistic Signatures of Flux Eruption near Black Holes*, *Galaxies*, 10, 107, ADS
118. Okino, H., K. Akiyama, K. Asada, J. L. Gómez, K. Hada, et al. 2022. *Collimation of the Relativistic Jet in the Quasar 3C 273*, *ApJ*, 940, 65, ADS
117. Palumbo, D. C. M., Z. Gelles, P. Tiede, D. O. Chang, D. W. Pesce, et al. 2022. *Bayesian Accretion Modeling: Axisymmetric Equatorial Emission in the Kerr Space-time*, *ApJ*, 939, 107, ADS
116. Kurczynski, P., **M. D. Johnson**, S. S. Doeleman, K. Haworth, E. Peretz, et al. 2022. *The Event Horizon Explorer mission concept*, *SPIE*, 12180, 121800M, ADS
115. Issaoun, S., M. Wielgus, S. Jorstad, T. P. Krichbaum, L. Blackburn, et al. 2022. *Resolving the Inner Parsec of the Blazar J1924-2914 with the Event Horizon Telescope*, *ApJ*, 934, 145, ADS
114. Gurvits, L. I., Z. Paragi, R. I. Amils, I. van Bemmelen, P. Boven, et al. 2022. *The science case and challenges of space-borne sub-millimeter interferometry*, *AcAau*, 196, 314, ADS
113. Event Horizon Telescope Collaboration, K. Akiyama, A. Alberdi, W. Alef, J. C. Algaba, R. Anantua, et al. 2022. *First Sagittarius A* Event Horizon Telescope Results. I. The Shadow of the Supermassive Black Hole in the Center of the Milky Way*, *ApJL*, 930, L12, ADS
112. Event Horizon Telescope Collaboration, K. Akiyama, A. Alberdi, W. Alef, J. C. Algaba, R. Anantua, et al. 2022. *First Sagittarius A* Event Horizon Telescope Results. II. EHT and Multiwavelength Observations, Data Processing, and Calibration*, *ApJL*, 930, L13, ADS

111. Event Horizon Telescope Collaboration, K. Akiyama, A. Alberdi, W. Alef, J. C. Algaba, R. Anantua, et al. 2022. *First Sagittarius A* Event Horizon Telescope Results. III. Imaging of the Galactic Center Supermassive Black Hole*, ApJL, 930, L14, ADS
110. Event Horizon Telescope Collaboration, K. Akiyama, A. Alberdi, W. Alef, J. C. Algaba, R. Anantua, et al. 2022. *First Sagittarius A* Event Horizon Telescope Results. IV. Variability, Morphology, and Black Hole Mass*, ApJL, 930, L15, ADS
109. Event Horizon Telescope Collaboration, K. Akiyama, A. Alberdi, W. Alef, J. C. Algaba, R. Anantua, et al. 2022. *First Sagittarius A* Event Horizon Telescope Results. V. Testing Astrophysical Models of the Galactic Center Black Hole*, ApJL, 930, L16, ADS
108. Event Horizon Telescope Collaboration, K. Akiyama, A. Alberdi, W. Alef, J. C. Algaba, R. Anantua, et al. 2022. *First Sagittarius A* Event Horizon Telescope Results. VI. Testing the Black Hole Metric*, ApJL, 930, L17, ADS
107. Georgiev, B., D. W. Pesce, A. E. Broderick, G. N. Wong, V. Dhruv, et al. 2022. *A Universal Power-law Prescription for Variability from Synthetic Images of Black Hole Accretion Flows*, ApJL, 930, L20, ADS
106. Farah, J., P. Galison, K. Akiyama, K. L. Bouman, G. C. Bower, et al. 2022. *Selective Dynamical Imaging of Interferometric Data*, ApJL, 930, L18, ADS
105. Wielgus, M., N. Marchili, I. Martí-Vidal, G. K. Keating, V. Ramakrishnan, et al. 2022. *Millimeter Light Curves of Sagittarius A* Observed during the 2017 Event Horizon Telescope Campaign*, ApJL, 930, L19, ADS
104. Broderick, A. E., R. Gold, B. Georgiev, D. W. Pesce, P. Tiede, et al. 2022. *Characterizing and Mitigating Intraday Variability: Reconstructing Source Structure in Accreting Black Holes with mm-VLBI*, ApJL, 930, L21, ADS
103. Satapathy, K., D. Psaltis, F. Özel, L. Medeiros, S. T. Dougall, et al. 2022. *The Variability of the Black Hole Image in M87 at the Dynamical Timescale*, ApJ, 925, 13, ADS
102. Cho, I., G.-Y. Zhao, T. Kawashima, M. Kino, K. Akiyama, et al. 2021. *The intrinsic structure of Sagittarius A* at 1.3 cm and 7 mm*, ApJ, in press, ADS
101. **Johnson, M. D.**, Y. Y. Kovalev, M. M. Lisakov, P. A. Voitsik, C. R. Gwinn, et al. 2021. *First Space-VLBI Observations of Sagittarius A**, ApJL, 922, L28, ADS
100. Okino, H., K. Akiyama, K. Asada, J. L. Gómez, K. Hada, et al. 2021. *Collimation of the relativistic jet in the quasar 3C 273*, arXiv:2112.12233, ADS
99. Pesce, D. W., D. C. M. Palumbo, R. Narayan, L. Blackburn, S. S. Doeleman, et al. 2021. *Toward Determining the Number of Observable Supermassive Black Hole Shadows*, ApJ, 923, 260, ADS
98. Chael, A., **M. D. Johnson**, & A. Lupsasca. 2021. *Observing the Inner Shadow of a Black Hole: A Direct View of the Event Horizon*, ApJ, 918, 6, ADS
97. Gelles, Z., E. Himwich, **M. D. Johnson**, & D. C. M. Palumbo. 2021. *Polarized image of equatorial emission in the Kerr geometry*, PhRvD, 104, 044060, ADS

96. Janssen, M., H. Falcke, M. Kadler, E. Ros, M. Wielgus, et al. 2021. *Event Horizon Telescope observations of the jet launching and collimation in Centaurus A*, NatAs, 5, 1017, ADS
95. Issaoun, S., **M. D. Johnson**, L. Blackburn, A. Broderick, P. Tiede, et al. 2021. *Persistent Non-Gaussian Structure in the Image of Sagittarius A* at 86 GHz*, ApJ, 915, 99, ADS
94. Chesler, P. M., L. Blackburn, S. S. Doeleman, **M. D. Johnson**, J. M. Moran, et al. 2021. *Light echos and coherent autocorrelations in a black hole spacetime*, CQGrA, 38, 125006, ADS
93. Liu, K., G. Desvignes, R. P. Eatough, R. Karuppusamy, M. Kramer, et al. 2021. *An 86 GHz Search for Pulsars in the Galactic Center with the Atacama Large Millimeter/submillimeter Array*, ApJ, 914, 30, ADS
92. Gelles, Z., B. S. Prather, D. C. M. Palumbo, **M. D. Johnson**, G. N. Wong, et al. 2021. *The Role of Adaptive Ray Tracing in Analyzing Black Hole Structure*, ApJ, 912, 39, ADS
91. Narayan, R., D. C. M. Palumbo, **M. D. Johnson**, Z. Gelles, E. Himwich, et al. 2021. *The Polarized Image of a Synchrotron-emitting Ring of Gas Orbiting a Black Hole*, ApJ, 912, 35, ADS
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