

Maciek Wielgus

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EDUCATION

Warsaw University of Technology <i>Ph.D. in Machine Design and Maintenance: Photonic Engineering (with a distinction)</i> Dissertation: Adaptive decomposition and analytic signal concept in the interferometric fringe pattern analysis	Sep 2016 (2011 – 2016)
Warsaw University of Technology <i>M.S. in Robotics and Automatic Control: Photonic Engineering (interferometric fringe pattern analysis)</i>	Dec 2010 (2005 – 2010)
Warsaw University <i>B.S. in Mathematics: Numerical Analysis (numerical partial differential equations)</i>	Sep 2010 (2007 – 2010)

PROFESSIONAL EXPERIENCE AND LONGER RESEARCH VISITS

Staff Scientist <i>Max Planck Institute for Radio Astronomy, Bonn, Germany</i>	Oct 2021 – present
Visiting Researcher <i>University of Valencia, Spain (reference: Ivan Marti-Vidal)</i>	Mar 2023
Visiting Researcher <i>Paris Observatory Scientific Council grant, Meudon, France (reference: Frederic Vincent)</i>	Jul 2022
Black Hole Initiative Postdoctoral Fellow <i>Harvard University, Cambridge, USA (mentor: Shep Doeleman)</i>	May 2017 – Aug 2021
Confronting Theories of Accretion with Observations, KITP Program <i>Visiting Scholar, UCSB, Santa Barbara, USA</i>	Jan 2017 – Mar 2017
Postdoctoral researcher at Nicolaus Copernicus Astronomical Center <i>Polish Academy of Sciences, Warsaw, Poland (mentors: Wlodek Kluźniak, Marek Abramowicz)</i>	Jan 2017 – May 2017
Internship at Center for Astrophysics Harvard & Smithsonian <i>Cambridge, USA (mentors: Ramesh Narayan, Olek Sądowski)</i>	Oct 2015 – Dec 2015
Visiting Scholar at Kavli Institute for Theoretical Physics, UCSB <i>Santa Barbara, USA (mentors: Omer Blaes, Wlodek Kluźniak)</i>	Jun 2015
Visiting Scholar at Peking University Kavli Institute for Astronomy and Astrophysics <i>Beijing, China (mentors: Marek Abramowicz, Fukun Liu)</i>	Aug 2014
Visiting Scholar at University of Capetown <i>Capetown, South Africa (mentor: George F. R. Ellis)</i>	May 2014
Internship at National Center of the Industrial Technology <i>Buenos Aires, Argentina (mentors: Guillermo Kaufmann, Alejandro Federico)</i>	Oct 2013 – Nov 2013
Internship at Center for Astrophysics Harvard & Smithsonian <i>Cambridge, USA (mentors: Ramesh Narayan, Olek Sądowski)</i>	Jun 2013 – Aug 2013
Internship at the College of Charleston <i>Charleston, USA (mentor: Chris Fragile)</i>	May 2013 – Jun 2013
Engineer at the Institute of Electron Technology <i>Warsaw, Poland</i>	2011 – 2013

RESEARCH INTERESTS

- astrophysics of compact objects
- very long baseline radio interferometry
- physics of accretion and AGN jets
- machine learning and AI for research in astronomy
- Event Horizon Telescope project
- observational tests of general relativity
- magnetohydrodynamics
- applied signal and image processing

AWARDS

EHT Early Career Award (individual)	2020, 2021, and 2022
Group Award (A) from the Royal Astronomical Society (EHT collaboration)	2021
Albert Einstein medal (EHT collaboration)	2020
Bruno Rossi Prize for a contribution to High Energy Astrophysics (EHT collaboration)	2020
Breakthrough Prize in Fundamental Physics (EHT collaboration)	2020
Smithsonian Institute American Ingenuity Award (EHT collaboration)	2019
Black Hole Initiative Prize for scientific contributions to the EHT project (individual)	2019
National Science Foundation Diamond Achievement Award (EHT collaboration)	2019
First prize in IXth Nationwide Competition "Young Innovators" for the best PhD Thesis	2017
Polish Prime Minister Award for the best PhD thesis in Engineering	2017
Foundation for Polish Science START award (in 2015 with distinction as 1 of 5 young scientists nationwide)	2015 – 2016
First degree scientific performance team award from the President of the Warsaw University of Technology	2014
Academic performance award from Polish Ministry of Science and Higher Education	2013
Scientific scholarship and travel award from the Center for Advanced Studies Warsaw University of Technology	2012 – 2013
SPIE best student presentation award, International Conference on Advanced Topics in Optoelectronics, Microelectronics and Nanotechnology, Constanza, Romania	2012
Distinction in the PKOpto XXth prof. A. Smolinski national competition for the best master thesis in optoelectronics	2011
Laureate (6th place nationwide) of the National Mathematics Competition for high school students in Poland	2005

BIBLIOMETRICS

97 reviewed journal papers, 124 items **listed on ADS** with 11024 citations, h-index=39, and 79 items cited at least 10 times (ADS, November 2023). 26 **ADS-listed** publications as a first author (including 18 reviewed journal papers), with a total of 431 citations, h-index=12, and 15 papers cited at least 10 times (ADS, November 2023).

GRANTS AND FORMAL PROJECTS

PI: Dynamics of the Centaurus A jet base on a light-day scale <i>ALMA cycle 8 VLBI observations</i>	2022
Co-PI: Probing relativistic jets through mm-VLBI of X-ray binaries <i>GMVA VLBI observations, PI: Alex Tetarenko</i>	2022
Co-PI: Ultra-high resolution imaging of 3C84	2022

ALMA cycle 8 VLBI observations

PI: Thin disks GRRMHD simulations <i>3×10^7 CPU hours on PROMETHEUS supercomputer from PLGRID</i>	2018 – 2022
Named participant: Variable accretion flows <i>Polish National Science Center Maestro Grant, PI: Wlodek Kluźniak</i>	2013 – 2018
Co-PI: Adaptive processing of fringe patterns in optical whole-field measurements <i>Polish National Science Center Opus Grant, PI: Krzysztof Paturski</i>	2013 – 2015
PI: Advanced single-frame fringe processing algorithms <i>Dean's Grant at the Faculty of Mechatronics, Warsaw University of Technology</i>	2012 – 2013
PI: Automatic image analysis for nanomaterials research <i>Foundation for Polish Science VENTURES Grant</i>	2012 – 2014
Named participant: Turbulent viscosity in non-stationary black hole accretion disks <i>Polish National Science Center Opus Grant, PI: Marek Abramowicz</i>	2012 – 2014

OTHER ACTIVITIES

- o leading the EHT Time Domain Working Group 2018-2022
- o EHT Early Career Award 2020 "for his role and contributions to data processing, validation, and analysis of the 2017 EHT data, leading to the results published in the first six papers of the EHT"
- o EHT Early Career Award 2021 "for his demonstration of the persistence of the M87 ring using years of historical EHT data"
- o EHT Early Career Award 2022 "for his contribution to the calibration, analysis and interpretation of the EHT results of Sgr A*, and his leadership in the analysis and calibration of the ALMA data"
- o key contributor to the EHT data set reduction and inspection pipeline development
- o paper coordinator for the collaboration paper EHTC, ApJL 875 L3 (2019)
- o key contributor and paper writing team member for a number of alphabetic-author-list EHT publications
- o reviewer for MNRAS, A&A, ApJ, PRL, New Astronomy, Applied Optics, Optics Express, Optics Letters
- o SOC member for EHT Polarization Workshop, Max-Planck Institute for Radio Astronomy, July 2019 and EHT Collaboration Meeting, Granada, June 2022
- o mentoring multiple PhD and undergraduate students on their research projects: A. Yfantis, J. Vos, J. Roder, W. Yan, D. Bollimpalli, S. Steel, D. Lancova, among others
- o named participant on tens of radio/VLBI observational proposals with EHT, GMVA, LMT, ALMA
- o reviewer of grant proposals at the Czech Science Foundation in the Astronomy panel
- o member of the Polish Astronomical Society and the European Astronomical Society
- o active popularizer of astronomy

TEACHING EXPERIENCE

Lecturer of astrophysics at the Relativistic Accretion Workshop, University of Bremen <i>Transonic flows, ideal MHD, MRI</i>	Sep 2016
Teaching at Warsaw University of Technology <i>Optomechatronics lab, Mechatronic systems lab, and Instrumental optics lab</i>	2011 – 2015
Teaching assistant and tutor at Warsaw University <i>Calculus I & II, linear algebra for math students</i>	2010 – 2011
Teaching at Almukantarat astronomy club meetings for gifted youth <i>Astronomy, physics, numerical methods</i>	2006 – 2011

LANGUAGES

- **Polish** (native)
- **English** (fluent)
- **Spanish** (elementary, learning in progress)

PROFESSIONAL TALKS AND PRESENTATIONS

109. 2023-11-13, Galaphys Workshop, Paris Observatory, France (invited talk, online),
108. 2023-10-19, Narayan's group meeting, Center for Astrophysics, Cambridge, USA (seminar),
107. 2023-10-16, BHI/SAO/EHT Group Meeting, Cambridge, USA (invited seminar),
106. 2023-09-22, M2FINDERS and Beyond: Magnetic Fields around Black Holes, Ringberg Castle, Germany,
105. 2023-07-17, EHT Polarization WG Meeting (online),
104. 2023-07-14, EAS Meeting 2023, Krakow, Poland (invited),
103. 2023-07-13, EAS Meeting 2023, Krakow, Poland,
102. 2023-07-12, EAS Meeting 2023, Krakow, Poland,
101. 2023-06-27, EHT Collaboration meeting, Taichung, Taiwan,
100. 2023-05-25, Silesian University in Opava, Czechia (invited seminar, online),
99. 2023-05-09, Goethe University, Frankfurt, Germany (invited seminar),
98. 2023-05-02, Radboud University, Nijmegen, Netherlands (invited seminar),
97. 2023-04-18, University of Geneva, Switzerland (invited seminar),
96. 2023-03-16, ngEHT Testing Gravity working group telecon (online tutorial),
95. 2023-03-14, University of Valencia, Spain (invited seminar),
94. 2023-02-21, World Copernican Congress, Toruń, Poland (invited),
93. 2023-02-13, BHI/SAO/EHT Group Meeting, Cambridge, USA (seminar),
92. 2023-02-10, Improving Accretion Models with Plasma Theory workshop, Princeton, USA (invited),
91. 2023-01-12, Reconnection and Sgr A* flares workshop, Paris Observatory, Meudon, France (invited),
90. 2022-11-30, Center for Theoretical Physics, Warsaw, Poland (invited seminar),
89. 2022-11-29, Astronomical Observatory of the University of Warsaw, Poland (invited seminar),
88. 2022-11-28, Piwnice Astronomical Observatory, Poland (invited seminar),
87. 2022-11-24, EHT Europe-Africa plenary meeting (online, invited talk),
86. 2022-11-10, Chandra X-ray Space Telescope Operations Control Center, Burlington, USA (invited seminar),
85. 2022-11-02, HEAD CfA | Harvard & Smithsonian, Cambridge, USA (invited seminar),
84. 2022-10-31, BHI/SAO/EHT Group Meeting, Cambridge, USA (seminar),
83. 2022-10-24, Princeton Gravity Initiative, Princeton University, USA (seminar),
82. 2022-10-11, Geoplanet Doctoral School, Warsaw, Poland (invited inaugural lecture),
81. 2022-10-11, 24th RAGtime Workshop, Opava, Czechia (keynote conference talk),
80. 2022-10-04, next generation EHT science of binaries telecon (invited virtual seminar),
79. 2022-09-21, EHT-GRAVITY Meeting, Nijmegen, Netherlands (invited),
78. 2022-09-14, 31st Texas Symposium on Relativistic Astrophysics, Prague, Czechia,
77. 2022-09-06, 22nd Polish-Slovak-Czech Optical Conference, Wojanow, Poland (invited plenary talk),
76. 2022-08-22, Max Planck Institute for Extraterrestrial Physics, Garching, Germany (invited seminar),
75. 2022-07-21, Instituto de Astrofísica e Ciências do Espaço, Portugal (invited lecture),
74. 2022-07-18, COSPAR 2022: 44th Scientific Assembly, Athens, Greece,
73. 2022-07-07, Paris Observatory, France (invited seminar),
72. 2022-07-06, CMB-S4 Workshop, University of Illinois Urbana-Champaign, USA (invited, online),
71. 2022-06-29, EAS Annual Meeting, Valencia, Spain,
70. 2022-06-21, EHT Collaboration Meeting, Granada, Spain,
69. 2022-06-09, KIPAC, Stanford University, USA (invited seminar, online),
68. 2022-06-08, Nicolaus Copernicus Astronomical Center, Warsaw, Poland (invited seminar),

67. 2022-06-06, AGN Seminar at NASA Goddard Space Flight Center, USA (invited seminar, online),
66. 2022-06-02, Event Horizon Telescope Polarimetry Working Group telecon,
65. 2022-05-20, 5th Black Hole Initiative Conference, Harvard University, USA (invited),
64. 2022-02-17, AGN Seminar at NASA Goddard Space Flight Center, USA (invited seminar, online),
63. 2021-12-09, Max Planck Institute for Radio Astronomy, Bonn, Germany (invited seminar),
62. 2021-11-03, next generation EHT Virtual Conference (online),
61. 2021-10-20, Narayan's group meeting, Center for Astrophysics, Cambridge, USA (seminar),
60. 2021-09-16, Polish Astronomical Society annual meeting, Szczecin, Poland (online),
59. 2021-09-07, 23rd RAGtime Workshop, Opava, Czechia (invited),
58. 2021-07-22, Instituto de Astrofísica e Ciências do Espaço, Portugal (invited lecture),
57. 2021-07-09, 16th Marcel Grossmann Meeting (invited, online),
56. 2021-07-06, 16th Marcel Grossmann Meeting (invited, online),
55. 2021-07-05, 16th Marcel Grossmann Meeting (invited, online),
54. 2021-06-29, EAS Annual Meeting 2021 (online poster),
53. 2021-05-06, Los Alamos National Laboratory, Center for Theoretical Astrophysics, USA (invited seminar),
52. 2021-04-29, Silesian University in Opava, Czechia (invited seminar),
51. 2021-04-08, Paris Observatory, France (invited seminar, online),
50. 2021-04-05, SLAC Seminar, Stanford University, USA (invited seminar, online),
49. 2021-04-01, Xiamen University, China (invited seminar, online)
48. 2021-03-12, ITP & A, Masaryk University, Brno, Czechia (invited seminar, online),
47. 2021-03-09, Faculty of Mechatronics, Warsaw University of Technology, Poland (invited lecture/workshop),
46. 2021-03-03, Fudan University, Shanghai, China (invited seminar, online),
45. 2021-02-25, Science at the Horizon: the Next-Generation EHT Conference (online),
44. 2021-02-24, Institute of Astronomy and Astrophysics, Academia Sinica, Taiwan (invited seminar, online),
43. 2021-01-11, Tsinghua University, Beijing, China (invited seminar, online),
42. 2020-12-22, Shanghai Observatory, China (invited seminar, online),
41. 2020-12-15, 4th Black Hole Initiative Conference, Harvard University, USA (online),
40. 2020-10-28, Institute of Physics, University of Szczecin, Poland (invited seminar),
39. 2020-10-27, National Centre for Nuclear Research Astrophysics, Swierk, Poland (invited seminar),
38. 2020-09-21, Cologne / Prague Conference: Exploring of the Universe (online),
37. 2020-08-12, Astronomical Institute of the Czech Academy of Sciences, Prague, Czechia (seminar),
36. 2020-05-06, Nicolaus Copernicus Astronomical Center, Warsaw, Poland (invited seminar),
35. 2020-03-11, Nicolaus Copernicus Astronomical Center, Warsaw, Poland (invited seminar),
34. 2020-02-27, Silesian University, Opava, Czechia (invited seminar),
33. 2020-02-18, Radboud University, Nijmegen, Netherlands (invited seminar),
32. 2019-11-07, College of Charleston, USA (invited seminar),
31. 2019-11-01, NEROC Symposium, MIT Haystack Observatory, USA,
30. 2019-10-23, New Horizons in Galactic Center Astronomy and Beyond, Yokohama, Japan,
29. 2019-10-11, IAU 356, Addis Ababa, Ethiopia,
28. 2019-09-27, University of Waterloo, Canada (invited seminar),
27. 2019-09-18, 21st RAGtime Workshop, Opava, Czechia (invited),
26. 2019-05-21, 3rd Black Hole Initiative Conference, Harvard University, USA,
25. 2019-05-15, Department of Physics, University of California in Santa Barbara, USA (invited seminar),
24. 2019-05-14, KIPAC, Stanford University, USA (invited seminar),
23. 2019-05-09, 1st CTA Science Symposium, Bologna, Italy,
22. 2019-05-03, University of Amsterdam, Pannekoek Institute, Netherlands (invited talk),
21. 2019-04-18, Paris Observatory, France (invited seminar),
20. 2019-04-16, Astronomy Department, Yale University, USA (invited seminar),
19. 2019-04-12, Astronomy Department, Tufts University, USA (invited seminar),

18. 2018-02-01, ITC CfA, Harvard & Smithsonian, USA,
17. 2017-10-03, Black Hole Initiative, Harvard University, USA (seminar),
16. 2017-04-25, Students' Astronomy Club KNAstr at the University of Warsaw, Poland (invited seminar),
15. 2016-09-30, ZARM, Bremen University, Germany (workshop lecture),
14. 2016-04-19, Silesian University in Opava, Czechia (seminar),
13. 2015-09-15, SPIE Correlation Optics conference, Chernivtsi, Ukraine,
12. 2014-12-09, Meeting with Copernicus & Hevelius: confrontations with relat. astroph., Krakow, Poland,
11. 2014-08-26, IAU 312, Beijing, China,
10. 2013-12-10, SPIE Micro+Nano Materials, Devices, and Systems, Melbourne, Australia (poster),
9. 2013-09-10, Fringe 2013, 7th International Workshop, Stuttgart, Germany,
8. 2013-07-15, Narayan's group meeting, Center for Astrophysics, Cambridge, USA (seminar),
7. 2013-06-24, Narayan's group meeting, Center for Astrophysics, Cambridge, USA (seminar),
6. 2013-04-03, MRS Spring Meeting & Exhibit, San Francisco, USA,
5. 2012-10-24, Nicolaus Copernicus Astronomical Center, Warsaw, Poland (seminar),
4. 2012-09-19, 7th PhD Students and Young Scientists Conference, Warsaw University of Technology, Poland,
3. 2012-08-23, SPIE Adv. Topics in Optoelect., Microelect. and Nanotech., Constanta, Romania,
2. 2011-09-20, 6th PhD Students and Young Scientists Conference, Warsaw University of Technology, Poland,
1. 2010-06-17, 7th Partial Differential Equations Forum, Bedlewo, Poland (poster)

OUTREACH TALKS AND LECTURES

19. 2023-09-02, Astronomy Club Almukantarāt 40th Anniversary, Frombork, Poland,
18. 2022-12-09, Astronomy Club at Sacred Heart Preparatory, Atherton, USA (online),
17. 2022-09-13, 31st Texas Symposium on Relativistic Astrophysics, Prague, Czechia (public talk),
16. 2022-05-17, Harvard University Science Center, Cambridge, USA (public talk and panel discussion),
15. 2021-11-17, XL Żeromski High School, Warsaw, Poland (invited talk for high school students),
14. 2021-07-16, Almukantarāt Astronomy Club Summer Camp, Zalecze Wielkie, Poland (popular lecture),
13. 2021-03-29, N. Copernicus Astronomy Center: Meetings with Astronomy (outreach lecture series),
12. 2021-01-21, Copernicus Science Center, Warsaw, Poland (public lecture),
11. 2020-11-30, Photo: Science/Photography and Scientific Discourses, Prague, Czechia (keynote talk),
10. 2020-09-20, N. Copernicus Astronomy Center: Meetings with Astronomy (outreach lecture series),
9. 2020-03-04, Silesian University in Opava, Czechia (public lecture),
8. 2019-11-06, Mellow Mushroom pub, Charleston, USA (Astronomy on Tap pub talk),
7. 2019-09-23, PLNOG 23, Cracow, Poland (invited lecture at an IT conference),
6. 2019-09-14, PyCon PL 2019, Zawiercie, Poland (keynote lecture at an IT conference),
5. 2019-07-31, Polish Scientific Network in Boston meeting, MIT, Cambridge, USA (popular talk),
4. 2019-04-27, Copernicus Science Center, Warsaw, Poland (public talk),
3. 2019-04-15, Harvard University Science Center, USA (public talk and panel discussion),
2. 2017-04-10, N. Copernicus Astronomy Center: Meetings with Astronomy (outreach lecture series),
1. 2016-05-23, N. Copernicus Astronomy Center: Meetings with Astronomy (outreach lecture series)

Journal papers

105. *Circular Polarization of Simulated Images of Black Holes*, Yoshi, A., Prather, B., Chan, C.-K., **Wielgus, M.**, and Gammie, C., under internal EHTC review,
104. *The putative center in NGC 1052*, Baczkó A.-K., Kadler, M., Ros, E., Fromm, C. M., **Wielgus, M.**, et al. + EHTC, under internal EHTC review,
103. *Extreme Light Bending in Spherically-Symmetric Black Hole Spacetimes: Universal Characteristics and Strong-Field Tests of Gravity*, Kocherlakota, P., Rezzolla, L., Roy, R., and **Wielgus, M.**, under internal EHTC review, arXiv:2307.16841,
102. *Ordered magnetic fields around the 3C 84 central black hole*, Paraschos, G. F., Kim, J.-Y., **Wielgus, M.**, et al. + EHTC, submitted to A&A,
101. *Fitting Sagittarius A* light curves with a hot spot model: Bayesian modeling of QU loops in millimeter band*, Yfantis, A., Moscibrodzka, M., **Wielgus, M.** + 2 authors, submitted to A&A, arXiv:2310.07762,
100. *Polarized signatures of orbiting hot spots: special relativity impact and probe of spacetime curvature*, Vincent, F., **Wielgus, M.** + 3 authors, submitted to A&A, arXiv:2309.10053,
99. *Orbital Polarimetric Tomography of a Flare Near Sagittarius A* Supermassive Black Hole*, Levis, A., Bouman, K., Chael, A., **Wielgus, M.**, and Srinivasan, P., submitted to Nature Astronomy, arXiv:2310.07687,
98. *Energy distribution and substructure formation in astrophysical MHD simulations*, Kayanikhoo, F., Cemeljic, M., **Wielgus, M.**, and Kluzniak, W., submitted to MNRAS, arXiv:2308.16062,
97. *The internal Faraday screen of Sagittarius A**, **Wielgus, M.**, Issaoun, S., Marti-Vidal, I., + 5 authors, accepted in A&A, arXiv:2308.11712,
96. *A search for pulsars around Sgr A* in the first Event Horizon Telescope dataset*, Torne, P. et al. + EHTC, accepted in ApJ, arXiv:2308.15381,
95. *Polarimetric geometric modeling for mm-VLBI observations of black holes using calibration-invariant data products*, Roelofs, F., Johnson, M., Chael, A., Janssen, M., **Wielgus, M.** et al. + EHTC, ApJL 957, L21 (2023),
94. *First M87 Event Horizon Telescope Results IX: Limits on Near-Horizon Circular Polarization*, EHTC, ApJL 957, L20 (2023),
93. *Reference Array and Design Consideration for the next-generation Event Horizon Telescope*, Doeleman, S. S. et al., Galaxies 11(5), 107 (2023), arXiv:2306.08787,
92. *Orbital configurations of spaceborne interferometers for studying photon rings of supermassive black holes*, Hudson, B., Gurvits, L., **Wielgus, M.** + 3 authors, Acta Astronautica 213, 681-693 (2023), arXiv:2309.17127,
91. *The EB-correlation in Resolved Polarized Images: Connections to Astrophysics of Black Holes*, Emami, R., Doeleman, S., **Wielgus, M.**, et al., ApJ 955, 6 (2023), arXiv:2305.00387,
90. *Polarimetry and Astrometry of NIR Flares as Event Horizon Scale, Dynamical Probes for the Mass of Sgr A**, GRAVITY Collaboration et al., A&A 677, L10 (2023), arXiv:2307.11821,
89. *Unraveling Twisty Linear Polarization Morphologies in Black Hole Images*, Emami, R., Ricarte, A., Wong, G., + 26 authors, ApJ 950, 38 (2023), arXiv:2210.01218,
88. *Comparison of Polarized Radiative Transfer Codes used by the EHT Collaboration*, Prather, B., Dexter, J., Moscibrodzka, M., + 270 authors, ApJ 950, 35 (2023), arXiv:2303.12004,
87. *Key Science Goals for the Next-Generation Event Horizon Telescope*, Johnson, M., Akiyama, K., Blackburn, L., et al., Galaxies 11(3), 61 (2023), arXiv:2304.11188,
86. *Spectra of Puffy Accretion Discs: the kynbb Fit*, Lancova, D., Yilmaz, A., **Wielgus, M.**, + 3 authors, Astronomical Notes 344, e20230023 (2023), arXiv:2209.03713,
85. *The Event Horizon Telescope Image of the Quasar NRAO 530*, Jorstad, S., **Wielgus, M.**, Lico, R., + 267 authors, ApJ 943, 170 (2023), arXiv:2302.04622,
84. *Tracing hot spot motion using the next generation Event Horizon Telescope*, Emami, R., Tiede, P., Doeleman, S. S., Roelofs, F., **Wielgus, M.**, + 17 authors, Galaxies 11(1), 23 (2023), arXiv:2211.06773,
83. *Probing plasma composition with the next generation Event Horizon Telescope (ngEHT)*, Emami, R., Anantua, R., Ricarte, A., + 15 authors, Galaxies 11(1), 11 (2023), arXiv:2211.07306,

82. *Polarimetric signatures of hot spots in black hole accretion flows*, Vos, J., Moscibrodzka, M., and **Wielgus, M.**, A&A 668, A185 (2022), arXiv:2209.09931,
81. *Photon ring test of the Kerr hypothesis: variation in the ring shape*, Pagnat, H., Lupsasca, A., Vincent, F., and **Wielgus, M.**, A&A 668, A11 (2022), arXiv:2206.02781,
80. *Images and photon ring signatures of thick disks around black holes*, Vincent, F., Gralla, S., Lupsasca, A., and **Wielgus, M.**, A&A 667, A170 (2022), arXiv:2206.12066,
79. *Collimation of the relativistic jet in the quasar 3C 273*, Okino, H., Akiyama, K., Asada, K., +32 authors, ApJ 940, 65 (2022), arXiv:2112.12233,
78. *A first search of transients in the galactic center from 230 GHz ALMA observations*, Mus, A., Marti-Vidal, I., **Wielgus, M.**, and Stroud, G., A&A 666, A39 (2022), arXiv:2208.08248,
77. *Orbital motion near Sagittarius A*. Constraints from polarimetric ALMA observations*, **Wielgus, M.**, Moscibrodzka, M., Vos, J., Gelles, Z., + 5 authors, A&A 665, L6 (2022), arXiv:2209.09926,
76. *A robust test on the existence of primordial black holes in galactic dark matter halos*, Abramowicz, M., Bejger, M., Udalski, A., and **Wielgus, M.**, ApJL 935, L28 (2022), arXiv:2206.13335,
75. *The photon ring in M87**, Broderick, A., Pesce, D., Gold, R. + 48 authors, ApJ 935, 61 (2022), arXiv:2208.09004,
74. *Resolving the inner parsec of the blazar J1924–2914 with the Event Horizon Telescope*, Issaoun, S., **Wielgus, M.**, Jorstad, S., Krichbaum, T. + 264 authors, ApJ 934, 145 (2022), arXiv:2208.01662,
73. *Observational properties of puffy disks: radiative GRMHD spectra of mildly sub-Eddington accretion*, **Wielgus, M.**, Lancova, D., Straub, O., Kluzniak, W. + 6 authors, MNRAS 514, 780 (2022), arXiv:2202.08831,
72. *Characterizing and Mitigating Intraday Variability: Reconstructing Source Structure in Accreting Black Holes with mm-VLBI*, Broderick, A., Gold, R., Georgiev, B., + 264 authors, ApJL 930, L21 (2022),
71. *A Universal Power-law Prescription for Variability from Synthetic Images of Black Hole Accretion Flows*, Georgiev, B., Pesce, D., Broderick, A., Wong, G., Dhruv, V., **Wielgus, M.** + 263 authors, ApJL 930, L20 (2022),
70. *Millimeter Light Curves of Sagittarius A* Observed during the 2017 Event Horizon Telescope Campaign*, **Wielgus, M.**, Marchili, N., Marti-Vidal, I., Keating, G. K. + 263 authors, ApJL 930, L19 (2022), arXiv:2207.06829,
69. *Selective Dynamical Imaging of Interferometric Data*, Farah, J., Galison, P., Akiyama, K., Bouman, K., Bower, G., Chael, A., Fuentes, A., Gomez, J. L., Narayan, R., Honma, M., Johnson, M. D., Moriyama, K., Kofuji, Y., **Wielgus, M.** + 221 authors, ApJL 930, L18 (2022),
68. *First Sagittarius A* Event Horizon Telescope Results. VI. Testing the Black Hole Metric*, EHT Collaboration (270 authors), ApJL 930, L17 (2022),
67. *First Sagittarius A* Event Horizon Telescope Results. V. Testing Astrophysical Models of the Galactic Center Black Hole*, EHT Collaboration (274 authors), ApJL 930, L16 (2022),
66. *First Sagittarius A* Event Horizon Telescope Results. IV. Variability, Morphology, and Black Hole Mass*, EHT Collaboration (269 authors), ApJL 930, L15 (2022),
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