

Maciek Wielgus

Complete list of papers. Updated: October 2022

Journal papers

86. *Tracing hot spot motion using the next generation Event Horizon Telescope*, Emami, R., Tiede, P., Doeleman, S. S., Roelofs, F., **Wielgus, M.**, et al., submitted to *Galaxies*,
85. *Event Horizon Telescope Image of the Quasar NRAO 530*, Jorstad, S., **Wielgus, M.**, Lico, R., Issaoun, S. + EHTC, submitted to *ApJ*,
84. *Unraveling Twisty Linear Polarization Morphologies in Black Hole Images*, Emami, R., Ricarte, A., Wong, G., + 26 authors, submitted to *ApJ*, arXiv:2210.01218,
83. *Spectra of Puffy Accretion Discs: the kynbb Fit*, Lancova, D., Yilmaz, A., **Wielgus, M.**, + 3 authors, submitted to *Astronomische Nachrichten*, arXiv:2209.03713,
82. *Collimation of the relativistic jet in the quasar 3C 273*, Okino, H., Akiyama, K., Asada, K., +32 authors, accepted in *ApJ*, arXiv:2112.12233,
81. *Polarimetric signatures of hot spots in black hole accretion flows*, Vos, J., Moscibrodzka, M., and **Wielgus, M.**, accepted in *A&A*, arXiv:2209.09931,
80. *Photon ring test of the Kerr hypothesis: variation in the ring shape*, Pagnat, H., Lupsasca, A., Vincent, F., and **Wielgus, M.**, accepted in *A&A*, arXiv:2206.02781,
79. *Images and photon ring signatures of thick disks around black holes*, Vincent, F., Gralla, S., Lupsasca, A., and **Wielgus, M.**, accepted in *A&A*, arXiv:2206.12066,
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. *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),
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),
65. *First Sagittarius A* Event Horizon Telescope Results. III. Imaging of the Galactic Center Supermassive Black Hole*, EHT Collaboration (270 authors), *ApJL* 930, L14 (2022),

64. *First Sagittarius A* Event Horizon Telescope Results. II. EHT and Multiwavelength Observations, Data Processing, and Calibration*, EHT Collaboration (337 authors), *ApJL* 930, L13 (2022),
63. *First Sagittarius A* Event Horizon Telescope Results. I. The Shadow of the Supermassive Black Hole in the Center of the Milky Way*, EHT Collaboration (388 authors), *ApJL* 930, L12 (2022),
62. *The science case and challenges of space-borne sub-millimeter interferometry*, Gurvits, L., Paragi, Z. + 52 authors, *Acta Astronautica* 196, 314-333 (2022), arXiv:2204.09144,
61. *MeqSilhouette v2: Spectrally-resolved polarimetric synthetic data generation for the Event Horizon Telescope*, Natarajan, I., Deane, R., Marti-Vidal, I., Roelofs, F., Janssen, M., **Wielgus, M.** +14 authors, *MNRAS* 512, 490 (2022), arXiv:2202.11478,
60. *The intrinsic structure of Sagittarius A* at 1.3 cm and 7 mm*, Cho, I., Zhao, G.-Y., Kawashima, T., +63 authors, *ApJ* 926, 108 (2022), arXiv:2112.04929,
59. *The Variability of the Black-Hole Image in M87 at the Dynamical Time Scale*, Satapathy, K., Psaltis, D., Ozel, F., Medeiros, L., Dougall, S. T., Chan, C., **Wielgus, M.**, +231 authors, *ApJ* 925, 13 (2022), arXiv:2111.01317,
58. *Photon rings of spherically symmetric black holes and robust tests of non-Kerr metrics*, **Wielgus, M.**, *PRD* 104, 124058 (2021), arXiv:2109.10840,
57. *Event Horizon Telescope observations of the jet launching and collimation zone in Centaurus A*, Janssen, M., Falcke, H., Kadler, M., Ros, E., **Wielgus, M.**, +266 authors, *Nat Astron* 5 1017-1028 (2021), arXiv:2111.03356,
56. *Persistent Non-Gaussian Structure in the Image of Sagittarius A* at 86 GHz*, Issaoun, S., Johnson, M., Blackburn, L., Broderick, A., Tiede, P., **Wielgus, M.**, + 23 authors, *ApJ* 915, 99 (2021), arXiv:2104.07610,
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54. *The Polarized Image of a Synchrotron Emitting Ring of Gas Orbiting a Black Hole*, Narayan, R., et al., *ApJ* 912, 35 (2021), arXiv:2105.01804,
53. *Light echos and coherent autocorrelations in a black hole spacetime*, Chesler, P., Blackburn, L., Doeleman, S., Johnson, M., Moran, J., Narayan, R., **Wielgus, M.**, *Class. Quantum Grav.* 38, 13 (2021), arXiv:2012.11778,
52. *Broadband Multi-wavelength Properties of M87 During the 2017 Event Horizon Telescope Campaign*, Algaba, J. C., + 744 authors, *ApJL* 911, L11 (2021), arXiv:2104.06855,
51. *Polarimetric Properties of Event Horizon Telescope Targets from ALMA*, Goddi, C., + 249 authors, *ApJL* 910, L14 (2021),
50. *First M87 Event Horizon Telescope Results. VIII. Magnetic Field Structure near The Event Horizon*, EHT Collaboration (240 authors), *ApJL* 910, L13 (2021),
49. *First M87 Event Horizon Telescope Results. VII. Polarization of the Ring*, EHT Collaboration (239 authors), *ApJL* 910, L12 (2021),
48. *Elliptical accretion disk as a model for TDEs*, Liu, F., Cao, C., Abramowicz, M., **Wielgus, M.**, Cao, R., Zhou, Z., *ApJ* 908, 179 (2021), arXiv:2012.05552,
47. *Geometric modeling of M87* as a Kerr black hole or a non-Kerr compact object*, Vincent, F., **Wielgus, M.**, Abramowicz, M., Gourgoulhon, E., J. P. Lasota, + 2 authors, *A&A* 646, A37 (2021), arXiv:2002.09226,
46. *Reflection-asymmetric wormholes and their double shadows*, **Wielgus, M.**, Horák, J., Vincent, F., Abramowicz, M., *PRD* 102, 084044 (2020), arXiv:2008.10130,
45. *Gravitational Test Beyond the First Post-Newtonian Order with the Shadow of the M87 Black Hole*, Psaltis, D., + 187 authors, *PRL* 125, 141104 (2020), arXiv:2010.01055,
44. *Monitoring the Morphology of M87* in 2009-2017 with the Event Horizon Telescope*, **Wielgus, M.**, Akiyama, K., Blackburn, L., + 216 authors, *ApJ* 901, 67 (2020), arXiv:2009.11842,
43. *Event Horizon Telescope imaging of the archetypal blazar 3C 279 at an extreme 20 microarcsecond resolution*, Kim, J.-Y., Krichbaum, T., Broderick, A., **Wielgus, M.**, + 349 authors, *A&A* 640, A69 (2020),
42. *Verification of Radiative Transfer Schemes for the EHT*, Gold, R., + 207 authors, *ApJ* 897, 148 (2020),
41. *THEMIS: A Parameter Estimation Framework for the Event Horizon Telescope*, Broderick, A., + 193 authors, *ApJ* 897, 139 (2020),
40. *Closure Statistics in Radio Interferometric Data*, Blackburn, L., Pesce, D., Johnson, M., **Wielgus, M.**, Chael, A., Christian, P., Doeleman, S., *ApJ* 894, 31 (2020), arXiv:1910.02062,

39. SYMBA: An end-to-end VLBI synthetic data generation pipeline. *Simulating Event Horizon Telescope observations of M 87*, Roelofs, F., Janssen, M., + 207 authors, *A&A* 636, A5 (2020)
38. *Universal Interferometric Signatures of a Black Hole's Photon Ring*, Johnson, M., + 16 authors, *Science Advances* 6, eaaz1310 (2020), arXiv:1907.04329,
37. *Optically thin outbursts of rotating neutron stars can not be spherical*, **Wielgus, M.**, *MNRAS*, 488, 4937 (2019), arXiv:1907.11268,
36. *Puffy Accretion Disks: Sub-Eddington, Optically Thick, and Stable*, Lančová, D., Abarca, D., Kluźniak, W., **Wielgus, M.**, + 5 authors, *ApJL* 884, L37 (2019), arXiv:1908.08396,
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33. *The Event Horizon General Relativistic Magnetohydrodynamic Code Comparison Project*, Porth, O., + 220 authors, *ApJSS* 243, 26 (2019), arXiv:1904.04923,
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29. *First M87 Event Horizon Telescope Results. V. Physical Origin of the Asymmetric Ring*, EHT Collaboration (221 authors), *ApJL* 875, L5 (2019), arXiv:1906.11242,
28. *First M87 Event Horizon Telescope Results. IV. Imaging the Central Supermassive Black Hole*, EHT Collaboration (215 authors), *ApJL* 875, L4 (2019), arXiv:1906.11241,
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