

Peter Raffai, PhD, Dr. habil.

Curriculum Vitae

CONTACT

Institute of Physics and Astronomy
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RESEARCHER IDS

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WORK EXPERIENCE

Eötvös Loránd University 1 Feb. 2025 – Present
Associate Professor
Assistant Professor 1 June 2014 – 31 Jan. 2025
Assistant Lecturer 1 Jan. 2010 – 31 May 2014

HUN-REN-ELTE
Extragalactic Astrophysics Research Group 1 Sept. 2023 – Present
Research Scientist

MTA-ELTE EIRSA Lendület
Astrophysics Research Group Summer 2013 – Summer 2017
Research Scientist

Columbia University in the City of New York Fall 2011 – Spring 2013
Postdoctoral Research Scientist

EDUCATION & DEGREES

Eötvös Loránd University 7 December 2023
Doctor Habilitatus
Ph.D. in astrophysics 17 July 2012
B.Sc. and M.Sc. in physics 29 June 2006

AWARDS & GRANTS (since PhD)

Grant for Young Researchers in Higher Education, **September 2017**
New National Excellence Program (ÚNKP)
(granted by the Hungarian Ministry of Human Capacities)

Royal Astronomical Society **June 2017**

Group Achievement Award ‘A’ (as a member of the LIGO-Virgo Collaboration)	
Princess of Asturias Award for Technical and Scientific Research (as a member of the LIGO-Virgo Collaboration)	June 2017
Academic Youth Award (granted by the Hungarian Academy of Sciences)	January 2017
2016 Gruber Foundation Cosmology Prize (as a member of the LIGO-Virgo Collaboration)	May 2016
Special Breakthrough Prize in Fundamental Physics (as a member of the LIGO-Virgo Collaboration)	May 2016
Albert Szent-Gyorgyi Award	December 2015
János Bolyai Research Grant	Sept. 2014 – Aug. 2016
Pál Erdős Grant for Young Researchers	March - July 2014

PROFESSIONAL ACTIVITIES

I am a member of the General Assembly of the Hungarian Academy of Sciences and a member of the Academy's Committee on Astronomy and Space Research since 2021.

I am a referee for the following international scientific journals: *Physical Review D*, *Physical Review Letters*.

I was a delegated member of the LSC Council until 31 August 2022, which is the governing body of the LIGO Scientific Collaboration.

I was a member of the Burst Advisory Board of the LIGO-Virgo Collaboration until 31 August 2021, which is a forum of delegated LVC members playing active roles in LVC's burst search activities.

I was one of three members of the local organizing committee for the [LSC-Virgo Meeting held in Budapest](#), Hungary between September 19-24, 2009.

I was the co-founder of the local group of the LIGO Scientific Collaboration in Hungary in 2007. I led the data analysis efforts of the group at Eotvos Lorand University between 2007-2011 and 2013-2023.

TEACHING EXPERIENCE

Fall Semester Courses:	
Cosmology (Physics & Astronomy MSc; in English)	2018-
Introduction to Astronomy (Physics Teacher BSc)	2013-
Cosmology (Physics MSc; in Hungarian)	2010-2011, 2013-2018
Introduction to Astrophysics (Physics BSc)	2014-2015, 2018-2019

Spring Semester Courses:

Astrophysics (Physics BSc; in Hungarian)	2023-
Gravitational-wave Astrophysics (Physics PhD; in English)	2021-
Chapters in Astrophysics (Physics BSc; in Hungarian)	2020-2022
Gravitational-wave Astrophysics (Physics MSc; in English)	2019-2020
Gr.-wave Astrophysics (Physics MSc; in Hun.)	2010-2011, 2013-2018
Galactic Dynamics (Physics MSc)	2013-2015

Seminars (Fall & Spring Semester):

Unsolved Probl. in Astrophys. (Physics BSc/MSc/PhD)	2015-2020
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Laboratory Practices:

Experiments in Environmental Phys. (Environ. Sc. BSc)	2013-2021
Applied Methods in Physics (Physics BSc)	Fall 2013
Nuclear Physics and Radiology (Physics MSc)	Fall 2007

Teaching Assistance:

Theoretical Electrodynamics (Physics BSc)	Spring 2010-2011
Theoretical Electrodynamics (Physics BSc)	Fall 2007, Fall 2010
Astrophysics (Physics BSc)	Fall 2008
Quantum Mechanics (Physics BSc)	Spring 2008
Theoretical Mechanics (Physics BSc)	Fall 2006

**STUDENTS
ADVISED
(EOTVOS U.)**

Dávid Attila Ködmön (BSc diploma, BME)

<i>“The evolution of matter density fluctuations in coasting cosmologies”</i> (in English)	Spring 2024
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Dominika Eleonóra Kis (BSc diploma, BME)

<i>“United in diversity: The cosmology of inhomogeneous universes in view of the separate universe conjecture”</i> (in Hungarian)	Spring 2024
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Andor Budai (PhD)

<i>“Testing the non-stationarity of long gamma-ray burst jets with statistical methods”</i> (in Hungarian) Finished with ‘summa cum laude’ grade.	Spring 2024
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Adrienn Pataki (MSc diploma)

<i>“Testing a universe with coasting evolution using type Ia supernovae”</i> (in English)	Spring 2023
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Barbara Matécsa (MSc diploma)

<i>“A method for detecting the cosmic dipole with gravitational waves”</i> (in Hungarian)	Spring 2023
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Gergely Dályá (PhD)

“Multi-messenger astronomy and source parameter estimation with gravitational waves” (in English);
Finished with ‘summa cum laude’ grade. **Spring 2022**

Mária Pálfi (MSc diploma):
“Comparative analysis of stellar-mass estimation methods and their applicability in multi-messenger astronomy” (in Hungarian) **Spring 2021**

Alexandra Karsai (BSc diploma)
“Does the FLRW-metric have an alternative in cosmology?” (in Hungarian) **Spring 2020**

Ramón Díaz (MSc diploma)
“GLADE+: An extended galaxy list for multimessenger searches in the advanced gravitational-wave detector era” (in English) **Spring 2020**

Gabriel Cardoso (MSc diploma)
“Mapping the velocity field of the local universe” (in English) **Spring 2020**

Additional projects lead before 2020:

4 M.Sc. diploma, 8 B.Sc. diploma, 7 Conference of Scientific Student’s Association (TDK) projects.

CONFERENCE PARTICIPATION
(in the past 5 yrs)

As a member of the LIGO Scientific Collaboration (LSC) since 2007, I attended the regular meetings of the LSC 2 times per year (on average) until the end of 2023.

„Oktatás és tudomány népszerűsítés gravitációs hullámokkal”

Invited talk at the Teacher’s Conference of Pázmány Péter Catholic University, Budapest, Hungary **5 Nov. 2021**

SEMINARS & OUTREACH TALKS
(in the past 5 years)

“Volt-e a világegyetemnek kezdete?”
Európa Szabadegyetem, Hungarikum Liget, Lakitelek, Hungary **8 July 2023**

“Gravitational-wave Astronomy with the LIGO-Virgo Detector Network”
Konkoly Observatory Seminar, Budapest, Hungary **17 June 2021**

“Honnan jött mindez? - Beszélgetés az univerzum eredetéről”
Orbánhegyi Kollégium, Budapest, Hungary **27 February 2020**

„Csillagászat gravitációs hullámokkal”

Budapest Science Meetup, Budapest, Hungary

25 June 2020

„A New Window to the Universe: Gravitational Waves”

Bolyai College Physics Seminar, Budapest, Hungary

3 November 2021

Wigner Lecture Series, BME, Budapest, Hungary

27 October 2020

SCIENCE METRICS

Number of publications:	267
Number of refereed publications:	243
Total sum of impact factors:	1422.97
Total number of citations (source: MTMT):	88 442
Independent citations (source: MTMT):	50 939
H-index from all citations (source: MTMT):	101
H-index from independent citations (source: MTMT):	66
Number of short-authorlist (SA) papers:	29
Citations on SA papers (source: MTMT):	986
Independent citations on SA papers (source: MTMT):	641

PUBLICATIONS

1. Short-authorlist papers:

[29] **Raffai, P.**, Pataki, A., Böttger, R. L., Karsai, A., and Dályá, G.; "Cosmic Chronometers, Pantheon+ Supernovae, and Quasars Favor Coasting Cosmologies over the Flat Λ CDM Model", The Astrophysical Journal, Vol. 979, Number 1, pp. 51, 2025. Impact factor: 4.8*

[28] Molnár, A., and **Raffai, P.**; "A case study about a Hungarian online course on gravitational-wave astrophysics", Physics Education, Vol. 59, Issue 6, p. 065012, 2024. Impact factor: 1.5*

[27] **Raffai, P.**, Pálfi, M., Dályá, G., and Gray, R.; "Constraints on coasting cosmological models from gravitational-wave standard sirens", The Astrophysical Journal, Vol. 961, Number 1, id. 17, pp. 26, 2024. Impact factor: 4.8*

[26] Gair, J. R., ..., **Raffai, P.**, et al. (+29 authors); "The Hitchhiker's Guide to the Galaxy Catalog Approach for Dark Siren Gravitational-wave Cosmology", The Astronomical Journal, Vol. 166, Issue 1, id. 22, pp. 15, 2023. Impact factor: 5.1

[25] Raza, N., McIver, J., Dályá, G., and **Raffai, P.**; "Prospects for reconstructing the gravitational-wave signals from core-collapse supernovae with Advanced LIGO-Virgo and the BayesWave algorithm", Physical Review D, Vol. 106, Issue 6, aid. 063014, 2022. Impact factor: 5.0

[24] Dályá, G., Díaz, R., Bouchet, F. R., Frei, Z., Jasche, J., Lavaux, G., Macas, R., Mukherjee, S., Pálfi, M., de Souza, R. S., Wandelt, B. D., Bilicki, M., and **Raffai, P.**; "GLADE+: an extended galaxy catalogue for multimessenger searches with advanced gravitational-wave detectors", Monthly Notices of the Royal Astronomical Society, Vol. 514, Issue 1, pp. 1403, 2022. Impact factor: 4.8

- [23] Mesterházy, I., **Raffai, P.**, Szalay, L., Bozó, L., and Ladányi, M.; "Estimation of Blooming Start with the Adaptation of the Unified Model for Three Apricot Cultivars (*Prunus armeniaca* L.) Based on Long-Term Observations in Hungary (1994–2020)", *Diversity*, Vol. 14, Issue 7, p. 560, 2022. Impact factor: 2.4
- [22] Budai, A., **Raffai, P.**, Borgulya, B., Dawes, B. A., and Szeifert, G.; "Statistical search for angular non-stationarities of long gamma-ray burst jets using Swift data", *Monthly Notices of the Royal Astronomical Society*, Vol. 509, Issue 4, p. 6179, 2022. Impact factor: 4.8
- [21] Dálya, G., **Raffai, P.**, and Bécsy, B.; „Bayesian reconstruction of gravitational-wave signals from binary black holes with nonzero eccentricities”, *Classical and Quantum Gravity*, Vol. 38, n. 6, 2021. Impact factor: 3.853
- [20] Bécsy, B., **Raffai, P.**, Gill, K., Littenberg, T., Millhouse, M., and Szczepanczyk, M.; "Interpreting gravitational-wave burst detections: constraining source properties without astrophysical models", *Classical and Quantum Gravity*, Vol. 37, n. 10, 2020. Impact factor: 3.528
- [19] Budai, A., **Raffai, P.**, Borgulya, B., Dawes, B. A., Szeifert, G., and Varga, V.; "A statistical method to detect non-stationarities of gamma-ray burst jets", *Monthly Notices of the Royal Astronomical Society*, Vol. 491, Issue 1, p. 1391, 2020. Impact factor: 5.287
- [18] Takátsy, J., Bécsy, B., and **Raffai, P.**; "Eccentricity distributions of eccentric binary black holes in galactic nuclei", *Monthly Notices of the Royal Astronomical Society*, Vol. 486, Issue 1, p. 570, 2019. Impact factor: 5.356
- [17] Fishbach, M., ..., **Raffai, P.**, et al. (+54 authors & The Virgo Collaboration); "A Standard Siren Measurement of the Hubble Constant from GW170817 without the Electromagnetic Counterpart", *The Astrophysical Journal Letters*, Vol. 871, Issue 1, aid. L13, 2019. Impact factor: 8.198
- [16] Dálya, G., Galgóczi, G., Dobos, L., Frei, Z., Heng, I. S., Macas, R., Messenger, C., **Raffai, P.**, and de Souza, R. S.; "GLADE: A Galaxy Catalogue for Multi-Messenger Searches in the Advanced Gravitational-Wave Detector Era", *Monthly Notices of the Royal Astronomical Society*, Vol. 479, Issue 2, p. 2374, 2018. Impact factor: 5.231 [+VizieR Online Data Catalog: GLADE v2.3 catalog (Dalya+, 2018), VII/281.]
- [15] Gondán, L., Kocsis, B., **Raffai, P.**, and Frei, Z.; "Eccentric Black Hole Gravitational-wave Capture Sources in Galactic Nuclei: Distribution of Binary Parameters", *The Astrophysical Journal*, Vol. 860, Issue 1, aid. 5, 2018. Impact factor: 5.580
- [14] Gondán, L., Kocsis, B., **Raffai, P.**, and Frei, Z.; "Accuracy of Estimating Highly Eccentric Binary Black Hole Parameters with Gravitational-wave Detections", *The Astrophysical Journal*, Vol. 855, Issue 1, aid. 34, 2018. Impact factor: 5.580
- [13] Bécsy, B., **Raffai, P.**, Cornish, N. J., et al. (+6 authors); "Parameter Estimation for Gravitational-wave Bursts with the BayesWave Pipeline", *The Astrophysical Journal*, Vol. 839, Number 1, 2017. Impact factor: 5.551
- [12] Szölgvény, Á., Dálya, G., Gondán, L., and **Raffai, P.**; "Target-based optimization of advanced gravitational-wave detector network operations", *Classical and Quantum Gravity*, Vol. 34, p. 7, 2017. Impact factor: 3.283

[11] **Raffai, P.**, Haiman, Z., and Frei, Z.; “A statistical method to search for recoiling supermassive black holes in active galactic nuclei”, *Monthly Notices of the Royal Astronomical Society*, Vol. 455, p. 484, 2016. Impact factor: 4.961

[10] Hu, Y., **Raffai, P.**, Gondán, L., et al. (+5 authors); „Global Optimization for Future Gravitational Wave Detectors' Sites”, *Classical and Quantum Gravity*, Vol. 32, p. 105010, 2015. Impact factor: 2.837

[9] **Raffai, P.**, Gondán, L., Heng, I. S., et al. (+4 authors); „Optimal networks of future gravitational-wave telescopes”, *Classical and Quantum Gravity*, Vol. 30, p. 155004, 2013. Impact factor: 3.103

[8] Murphy, D., Tse, M., **Raffai, P.**, et al. (+6 authors); „Detecting long-duration narrow-band gravitational wave transients associated with soft gamma repeater quasiperiodic oscillations”, *Physical Review D*, Vol. 87, Issue 10, p. 103008, 2013. Impact factor: 4.864

[7] Baret, B., Bartos, ..., **Raffai, P.**, et al. (+23 authors); „Multimessenger science reach and analysis method for common sources of gravitational waves and high-energy neutrinos”, *Physical Review D*, Vol. 35, Issue 10, p. 103004, 2012. Impact factor: 4.691

[6] **Raffai, P.**, Szeifert, G., Matone, L., et al. (+5 authors); „Opportunity to Test non-Newtonian Gravity Using Interferometric Sensors with Dynamic Gravity Field Generators”, *Physical Review D*, Vol. 84, Issue 8, p. 082002, 2011. Impact factor: 4.558

[5] Baret, B., Bartos, I., ..., **Raffai, P.**, et al. (+16 authors); „Bounding the time delay between high-energy neutrinos and gravitational-wave transients from gamma-ray bursts”, *Astroparticle Physics*, Vol. 35, Issue 1, p. 1-7, 2011. Impact factor: 3.216

[4] Thrane, E., Kandhasamy, S., ..., **Raffai, P.**, et al. (+10 authors); „Long gravitational-wave transients and associated detection strategies for a network of terrestrial interferometers”, *Physical Review D*, Vol. 83, Issue 8, p. 083004, 2011. Impact factor: 4.558

[3] **Raffai, P.**, Frei, Z., Márka, Z., et al. (+1 author); „How to find long narrow-band gravitational wave transients with unknown frequency evolution?”, *Classical and Quantum Gravity*, Vol. 24, p. S457-S468, 2007. Impact factor: 2.846

[2] Takamori, A., **Raffai, P.**, Márka, S., et al. (+9 authors); „Inverted Pendulum as Low Frequency Pre-Isolation for Advanced Gravitational Wave Detectors”, *Nuclear Instruments & Methods in Physics Research A*, Vol. 582, Issue 2, p. 683-692, 2007. Impact factor: 1.019

[1] Matone, L., **Raffai, P.**, Márka, S., et al. (+5 authors); „Benefits of Artificially Generated Gravity Gradients for Interferometric Gravitational Wave Detectors”, *Classical and Quantum Gravity*, Vol. 24, p. 2217-2229, 2007. Impact factor: 2.846

2. Large collaboration papers I made significant contributions to:

[12] Abbott, R., ..., **Raffai, P.**, et al. (+1673 authors); “Constraints on the Cosmic Expansion History from GWTC-3”, *The Astrophysical Journal*, Vol. 949, Issue 2, id. 76, pp. 37, 2023. Impact factor: 4.8

[11] Abbott, R., ..., **Raffai, P.**, et al. (+1628 authors); “All-sky search for short gravitational-wave bursts in the third Advanced LIGO and Advanced Virgo run”, *Physical Review D*, Vol. 104, Issue 12, id. 122004, 2021. Impact factor: 5.407

[10] Abbott, B. P., ..., **Raffai, P.**, et al. (+1186 authors); “A Gravitational-wave Measurement of the Hubble Constant Following the Second Observing Run of Advanced LIGO and Virgo”, *The Astrophysical Journal*, Vol. 909, Issue 2, id. 218, 2021. Impact factor: 5.521

[9] Abbott, R., ..., **Raffai, P.**, et al. (+1252 authors); “GW190814: Gravitational Waves from the Coalescence of a 23 Solar Mass Black Hole with a 2.6 Solar Mass Compact Object”, *The Astrophysical Journal Letters*, Vol. 896, Issue 2, id. L44, 2020. Impact factor: 7.413

[8] Abbott, B. P., ..., **Raffai, P.**, et al. (+1312 authors); “A gravitational-wave standard siren measurement of the Hubble constant”, *Nature*, doi:10.1038/nature24471, 2017. Impact factor: 41.577

[7] Abbott, B. P., ..., **Raffai, P.**, et al. (+3619 authors); “Multi-messenger Observations of a Binary Neutron Star Merger”, *The Astrophysical Journal Letters*, Vol. 848, aid. L12, 2017. Impact factor: 6.634

[6] Abbott, B. P., ..., **Raffai, P.**, et al. (+934 authors); “Search for Gravitational Waves Associated with Gamma-Ray Bursts During the First Advanced LIGO Observing Run and Implications for the Origin of GRB 150906B”, *The Astrophysical Journal*, Vol. 841, Number 2, 2017. Impact factor: 5.551

[5] Abbott, B. P., ..., **Raffai, P.**, et al. (+934 authors); “All-sky search for long-duration gravitational wave transients with initial LIGO”, *Physical Review D*, Vol. 93, Issue 4, id. 042005, 2016. Impact factor: 4.568

[4] Aasi, J., ..., **Raffai, P.**, et al. (+875 authors); “Search for long-lived gravitational-wave transients coincident with long gamma-ray bursts”, *Physical Review D*, Vol. 88, Issue 12, p. 122004, 2013. Impact factor: 4.864

[3] Evans, P. A., ..., **Raffai, P.**, et al. (+814 authors); “Swift Follow-up Observations of Candidate Gravitational-wave Transient Events”, *The Astrophysical Journal Supplement*, Vol. 203, Issue 2, p. 14, 2012. Impact factor: 16.238

[2] Abadie, J., ..., **Raffai, P.**, et al. (+813 authors); “Implementation and testing of the first prompt search for gravitational wave transients with electromagnetic counterparts”, *Astronomy & Astrophysics*, Vol. 539, p. A124, 2012. Impact factor: 5.084

[1] Abbott, B. P., ..., **Raffai, P.**, et al. (+664 authors); „Search for gravitational-wave bursts associated with gamma-ray bursts using data from LIGO Science Run 5 and Virgo Science Run 1“, *The Astrophysical Journal*, Vol. 715, p. 1438, 2010. Impact factor: 7.436

3. Large collaboration papers I co-authored as a member of the LIGO Scientific Collaboration (2007-2024):

[202] Abac, A. G., ..., **Raffai, P.**, et al. (+1771 authors); "Search for Eccentric Black Hole Coalescences during the Third Observing Run of LIGO and Virgo", *The Astrophysical Journal*, Vol. 973, Issue 2, id. 132, pp. 27, 2024. Impact factor: 4.8*

[201] Abac, A. G., ..., **Raffai, P.**, et al. (+1798 authors); "Ultralight vector dark matter search using data from the KAGRA O3GK run", *Physical Review D*, Vol. 110, Issue 4, id. 042001, pp. 21, 2024. Impact factor: 4.6*

[200] Abbott, R., ..., **Raffai, P.**, et al. (+1692 authors); "Search for Gravitational-lensing Signatures in the Full Third Observing Run of the LIGO–Virgo Network", *The Astrophysical Journal*, Vol. 970, Issue 2, id. 191, pp. 28, 2024. Impact factor: 4.8*

[199] Abbott, R., ..., **Raffai, P.**, et al. (+1665 authors); "Search for Gravitational-wave Transients Associated with Magnetar Bursts in Advanced LIGO and Advanced Virgo Data from the Third Observing Run", *The Astrophysical Journal*, Vol. 966, Issue 1, id. 137, pp. 32, 2024. Impact factor: 4.8*

[198] Fletcher, C., ..., **Raffai, P.**, et al. (+1693 authors); "A Joint Fermi-GBM and Swift-BAT Analysis of Gravitational-wave Candidates from the Third Gravitational-wave Observing Run", *The Astrophysical Journal*, Vol. 964, Issue 2, id. 149, pp. 35, 2024. Impact factor: 4.8*

[197] Abbott, R., ..., **Raffai, P.**, et al. (+1428 authors); "GWTC-2.1: Deep extended catalog of compact binary coalescences observed by LIGO and Virgo during the first half of the third observing run", *Physical Review D*, Vol. 109, Issue 2, aid. 022001, 2024. Impact factor: 4.6*

[196] Abbott, R., ..., **Raffai, P.**, et al. (+1656 authors); "GWTC-3: Compact Binary Coalescences Observed by LIGO and Virgo during the Second Part of the Third Observing Run", *Physical Review X*, Vol. 13, Issue 4, aid. 041039, 2023. Impact factor: 11.6

[195] Abbott, R., ..., **Raffai, P.**, et al. (+1654 authors); "Search for Gravitational Waves Associated with Fast Radio Bursts Detected by CHIME/FRB during the LIGO-Virgo Observing Run O3a", *The Astrophysical Journal*, Vol. 955, Issue 2, id. 155, pp. 26, 2023. Impact factor: 4.8

[194] Abbott, R., ..., **Raffai, P.**, et al. (+1739 authors); "Open Data from the Third Observing Run of LIGO, Virgo, KAGRA, and GEO", *The Astrophysical Journal Supplement*, Vol. 267, Issue 2, id. 29, pp. 28, 2023. Impact factor: 8.6

[193] Abbott, R., ..., **Raffai, P.**, et al. (+1697 authors); "Search for subsolar-mass black hole binaries in the second part of Advanced LIGO's and Advanced Virgo's third observing run", *Monthly Notices of the Royal Astronomical Society*, Vol. 524, Issue 4, p. 5984, 2023. Impact factor: 4.8

[192] Abbott, R., ..., **Raffai, P.**, et al. (+1652 authors); "Population of Merging Compact Binaries Inferred Using Gravitational Waves through GWTC-3", *Physical Review X*, Vol. 13, Issue 1, aid. 011048, 2023. Impact factor: 11.6

[191] Abbott, R., ..., **Raffai, P.**, et al. (+1690 authors); "Model-based Cross-correlation Search for Gravitational Waves from the Low-mass X-Ray Binary Scorpius X-1 in LIGO O3 Data", *The Astrophysical Journal Letters*, Vol. 941, Issue 2, id. L30, pp. 19, 2022. Impact factor: 7.9

[190] Abbott, R., ..., **Raffai, P.**, et al. (+1667 authors); "All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO and Advanced Virgo O3 data", *Physical Review D*, Vol. 106, Issue 10, aid. 102008, 2022. Impact factor: 5.0

[189] Abbott, R., ..., **Raffai, P.**, et al. (+1665 authors); "Search for gravitational waves from Scorpius X-1 with a hidden Markov model in O3 LIGO data", *Physical Review D*, Vol. 106, Issue 6, aid. 062002, 2022. Impact factor: 5.0

[188] Abbott, R., ..., **Raffai, P.**, et al. (+1415 authors); "Search for Subsolar-Mass Binaries in the First Half of Advanced LIGO's and Advanced Virgo's Third Observing Run", *Physical Review Letters*, Vol. 129, Issue 6, aid. 061104, 2022. Impact factor: 8.6

[187] Abbott, R., ..., **Raffai, P.**, et al. (+1665 authors); "Search for continuous gravitational wave emission from the Milky Way center in O3 LIGO-Virgo data", *Physical Review D*, Vol. 106, Issue 4, aid. 042003, 2022. Impact factor: 5.0

[186] Abbott, R., ..., **Raffai, P.**, et al. (+1694 authors); "Searches for Gravitational Waves from Known Pulsars at Two Harmonics in the Second and Third LIGO-Virgo Observing Runs", *The Astrophysical Journal*, Vol. 935, Issue 1, id. 1, pp. 23, 2022. Impact factor: 4.9

[185] Abbott, R., ..., **Raffai, P.**, et al. (+1625 authors); "All-sky, all-frequency directional search for persistent gravitational waves from Advanced LIGO's and Advanced Virgo's first three observing runs", *Physical Review D*, Vol. 105, Issue 12, aid. 122001, 2022. Impact factor: 5.0

[184] Abbott, R., ..., **Raffai, P.**, et al. (+1667 authors); "First joint observation by the underground gravitational-wave detector KAGRA with GEO 600", *Progress of Theoretical and Experimental Physics*, Vol. 2022, Issue 6, id. 063F01, pp. 37, 2022. Impact factor: 7.492

[183] Abbott, R., ..., **Raffai, P.**, et al. (+1657 authors); "Narrowband Searches for Continuous and Long-duration Transient Gravitational Waves from Known Pulsars in the LIGO-Virgo Third Observing Run", *The Astrophysical Journal*, Vol. 932, Issue 2, id. 133, pp. 27, 2022. Impact factor: 4.9

[182] Abbott, R., ..., **Raffai, P.**, et al. (+1665 authors); "All-sky search for gravitational wave emission from scalar boson clouds around spinning black holes in LIGO O3 data", *Physical Review D*, Vol. 105, Issue 10, aid. 102001, 2022. Impact factor: 5.0

[181] Abbott, R., ..., **Raffai, P.**, et al. (+1410 authors); "Search of the early O3 LIGO data for continuous gravitational waves from the Cassiopeia A and Vela Jr. supernova remnants", *Physical Review D*, Vol. 105, Issue 8, aid. 082005, 2022. Impact factor: 5.0

[180] Abbott, R., ..., **Raffai, P.**, et al. (+1633 authors); "Search for Gravitational Waves Associated with Gamma-Ray Bursts Detected by Fermi and Swift during the LIGO-Virgo Run O3b", *The Astrophysical Journal*, Vol. 928, Issue 2, id. 186, pp. 20, 2022. Impact factor: 4.9

[179] Abbott, R., ..., **Raffai, P.**, et al. (+1625 authors); "Constraints on dark photon dark matter using data from LIGO's and Virgo's third observing run", *Physical Review D*, Vol. 105, Issue 6, aid. 063030, 2022. Impact factor: 5.0

[178] Abbott, R., ..., **Raffai, P.**, et al. (+1629 authors); "Search for intermediate-mass black hole binaries in the third observing run of Advanced LIGO and Advanced Virgo", *Astronomy & Astrophysics*, Vol. 659, id. A84, pp. 25, 2022. Impact factor: 6.5

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