Peter Raffai, PhD, Dr. habil. Curriculum Vitae

CONTACT

Institute of Physics and Astronomy
ELTE Eötvös Loránd University
Pázmány P. s. 1/A
Budapest, 1117 - Hungary

E-mail: peter.raffai@ttk.elte.hu
Website: praffai.web.elte.hu
Phone: (+36-1) 372-2500 / 6342

RESEARCHER IDs

MTMT ID: 10029106
ORCID ID: 0000-0001-7576-0141
WoS Researcher ID: I-2290-2017
Scopus Author ID: 35238218100
Google Scholar ID: lS6Nfe4AAAAJ
FIR ID: 71524814393

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)

"GWCats: Gravitational wave cosmology with galaxy catalogs"
HORIZON-MSCA-2025-SE-01 — **1 Sept. 2026 – 31 Aug. 2030**

"New approaches to improve dark siren Hubble constant estimations"

Support for Bilateral Scientific
and Technological Cooperation (FRA-HUN)
NKFIH 2024-1.2.5-TÉT **1 Jan. 2025 – 31 Dec. 2026**

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 **June 2017**
Technical and Scientific Research
(as a member of the LIGO-Virgo Collaboration)

Academic Youth Award **January 2017**
(granted by the Hungarian Academy of Sciences)

2016 Gruber Foundation Cosmology Prize **May 2016**
(as a member of the LIGO-Virgo Collaboration)

Special Breakthrough Prize in Fundamental Physics **May 2016**
(as a member of the LIGO-Virgo Collaboration)

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 have been 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 have been a member of the Faculty of Science Ethics Committee at Eötvös Loránd University since September 2025.

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 Eötvös Loránd 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**

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.)

András Molnár (PhD)
"Hídépítés az asztrofizikában a középiskolai és egyetemi képzés között" (in Hungarian)
Finished with 'summa cum laude' grade. **Spring 2026**

Dávid Attila Ködmön (BSc diploma, BME)
"The evolution of matter density fluctuations in coasting cosmologies" (in English) **Spring 2024**

Dominika Eleonóra Kis (BSc diploma, BME)
"United in diversity: The cosmology of inhomogeneous universes in view of the separate universe conjecture" (in Hungarian) **Spring 2024**

Andor Budai (PhD)
"Testing the non-stationarity of long gamma-ray

burst jets with statistical methods" (in Hungarian)
Finished with 'summa cum laude' grade. **Spring 2024**

Adrienn Pataki (MSc diploma)
"Testing a universe with coasting evolution using type Ia supernovae" (in English) **Spring 2023**

Barbara Matécsa (MSc diploma)
"A method for detecting the cosmic dipole with gravitational waves" (in Hungarian) **Spring 2023**

Gergely Dálya (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**

Additional projects lead before 2021:

6 M.Sc. diploma, **9** 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 tudománynépszerűsítés 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)

„Foltokban tágul az Univerzum"
ELTE TTK Science Podcast, Budapest, Hungary **22 May 2026**

„Az univerzum két nagy rejtélye: a sötét energia és a Hubble-feszültség"
Budapest Science Meetup, Budapest, Hungary **12 March 2026**

"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**

„A New Window to the Universe: Gravitational Waves"
Bolyai College Physics Seminar, Budapest, Hungary **3 November 2021**

SCIENCE METRICS

Number of publications:	**276**
Number of refereed publications:	**251**
Total sum of impact factors:	**1479.57**
Total number of citations (source: MTMT):	**111 948**
Independent citations (source: MTMT):	**64 633**
H-index from all citations (source: MTMT):	**110**
H-index from independent citations (source: MTMT):	**75**
Number of short-authorlist (SA) papers:	**41**
Citations on SA papers (source: MTMT):	**1231**
Independent citations on SA papers (source: MTMT):	**814**
Collaboration papers I significantly contributed to:	**14**
Citations on these collab. papers (source: MTMT):	**8447**
Independent citations on these papers (source: MTMT):	**4075**

PUBLICATIONS

1. Short-authorlist papers:

[34] Bécsy, B., **Raffai, P.,** Haiman, Z., Budai, A., and Frei, Z.; "Statistical evidence for massive black hole recoils in active galactic nuclei", Monthly Notices of the Royal Astronomical Society, Vol. 550, Issue 4, pp. 11, 2026. Impact factor: 5.2*

[33] **Raffai, P.,** Kis, D. E. R., Ködmön, D. A., Pataki, A., Böttger, R. L., and Dálya, G.; "Case for an inhomogeneous Einstein-de Sitter universe", Physical Review D, Vol. 113, Issue 6, id. 063553, 2026. Impact factor: 5.3*

[32] Ködmön, D. A., and **Raffai, P.**; "Testing Quasi-Linear Coasting Cosmologies with Late-Time Large-Scale Structure Growth", eprint arXiv:2506.11826, 2025.

[31] Pataki, A., **Raffai, P.,** Csabai, I., Rácz, G., and Szapudi, I.; "Constraints on AvERA cosmologies from cosmic chronometers and type Ia supernovae", Astronomy & Astrophysics, Vol. 704, A310, 2025. Impact factor: 6.1

[30] Pálfi, M., Dálya, G., and **Raffai, P.**; "Utilizing stellar mass estimates to identify gravitational wave host galaxies", Monthly Notices of the Royal Astronomical Society, Vol. 539, Issue 3, pp. 1879, 2025. Impact factor: 5.2

[29] **Raffai, P.,** Pataki, A., Böttger, R. L., Karsai, A., and Dálya, G.; "Cosmic Chronometers, Pantheon+ Supernovae, and Quasars Favor Coasting Cosmologies over the Flat ΛCDM Model", The Astrophysical Journal, Vol. 979, Number 1, pp. 51, 2025. Impact factor: 5.7

[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., Dálya, 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: 5.4

[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., Dálya, 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] Dálya, 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] Szölgyén, 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. Collaboration papers I made significant contributions to:

[14] Abac, A. G., ..., **Raffai, P.**, et al. (+1770 authors); "GWTC-4.0: Constraints on the Cosmic Expansion Rate and Modified Gravitational-wave Propagation", The Astrophysical Journal Letters, Vol. 1007, Number 1, 2026. Impact factor: 11.1

[13] Di Valentino, E., ..., **Raffai, P.**, et al. (+536 authors); "The CosmoVerse White Paper: Addressing observational tensions in cosmology with systematics and fundamental physics", Physics of the Dark Universe, Vol. 49, id. 101965, 2025. Impact factor: 7.4

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

[204] Abbott, R., ..., **Raffai, P.,** et al. (+1679 authors); " Tests of general relativity with GWTC-3", Physical Review D, Vol. 112, Issue 8, id. 084080, pp. 44, 2025. Impact factor: 5.3

[203] Gayathri, R., ..., **Raffai, P.,** et al. (+1818 authors); " Swift-BAT GUANO Follow-up of Gravitational-wave Triggers in the Third LIGO–Virgo–KAGRA Observing Run”, The Astrophysical Journal, Vol. 980, Issue 2, id. 207, pp. 47, 2025. Impact factor: 5.7

[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: 5.4

[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: 5.3

[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: 5.4

[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: 5.4

[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: 5.4

[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: 5.3

[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

[177] Abbott, R., ..., **Raffai, P.,** et al. (+1632 authors); "Search for continuous gravitational waves from 20 accreting millisecond x-ray pulsars in O3 LIGO data", Physical Review D, Vol. 105, Issue 2, aid. 022002, 2022. Impact factor: 5.0

[176] Abbott, R., ..., **Raffai, P.,** et al. (+1375 authors); "Search for Lensing Signatures in the Gravitational-Wave Observations from the First Half of LIGO-Virgo's Third Observing Run", The Astrophysical Journal, Vol. 923, Issue 1, id. 14, 2021. Impact factor: 5.521

[175] Abbott, R., ..., **Raffai, P.,** et al. (+1624 authors); "All-sky search for long-duration gravitational-wave bursts in the third Advanced LIGO and Advanced Virgo run", Physical Review D, Vol. 104, Issue 10, aid. 102001, 2021. Impact factor: 5.407

[174] Abbott, R., ..., **Raffai, P.,** et al. (+1592 authors); "Constraints from LIGO O3 Data on Gravitational-wave Emission Due to R-modes in the Glitching Pulsar PSR J0537-6910", The Astrophysical Journal, Vol. 922, Issue 1, id. 71, 2021. Impact factor: 5.521

[173] Abbott, R., ..., **Raffai, P.,** et al. (+1586 authors); "Searches for Continuous Gravitational Waves from Young Supernova Remnants in the Early Third Observing Run of Advanced LIGO and Virgo", The Astrophysical Journal, Vol. 921, Issue 1, id. 80, 2021. Impact factor: 5.521

[172] Abbott, R., ..., **Raffai, P.,** et al. (+1585 authors); "All-sky search for continuous gravitational waves from isolated neutron stars in the early O3 LIGO data", Physical Review D, Vol. 104, Issue 8, aid. 082004, 2021. Impact factor: 5.407

[171] Abbott, R., ..., **Raffai, P.,** et al. (+1587 authors); "Search for anisotropic gravitational-wave backgrounds using data from Advanced LIGO and Advanced Virgo's first three observing runs", Physical Review D, Vol. 104, Issue 2, aid. 022005, 2021. Impact factor: 5.407

[170] Abbott, R., ..., **Raffai, P.,** et al. (+1584 authors); "Upper limits on the isotropic gravitational-wave background from Advanced LIGO and Advanced Virgo's third observing run", Physical Review D, Vol. 104, Issue 2, aid. 022004, 2021. Impact factor: 5.407

[169] Abbott, R., ..., **Raffai, P.,** et al. (+1596 authors); "Observation of Gravitational Waves from Two Neutron Star-Black Hole Coalescences", The Astrophysical Journal Letters, Vol. 915, Issue 1, id. L5, 2021. Impact factor: 8.811

[168] Abbott, R., ..., **Raffai, P.,** et al. (+1248 authors); "Search for Gravitational Waves Associated with Gamma-Ray Bursts Detected by Fermi and Swift during the LIGO-Virgo Run O3a", The Astrophysical Journal, Vol. 915, Issue 2, id. 86, 2021. Impact factor: 5.521

[167] Abbott, R., ..., **Raffai, P.,** et al. (+1580 authors); "Constraints on Cosmic Strings Using Data from the Third Advanced LIGO-Virgo Observing Run", Physical Review Letters, Vol. 126, Issue 24, aid. 241102, 2021. Impact factor: 9.185

[166] Abbott, R., ..., **Raffai, P.,** et al. (+1344 authors); "Tests of general relativity with binary black holes from the second LIGO-Virgo gravitational-wave transient catalog", Physical Review D, Vol. 103, Issue 12, aid. 122002, 2021. Impact factor: 5.407

[165] Abbott, R., ..., **Raffai, P.,** et al. (+1582 authors); "Diving below the Spin-down Limit: Constraints on Gravitational Waves from the Energetic Young Pulsar PSR J0537-6910", The Astrophysical Journal Letters, Vol. 913, Issue 2, id. L27, 2021. Impact factor: 8.811

[164] Abbott, R., ..., **Raffai, P.,** et al. (+1336 authors); "Population Properties of Compact Objects from the Second LIGO-Virgo Gravitational-Wave Transient Catalog", The Astrophysical Journal Letters, Vol. 913, Issue 1, id. L7, 2021. Impact factor: 8.811

[163] Abbott, R., ..., **Raffai, P.,** et al. (+1349 authors); "GWTC-2: Compact Binary Coalescences Observed by LIGO and Virgo during the First Half of the Third Observing Run", Physical Review X, Vol. 11, Issue 2, aid.021053, 2021. Impact factor: 14.417

[162] Abbott, B. P., ..., **Raffai, P.,** et al. (+1367 authors); “All-sky search in early O3 LIGO data for continuous gravitational-wave signals from unknown neutron stars in binary systems”, Physical Review D, Vol. 103, Issue 6, aid. 064017, 2021. Impact factor: 5.407

[161] Abbott, B. P., ..., **Raffai, P.,** et al. (+1244 authors); “Open data from the first and second observing runs of Advanced LIGO and Advanced Virgo”, SoftwareX, Vol. 13, aid. 100658, 2021. Impact factor: 2.868

[160] Abbott, B. P., ..., **Raffai, P.,** et al. (+1337 authors); "Gravitational-wave Constraints on the Equatorial Ellipticity of Millisecond Pulsars", The Astrophysical Journal Letters, Vol. 896, Issue 2, id. L44, 2020. Impact factor: 7.413

[159] Abbott, B. P., ..., **Raffai, P.,** et al. (+1253 authors); "GW190521: A Binary Black Hole Merger with a Total Mass of 150 M⊙", Physical Review Letters, Vol. 125, Issue 10, id. 101102, 2020. Impact factor: 9.161

[158] Abbott, B. P., ..., **Raffai, P.,** et al. (+1251 authors); "Properties and Astrophysical Implications of the 150 M⊙ Binary Black Hole Merger GW190521", The Astrophysical Journal Letters, Vol. 900, Issue 1, id. L13, 2020. Impact factor: 7.413

[157] Abbott, B. P., ..., **Raffai, P.,** et al. (+1253 authors); "GW190412: Observation of a binary-black-hole coalescence with asymmetric masses", Physical Review D, Vol. 102, Issue 4, id. 043015, 2020. Impact factor: 5.296

[156] Abbott, B. P., ..., **Raffai, P.**, et al. (+1192 authors); "Optically targeted search for gravitational waves emitted by core-collapse supernovae during the first and second observing runs of advanced LIGO and advanced Virgo", Physical Review D, Vol. 101, Issue 8, id. 084002, 2020. Impact factor: 5.296

[155] Hamburg, R., ..., **Raffai, P.**, et al. (+1260 authors); "A Joint Fermi-GBM and LIGO/Virgo Analysis of Compact Binary Mergers from the First and Second Gravitational-wave Observing Runs", The Astrophysical Journal, Vol. 893, Issue 2, id. 100, 2020. Impact factor: 5.874

[154] Abbott, B. P., ..., **Raffai, P.**, et al. (+1133 authors); "A guide to LIGO-Virgo detector noise and extraction of transient gravitational-wave signals", Classical and Quantum Gravity, Vol. 37, Issue 5, id. 055002, 2020. Impact factor: 3.528

[153] Abbott, B. P., ..., **Raffai, P.**, et al. (+1197 authors); "GW190425: Observation of a Compact Binary Coalescence with Total Mass ~ 3.4 MSun", The Astrophysical Journal Letters, Vol. 892, Issue 1, id. L3, 2020. Impact factor: 7.413

[152] Abbott, B. P., ..., **Raffai, P.**, et al. (+1189 authors); "Model comparison from LIGO–Virgo data on GW170817's binary components and consequences for the merger remnant", Classical and Quantum Gravity, Vol. 37, Issue 4, id. 045006, 2020. Impact factor: 3.528

[151] Abbott, B. P., ..., **Raffai, P.**, et al. (+1132 authors); "Search for gravitational waves from Scorpius X-1 in the second Advanced LIGO observing run with an improved hidden Markov model", Physical Review D, Vol. 100, Issue 12, id. 122002, 2019. Impact factor: 4.833

[150] Abbott, B. P., ..., **Raffai, P.**, et al. (+1140 authors); "Tests of general relativity with the binary black hole signals from the LIGO-Virgo catalog GWTC-1", Physical Review D, Vol. 100, Issue 10, id. 104036, 2019. Impact factor: 4.833

[149] Abbott, B. P., ..., **Raffai, P.**, et al. (+1193 authors); "Search for Gravitational-wave Signals Associated with Gamma-Ray Bursts during the Second Observing Run of Advanced LIGO and Advanced Virgo", The Astrophysical Journal, Vol. 886, Issue 1, aid. 75, 2019. Impact factor: 5.745. VizieR On-line Data Catalog: J/ApJ/886/75 (2021)

[148] Abbott, B. P., ..., **Raffai, P.**, et al. (+1185 authors); "Search for Subsolar Mass Ultracompact Binaries in Advanced LIGO's Second Observing Run", Physical Review Letters, Vol. 123, Issue 16, id. 161102, 2019. Impact factor: 8.385

[147] Abbott, B. P., ..., **Raffai, P.**, et al. (+1181 authors); "Search for Eccentric Binary Black Hole Mergers with Advanced LIGO and Advanced Virgo during Their First and Second Observing Runs", The Astrophysical Journal, Vol. 883, Issue 2, aid. 149, 2019. Impact factor: 5.745

[146] Abbott, B. P., ..., **Raffai, P.**, et al. (+1194 authors); "Search for intermediate mass black hole binaries in the first and second observing runs of the Advanced LIGO and Virgo network", Physical Review D, Vol. 100, Issue 6, id. 064064, 2019. Impact factor: 4.833

[145] Abbott, B. P., ..., **Raffai, P.**, et al. (+1130 authors); "Directional limits on persistent gravitational waves using data from Advanced LIGO's first two observing runs", Physical Review D, Vol. 100, Issue 6, id. 062001, 2019. Impact factor: 4.833

[144] Abbott, B. P., ..., **Raffai, P.**, et al. (+1131 authors); "Search for the isotropic stochastic background using data from Advanced LIGO's second observing run", Physical Review D, Vol. 100, Issue 6, id. 061101, 2019. Impact factor: 4.833

[143] Abbott, B. P., ..., **Raffai, P.**, et al. (+1136 authors); "Binary Black Hole Population Properties Inferred from the First and Second Observing Runs of Advanced LIGO and Advanced Virgo", The Astrophysical Journal Letters, Vol. 882, Issue 2, aid. L24, 2019. Impact factor: 8.198

[142] Abbott, B. P., ..., **Raffai, P.**, et al. (+1146 authors); "GWTC-1: A Gravitational-Wave Transient Catalog of Compact Binary Mergers Observed by LIGO and Virgo during the First and Second Observing Runs", Physical Review X, Vol. 9, Issue 3, id. 031040, 2019. Impact factor: 12.577

[141] Abbott, B. P., ..., **Raffai, P.**, et al. (+1148 authors); "Tests of General Relativity with GW170817", Physical Review Letters, Vol. 123, Issue 1, id. 011102, 2019. Impact factor: 8.385

[140] Abbott, B. P., ..., **Raffai, P.**, et al. (+1187 authors); "All-sky search for short gravitational-wave bursts in the second Advanced LIGO and Advanced Virgo run", Physical Review D, Vol. 100, Issue 2, id. 024017, 2019. Impact factor: 4.833

[139] Abbott, B. P., ..., **Raffai, P.**, et al. (+1140 authors); "All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO O2 data", Physical Review D, Vol. 100, Issue 2, id. 024004, 2019. Impact factor: 4.833

[138] Abbott, B. P., ..., **Raffai, P.**, et al. (+1136 authors); "Narrow-band search for gravitational waves from known pulsars using the second LIGO observing run", Physical Review D, Vol. 99, Issue 12, id. 122002, 2019. Impact factor: 4.833

[137] Abbott, B. P., ..., **Raffai, P.**, et al. (+1152 authors); "Searches for Gravitational Waves from Known Pulsars at Two Harmonics in 2015–2017 LIGO Data", The Astrophysical Journal, Vol. 879, Issue 1, aid. 10, p. 28, 2019. Impact factor: 5.745. VizieR On-line Data Catalog: J/ApJ/879/10 (2020)

[136] Abbott, B. P., ..., **Raffai, P.**, et al. (+1184 authors); "All-sky search for long-duration gravitational-wave transients in the second Advanced LIGO observing run", Physical Review D, Vol. 99, Issue 10, id.104033, 2019. Impact factor: 4.833

[135] Soares-Santos, M., ..., **Raffai, P.**, et al. (+1203 authors); "First Measurement of the Hubble Constant from a Dark Standard Siren using the Dark Energy Survey Galaxies and the LIGO/Virgo Binary–Black-hole Merger GW170814", The Astrophysical Journal Letters, Vol. 876, Issue 1, aid. L7, p. 15, 2019. Impact factor: 8.198

[134] Abbott, B. P., ..., **Raffai, P.**, et al. (+1130 authors); "Low-latency Gravitational-wave Alerts for Multimessenger Astronomy during the Second Advanced LIGO and Virgo Observing Run", The Astrophysical Journal, Vol. 875, Issue 2, aid. 161, p. 20, 2019. Impact factor: 5.745

[133] Abbott, B. P., ..., **Raffai, P.**, et al. (+1140 authors); "Search for Gravitational Waves from a Long-lived Remnant of the Binary Neutron Star Merger GW170817", The Astrophysical Journal, Vol. 875, Issue 2, aid. 160, p. 19, 2019. Impact factor: 5.745

[132] Abbott, B. P., ..., **Raffai, P.**, et al. (+1131 authors); "Searches for Continuous Gravitational Waves from 15 Supernova Remnants and Fomalhaut b with Advanced LIGO", The Astrophysical Journal, Vol. 875, Issue 2, aid. 122, p. 15, 2019. Impact factor: 5.745

[131] Abbott, B. P., ..., **Raffai, P.**, et al. (+1128 authors); "Search for Transient Gravitational-wave Signals Associated with Magnetar Bursts during Advanced LIGO's Second Observing Run", The Astrophysical Journal, Vol. 874, Issue 2, aid. 163, p. 14, 2019. Impact factor: 5.745

[130] Abbott, B. P., ..., **Raffai, P.**, et al. (+1139 authors); "Constraining the p -Mode-g -Mode Tidal Instability with GW170817", Physical Review Letters, Vol. 122, Issue 6, id. 061104, 2019. Impact factor: 8.385

[129] Driggers, J. C., ..., **Raffai, P.**, et al. (+230 authors); "Improving astrophysical parameter estimation via offline noise subtraction for Advanced LIGO", Physical Review D, Vol. 99, Issue 4, id. 042001, 2019. Impact factor: 4.833

[128] Abbott, B. P., ..., **Raffai, P.**, et al. (+1146 authors); "Properties of the Binary Neutron Star Merger GW170817", Physical Review X, Vol. 9, Issue 1, id. 011001, 2019. Impact factor: 12.577

[127] Burns, E., ..., **Raffai, P.**, et al. (+1160 authors); "A Fermi Gamma-Ray Burst Monitor Search for Electromagnetic Signals Coincident with Gravitational-wave Candidates in Advanced LIGO's First Observing Run", The Astrophysical Journal, Vol. 871, Issue 1, aid. 90, 2019. Impact factor: 5.745

[126] Albert, A., ..., **Raffai, P.**, et al. (+1590 authors); "Search for Multimessenger Sources of Gravitational Waves and High-energy Neutrinos with Advanced LIGO during Its First Observing Run, ANTARES, and IceCube", The Astrophysical Journal, Vol. 870, Issue 2, aid. 134, 2019. Impact factor: 5.745

[125] Abbott, B. P., ..., **Raffai, P.**, et al. (+1136 authors); "Search for Subsolar-Mass Ultracompact Binaries in Advanced LIGO's First Observing Run", Physical Review Letters, Vol. 121, Issue 23, id. 231103, 2018. Impact factor: 9.227

[124] Abbott, B. P., ..., **Raffai, P.**, et al. (+1148 authors); "GW170817: Measurements of Neutron Star Radii and Equation of State", Physical Review Letters, Vol. 121, Issue 16, id. 161101, 2018. Impact factor: 9.227

[123] Abbott, B. P., ..., **Raffai, P.**, et al. (+1097 authors); "Search for Tensor, Vector, and Scalar Polarizations in the Stochastic Gravitational-Wave Background", Physical Review Letters, Vol. 120, Issue 20, id. 201102, 2018. Impact factor: 9.227

[122] Abbott, B. P., ..., **Raffai, P.**, et al. (+1098 authors); "Full band all-sky search for periodic gravitational waves in the O1 LIGO data", Physical Review D, Vol. 97, Issue 10, id. 102003, 2018. Impact factor: 4.368

[121] Abbott, B. P., ..., **Raffai, P.**, et al. (+1041 authors); "Constraints on cosmic strings using data from the first Advanced LIGO observing run", Physical Review D, Vol. 97, Issue 10, id. 102002, 2018. Impact factor: 4.368

[120] Covas, P. B., ..., **Raffai, P.**, et al. (+263 authors); "Identification and mitigation of narrow spectral artifacts that degrade searches for persistent gravitational waves in the first two observing runs of Advanced LIGO", Physical Review D, Vol. 97, Issue 8, id. 082002, 2018. Impact factor: 4.368

[119] Abbott, B. P., ..., **Raffai, P.**, et al. (+1098 authors); "GW170817: Implications for the Stochastic Gravitational-Wave Background from Compact Binary Coalescences", Physical Review Letters, Vol. 120, Issue 9, id. 091101, 2018. Impact factor: 9.227

[118] Abbott, B. P., ..., **Raffai, P.**, et al. (+956 authors); "Effects of data quality vetoes on a search for compact binary coalescences in Advanced LIGO's first observing run", Classical and Quantum Gravity, Vol. 35, Issue 6, aid. 065010, 2018. Impact factor: 3.487

[117] Abbott, B. P., ..., **Raffai, P.**, et al. (+987 authors); “All-sky search for long-duration gravitational wave transients in the first Advanced LIGO observing run”, Classical and Quantum Gravity, Vol. 35, Issue 6, aid. 065009, 2018. Impact factor: 3.487

[116] Abbott, B. P., ..., **Raffai, P.**, et al. (+1049 authors); "First Search for Nontensorial Gravitational Waves from Known Pulsars", Physical Review Letters, Vol. 120, Issue 3, id. 031104, 2018. Impact factor: 9.227

[115] Walker, M., ..., **Raffai P.,** et al. (+200 authors); “Effects of transients in LIGO suspensions on searches for gravitational waves”, Review of Scientific Instruments, Vol. 88, Issue 12, id. 124501, 2017. Impact factor: 1.428

[114] Abbott, B. P., ..., **Raffai P.,** et al. (+1100 authors); “GW170608: Observation of a 19 Solar-mass Binary Black Hole Coalescence”, The Astrophysical Journal Letters, Vol. 851, Issue 2, aid. L35, 2017. Impact factor: 6.634

[113] Aasi, J., ..., **Raffai, P.,** et al. (+1002 authors); “Gravitational waves search from known PSR with LIGO (Abbott+, 2017)”, VizieR Online Data Catalog, J/ApJ/839/12, 2017.

[112] Abbott, B. P., ..., **Raffai P.,** et al. (+1095 authors); “First narrow-band search for continuous gravitational waves from known pulsars in advanced detector data”, Physical Review D, Vol. 96, Issue 12, id. 122006, 2017. Impact factor: 4.394

[111] Abbott, B. P., ..., **Raffai, P.**, et al. (+1051 authors); "Upper Limits on Gravitational Waves from Scorpius X-1 from a Model-based Cross-correlation Search in Advanced LIGO Data", The Astrophysical Journal, Vol. 847, Issue 1, aid. 47, 2017. Impact factor: 5.551

[110] Abbott, B. P., ..., **Raffai P.,** et al. (+1111 authors); “Search for Post-merger Gravitational Waves from the Remnant of the Binary Neutron Star Merger GW170817”, The Astrophysical Journal Letters, Vol. 851, aid. L16, 2017. Impact factor: 6.634

[109] Abbott, B. P., ..., **Raffai P.,** et al. (+1045 authors); “First low-frequency Einstein@Home all-sky search for continuous gravitational waves in Advanced LIGO data”, Physical Review D, Vol. 96, Issue 12, id. 122004, 2017. Impact factor: 4.394

[108] Abbott, B. P., ..., **Raffai P.,** et al. (+1100 authors); “On the Progenitor of Binary Neutron Star Merger GW170817”, The Astrophysical Journal Letters, Vol. 850, aid. L40, 2017. Impact factor: 6.634

[107] Abbott, B. P., ..., **Raffai P.,** et al. (+1105 authors); “Estimating the Contribution of Dynamical Ejecta in the Kilonova Associated with GW170817”, The Astrophysical Journal Letters, Vol. 850, aid. L39, 2017. Impact factor: 6.634

[106] Albert, A., ..., **Raffai, P.,** et al. (+1945 authors); “Search for High-energy Neutrinos from Binary Neutron Star Merger GW170817 with ANTARES, IceCube, and the Pierre Auger Observatory”, The Astrophysical Journal Letters, Vol. 850, aid. L35, 2017. Impact factor: 6.634

[105] Aasi, J., ..., **Raffai, P.,** et al. (+897 authors); “Gravitational waves from known pulsars (Aasi+, 2014)”, VizieR Online Data Catalog, 2017.

[104] Abbott, B. P., ..., **Raffai, P.**, et al. (+1098 authors); "GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral", Physical Review Letters, Vol. 119, Issue 16, id. 161101, 2017. Impact factor: 8.839

[103] Abbott, B. P., ..., **Raffai, P.**, et al. (+1150 authors); "Gravitational Waves and Gamma-Rays from a Binary Neutron Star Merger: GW170817 and GRB 170817A", The Astrophysical Journal Letters, Vol. 848, aid. L13, 2017. Impact factor: 6.634

[102] Abbott, B. P., ..., **Raffai, P.**, et al. (+1106 authors); "GW170814: A Three-detector Observation of Gravitational Waves from a Binary Black Hole Coalescence", Physical Review Letters, Vol. 119, Issue 14, id. 141101, 2017. Impact factor: 8.839

[101] Abbott, B. P., ..., **Raffai, P.**, et al. (+1047 authors); "First Search for Gravitational Waves from Known Pulsars with Advanced LIGO", The Astrophysical Journal, Vol. 847, Issue 1, aid. 47, 2017. Impact factor: 5.551

[100] Abbott, B. P., ..., **Raffai, P.**, et al. (+1041 authors); "All-sky search for periodic gravitational waves in the O1 LIGO data", Physical Review D, Vol. 96, Issue 6, id. 062002, 2017. Impact factor: 4.394

[99] Albert, A., ..., **Raffai, P.**, et al. (+1415 authors); "Search for high-energy neutrinos from gravitational wave event GW151226 and candidate LVT151012 with ANTARES and IceCube", Physical Review D, Vol. 96, Issue 2, id.022005, 2017. Impact factor: 4.394

[98] Martynov, D. V., ..., **Raffai, P.**, et al. (+201 authors); "Quantum correlation measurements in interferometric gravitational-wave detectors", Physical Review A, Vol. 95, Issue 4, id. 043831, 2017. Impact factor: 2.909

[97] Abbott, B. P., ..., **Raffai, P.**, et al. (+954 authors); "Search for intermediate mass black hole binaries in the first observing run of Advanced LIGO", Physical Review D, Vol. 96, Issue 2, id. 022001, 2017. Impact factor: 4.394

[96] Abbott, B. P., ..., **Raffai, P.**, et al. (+954 authors); "Search for gravitational waves from Scorpius X-1 in the first Advanced LIGO observing run with a hidden Markov model", Physical Review D, Vol. 95, Issue 12, id. 122003, 2017. Impact factor: 4.394

[95] Abbott, B. P., ..., **Raffai, P.**, et al. (+954 authors); "GW170104: Observation of a 50-Solar-Mass Binary Black Hole Coalescence at Redshift 0.2", Physical Review Letters, Vol. 118, Issue 22, id. 221101, 2017. Impact factor: 8.839

[94] Abbott, B. P., ..., **Raffai, P.**, et al. (+954 authors); "Search for continuous gravitational waves from neutron stars in globular cluster NGC 6544", Physical Review D, Vol. 95, Issue 8, id. 082005, 2017. Impact factor: 4.394

[93] Abbott, B. P., ..., **Raffai, P.**, et al. (+1000 authors); "Effects of waveform model systematics on the interpretation of GW150914", Classical and Quantum Gravity, Vol. 34, Issue 10, aid. 104002, 2017. Impact factor: 3.283

[92] Blair, C., ..., **Raffai, P.**, et al. (+202 authors); "First Demonstration of Electrostatic Damping of Parametric Instability at Advanced LIGO", Physical Review Letters, Vol. 118, Issue 15, id.151102, 2017. Impact factor: 8.839

[91] Abbott, B. P., ..., **Raffai, P.**, et al. (+721 authors); "Calibration of the Advanced LIGO detectors for the discovery of the binary black-hole merger GW150914", Physical Review D, Vol. 95, Issue 6, id. 062003, 2017. Impact factor: 4.394

[90] Abbott, B. P., ..., **Raffai, P.**, et al. (+1004 authors); "First Search for Gravitational Waves from Known Pulsars with Advanced LIGO", The Astrophysical Journal, Vol. 839, Issue 1, aid. 12, 2017. Impact factor: 5.551

[89] Abbott, B. P., ..., **Raffai, P.**, et al., "Upper Limits on the Stochastic Gravitational-Wave Background from Advanced LIGO's First Observing Run", Physical Review Letters, Vol. 118, Issue 12, aid. 121101, 2017. Impact factor: 8.839

[88] Abbott, B. P., ..., **Raffai, P.**, et al., "Directional Limits on Persistent Gravitational Waves from Advanced LIGO's First Observing Run", Physical Review Letters, Vol. 118, Issue 12, aid. 121102, 2017. Impact factor: 8.839

[87] Abbott, B. P., ..., **Raffai, P.**, et al., "Exploring the Sensitivity of Next Generation Gravitational Wave Detectors", Classical and Quantum Gravity, Vol. 34, Issue 4, id. 044001, 2017. Impact factor: 3.283

[86] Abbott, B. P., ..., **Raffai, P.**, et al., "All-sky search for short gravitational-wave bursts in the first Advanced LIGO run", Physical Review D, Vol. 95, Issue 4, id. 042003, 2017. Impact factor: 4.394

[85] Abbott, B. P., ..., **Raffai, P.**, et al., "The basic physics of the binary black hole merger GW150914", Annalen der Physik, Vol. 529, Issue 1-2, 2017. Impact factor: 2.557

[84] Martynov, D. V., ..., **Raffai, P.**, et al. (+254 authors); "Sensitivity of the Advanced LIGO detectors at the beginning of gravitational wave astronomy", Physical Review D, Volume 93, Issue 11, id. 112004, 2016. Impact factor: 4.568

[83] Abbott, B. P., ..., **Raffai, P.**, et al. (+965 authors); "The Rate of Binary Black Hole Mergers Inferred from Advanced LIGO Observations Surrounding GW150914", The Astrophysical Journal Letters, Vol. 833, Issue 1, aid. L1, 2016. Impact factor: 5.522

[82] Abbott, B. P., ..., **Raffai, P.**, et al., "Upper limits on the rates of binary neutron star and neutron star - black hole mergers from Advanced LIGO's first observing run", The Astrophysical Journal Letters, Vol. 832, Issue 2, aid. L21, 2016. Impact factor: 5.522

[81] Abbott, B. P., ..., **Raffai, P.**, et al., "Results of the deepest all-sky survey for continuous gravitational waves on LIGO S6 data running on the Einstein@Home volunteer distributed computing project", Physical Review D, Vol. 94, Issue 10, id. 102002, 2016. Impact factor: 4.568

[80] Abbott, B. P., ... **Raffai, P.**, et al., "Binary Black Hole Mergers in the first Advanced LIGO Observing Run", Physical Review X, Vol. 6, Issue 4, id. 041015, 2016. Impact factor: 12.789

[79] Abbott, B. P., ..., **Raffai, P.**, et al., "GW151226: Observation of Gravitational Waves from a 22-Solar-Mass Binary Black Hole Coalescence", Physical Review Letters, Vol. 116, aid. 241103, 2016. Impact factor: 8.462

[78] Abbott, B. P., ..., **Raffai, P.**, et al., "Directly comparing GW150914 with numerical solutions of Einstein's equations for binary black hole coalescence", Physical Review D, Vol. 94, Issue 6, id. 064035, 2016. Impact factor: 4.568

[77] Abbott, B. P., ..., **Raffai, P.**, et al., “An improved analysis of GW150914 using a fully spin-precessing waveform model”, Physical Review X, Vol. 6, Issue 4, id. 041014, 2016. Impact factor: 12.789

[76] Abbott, B. P., ..., **Raffai, P.**, et al., “First targeted search for gravitational-wave bursts from core-collapse supernovae in data of first-generation laser interferometer detectors”, Physical Review D, Vol. 94, Issue 10, id. 102001, 2016. Impact factor: 4.568

[75] Abbott, B. P., ..., **Raffai, P.**, et al., “Comprehensive All-sky Search for Periodic Gravitational Waves in the Sixth Science Run LIGO Data”, Physical Review D, Vol. 94, Issue 4, id. 042002, 2016. Impact factor: 4.568

[74] Abbott, B. P., ..., **Raffai, P.**, et al., “Search for transient gravitational waves in coincidence with short-duration radio transients during 2007–2013”, Physical Review D, Vol. 93, Issue 12, id. 122008, 2016. Impact factor: 4.568

[73] Abbott, B. P., ..., **Raffai, P.**, et al., “Localization and broadband follow-up of the gravitational-wave transient GW150914”, The Astrophysical Journal Letters, Vol. 826, Issue 1, aid. L13, 2016. Impact factor: 5.522

[72] Adrián-Martínez, S., ..., **Raffai, P.**, et al., “High-energy neutrino follow-up search of gravitational wave event GW150914 with ANTARES and IceCube”, Physical Review D, Vol. 93, Issue 12, id. 122010, 2016. Impact factor: 4.568

[71] Abbott, B. P., ..., **Raffai, P.**, et al., “GW150914: Implications for the stochastic gravitational wave background from binary black holes”, Physical Review Letters, Vol. 116, aid. 131102, 2016. Impact factor: 8.462

[70] Abbott, B. P., ..., **Raffai, P.**, et al., “Astrophysical Implications of the Binary Black Hole Merger GW150914”, The Astrophysical Journal Letters, Vol. 818, p. L22, 2016. Impact factor: 5.522

[69] Abbott, B. P., ..., **Raffai, P.**, et al., "Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914", Classical and Quantum Gravity, Vol. 33, Issue 13, aid. 134001, 2016. Impact factor: 3.119

[68] Abbott, B. P., ..., **Raffai, P.**, et al., “Observing gravitational-wave transient GW150914 with minimal assumptions”, Physical Review D, Vol. 93, Issue 12, id. 122004, 2016. Impact factor: 4.568

[67] Abbott, B. P., ..., **Raffai, P.**, et al., “Tests of general relativity with GW150914”, Physical Review Letters, Vol. 116, aid. 221101, 2016. Impact factor: 8.462

[66] Abbott, B. P., ..., **Raffai, P.**, et al., “Properties of the binary black hole merger GW150914”, Physical Review Letters, Vol. 116, aid. 241102, 2016. Impact factor: 8.462

[65] Abbott, B. P., ..., **Raffai, P.**, et al., “GW150914: First results from the search for binary black hole coalescence with Advanced LIGO”, Physical Review D, Vol. 93, Issue 12, id. 122003, 2016. Impact factor: 4.568

[64] Abbott, B. P., ..., **Raffai, P.**, et al., “GW150914: The Advanced LIGO Detectors in the Era of First Discoveries”, Physical Review Letters, Vol. 116, aid. 131103, 2016. Impact factor: 8.462

[63] Abbott, B. P., ..., **Raffai, P.**, et al., “Observation of Gravitational Waves from a Binary Black Hole Merger”, Physical Review Letters, Vol. 116, aid. 061102, 2016. Impact factor: 8.462

[62] Abbott, B. P., ..., **Raffai, P.**, et al., “Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO and Advanced Virgo”, Living Reviews in Relativity, Vol. 19, aid. 1, 2016. Impact factor: 29.300

[61] Aasi, J., ..., **Raffai, P.**, et al., “First low frequency all-sky search for continuous gravitational wave signals”, Physical Review D, Vol. 93, Issue 4, id. 042007, 2016. Impact factor: 4.568

[60] Aasi, J., ..., **Raffai, P.**, et al., “Search of the Orion spur for continuous gravitational waves using a loosely coherent algorithm on data from LIGO interferometers”, Physical Review D, Vol. 93, Issue 4, id. 042006, 2016. Impact factor: 4.568

[59] Aasi, J., ..., **Raffai, P.**, et al., “Searches for continuous gravitational waves from nine young supernova remnants”, The Astrophysical Journal, Vol. 813, p. 39, 2015. Impact factor: 5.909

[58] Aasi, J., ..., **Raffai, P.**, et al., "Advanced LIGO", Classical and Quantum Gravity, Vol. 32, Issue 7, aid. 074001, 2015. Impact factor: 2.837

[57] Aasi, J., ..., **Raffai, P.**, et al., “Directed search for gravitational waves from Scorpius X-1 with initial LIGO data”, Physical Review D, Vol. 91, aid. 062008, 2015. Impact factor: 4.506

[56] Aasi, J., ..., **Raffai, P.**, et al., “Narrow-band search of continuous gravitational-wave signals from Crab and Vela pulsars in Virgo VSR4 data”, Physical Review D, Vol. 91, aid. 022004, 2015. Impact factor: 4.506

[55] Aasi, J., ..., **Raffai, P.**, et al., "Characterization of the LIGO detectors during their sixth science run", Classical and Quantum Gravity, Vol. 32, Issue 11, aid. 115012, 2015. Impact factor: 2.837

[54] Aasi, J., ..., **Raffai, P.**, et al., “Searching for stochastic gravitational waves using data from the two co-located LIGO Hanford detectors”, Physical Review D, Vol. 91, aid. 022003, 2015. Impact factor: 4.506

[53] Aartsen, M., ... **Raffai, P.**, et al., “Multimessenger Search for Sources of Gravitational Waves and High-Energy Neutrinos: Results for Initial LIGO-Virgo and IceCube”, Physical Review D, Vol. 90, aid. 102002, 2014. Impact factor: 4.643

[52] Aasi, J., ..., **Raffai, P.**, et al., “Improved Upper Limits on the Stochastic Gravitational-Wave Background from 2009-2010 LIGO and Virgo Data”, Physical Review Letters, Vol. 113, Issue 23, id. 231101, 2014. Impact factor: 7.512

[51] Aasi, J., ..., **Raffai, P.**, et al., "First all-sky search for continuous gravitational waves from unknown sources in binary systems", Physical Review D, Vol. 90, Issue 6, aid. 062010, 2014. Impact factor: 4.643

[50] Aasi, J., ..., **Raffai, P.**, et al., "Implementation of an F-statistic all-sky search for continuous gravitational waves in Virgo VSR1 data", Classical and Quantum Gravity, Vol. 31, Issue 16, aid. 165014, 2014. Impact factor: 3.168

[49] Aasi, J., ..., **Raffai, P.**, et al., “Search for Gravitational Waves Associated with γ-ray Bursts Detected by the Interplanetary Network”, Pysical Review Letters, Vol. 113, aid. 011102, 2014. Impact factor: 7.512

[48] Aasi, J., ..., **Raffai, P.**, et al., “Methods and results of a search for gravitational waves associated with gamma-ray bursts using the GEO 600, LIGO, and Virgo detectors”, Physical Review D, Vol. 89, Issue 12, aid. 122004, 2014. Impact factor: 4.643

[47] Aasi, J., ..., **Raffai, P.**, et al., “Search for gravitational radiation from intermediate mass black hole binaries in data from the second LIGO-Virgo joint science run”, Physical Review D, Vol. 89, Issue 12, aid. 122003, 2014. Impact factor: 4.643

[46] Aasi, J., ..., **Raffai, P.**, et al., “Search for gravitational wave ringdowns from perturbed intermediate mass black holes in LIGO-Virgo data from 2005–2010”, Physical Review D, Vol. 89, Issue 10, aid. 102006, 2014. Impact factor: 4.643

[45] Aasi, J., ..., **Raffai, P.**, et al., “The NINJA-2 project: Detecting and characterizing gravitational waveforms modelled using numerical binary black hole simulations”, Classical and Quantum Gravity, Vol. 31, Issue 11, aid. 115004, 2014. Impact factor: 3.168

[44] Aasi, J., ..., **Raffai, P.**, et al., “Application of a Hough search for continuous gravitational waves on data from the 5th LIGO science run”, Classical and Quantum Gravity, Vol. 31, Issue 8, aid. 085014, 2014. Impact factor: 3.168

[43] Aasi, J., ..., **Raffai, P.**, et al., “Constraints on cosmic strings from the LIGO-Virgo gravitational-wave detectors”, Physical Review Letters, Vol. 112, aid. 131101, 2014. Impact factor: 7.512

[42] Aasi, J., ..., **Raffai, P.**, et al., “Gravitational Waves from Known Pulsars: Results from the Initial Detector Era”, The Astrophysical Journal, Vol. 785, Issue 2, aid. 119, pp. 18, 2014. Impact factor: 5.993

[41] Aasi, J., ..., **Raffai, P.**, et al., "First searches for optical counterparts to gravitational-wave candidate events", The Astrophysical Journal Supplement, Vol. 211, Number 1, p. 7, 2014. Impact factor: 11.215

[40] Aasi, J., ..., **Raffai, P.**, et al., “Directed search for continuous gravitational waves from the Galactic center”, Physical Review D, Vol. 88, Issue 10, p. 102002, 2013. Impact factor: 4.864

[39] Aasi, J., ..., **Raffai, P.**, et al., “Parameter estimation for compact binary coalescence signals with the first generation gravitational-wave detector network”, Physical Review D, Vol. 88, Issue 6, p. 062001, 2013. Impact factor: 4.864

[38] Aasi, J., ..., **Raffai, P.**, et al., "Enhanced sensitivity of the LIGO gravitational wave detector by using squeezed states of light”, Nature Photonics, Vol. 7, Issue 8, pp. 613-619, 2013. Impact factor: 29.958

[37] Adrián-Martínez, S., ..., **Raffai, P.**, et al., „A first search for coincident gravitational waves and high energy neutrinos using LIGO, Virgo and ANTARES data from 2007”, Journal of Cosmology and Astroparticle Physics, Issue 6, id. 8 (2013) Impact factor: 6.036

[36] Aasi, J., ..., **Raffai, P.**, et al., "Search for gravitational waves from binary black hole inspiral, merger, and ringdown in LIGO-Virgo data from 2009–2010", Physical Review D, Vol. 87, Issue 2, p. 022002, 2013. Impact factor: 4.864

[35] Aasi, J., ..., **Raffai, P.**, et al., "Einstein@Home all-sky search for periodic gravitational waves in LIGO S5 data", Physical Review D, Vol. 87, Issue 4, p. 042001, 2013. Impact factor: 4.864

[34] Abadie, J., ..., **Raffai, P.**, et al., "Search for Gravitational Waves Associated with Gamma-Ray Bursts during LIGO Science Run 6 and Virgo Science Runs 2 and 3", The Astrophysical Journal, Vol. 760, Issue 1, p. 18, 2012. Impact factor: 6.733

[33] Aasi, J., ..., **Raffai, P.**, et al., "The characterization of Virgo data and its impact on gravitational-wave searches", Classical and Quantum Gravity, Vol. 29, Issue 15, p. 155002, 2012. Impact factor: 3.562

[32] Abadie, J., ..., **Raffai, P.**, et al., "Implications for the Origin of GRB 051103 from LIGO Observations", The Astrophysical Journal, Vol. 755, Issue 1, p. 2, 2012. Impact factor: 6.733

[31] Abadie, J., ..., **Raffai, P.**, et al., "All-sky search for gravitational-wave bursts in the second joint LIGO-Virgo run", Physical Review D, Vol. 85, Issue 12, p. 122007, 2012. Impact factor: 4.691

[30] Abadie, J., ..., **Raffai, P.**, et al., "Upper limits on a stochastic gravitational-wave background using LIGO and Virgo interferometers at 600-1000 Hz", Physical Review D, Vol. 85, Issue 12, p. 122001, 2012. Impact factor: 4.691

[29] Abadie, J., ..., **Raffai, P.**, et al., "Search for gravitational waves from intermediate mass binary black holes", Physical Review D, Vol. 85, Issue 10, p. 102004, 2012. Impact factor: 4.691

[28] Abadie, J., ..., **Raffai, P.**, et al., "First low-latency LIGO+Virgo search for binary inspirals and their electromagnetic counterparts", Astronomy & Astrophysics, Vol. 541, p. A155, 2012. Impact factor: 5.084

[27] Abadie, J., ..., **Raffai, P.**, et al., "Search for gravitational waves from low mass compact binary coalescence in LIGO's sixth science run and Virgo's science runs 2 and 3", Physical Review D, Vol. 85, Issue 8, p. 082002, 2012. Impact factor: 4.691

[26] Abadie, J., ..., **Raffai, P.**, et al., "All-sky search for periodic gravitational waves in the full S5 LIGO data", Physical Review D, Vol. 85, p. 022001, 2012. Impact factor: 4.691

[25] Abadie, J., ..., **Raffai, P.**, et al., "Directional limits on Persistent Gravitational Waves Using LIGO S5 Science Data", Physical Review Letters, Vol. 107, p. 271102, 2011. Impact factor: 7.370

[24] Abadie, J., ..., **Raffai, P.**, et al., "A gravitational wave observatory operating beyond the quantum shot-noise limit", Nature Physics, Vol. 7, p. 962, 2011. Impact factor: 18.967

[23] Abadie, J., ..., **Raffai, P.**, et al., "Beating the spin-down limit on gravitational wave emission from the Vela pulsar", The Astrophysical Journal, Vol. 737, p. 93, 2011. Impact factor: 6.024

[22] Abadie, J., ..., **Raffai, P.**, et al., „Search for gravitational waves from binary black hole inspiral, merger and ringdown", Physical Review D, Vol. 83, p. 122005, 2011. Impact factor: 4.558

[21] Abadie, J., ..., **Raffai, P.**, et al., "Search for Gravitational Wave Bursts from Six Magnetars", The Astrophysical Journal, Vol. 734, p. L35, 2011. Impact factor: 6.024

[20] The LIGO Scientific Collaboration (..., **Raffai, P.**, et al.), "Search for gravitational waves associated with the August 2006 timing glitch of the Vela pulsar", Physical Review D, Vol. 83, p. 042001, 2011. Impact factor: 4.558

[19] The LIGO Scientific Collaboration (..., **Raffai, P.**, et al.), „Calibration of the LIGO Gravitational Wave Detectors in the Fifth Science Run", Nuclear Instruments & Methods in Physics Research A, Vol. 624, p. 223, 2010. Impact factor: 1.207

[18] The LIGO Scientific Collaboration (..., **Raffai, P.**, et al.), „First search for gravitational waves from the youngest known neutron star", The Astrophysical Journal, Vol. 722, p. 1504, 2010. Impact factor: 7.436

[17] The LIGO Scientific Collaboration & The Virgo Collaboration (..., **Raffai, P.**, et al.), "Search for Gravitational Waves from Compact Binary Coalescence in LIGO and Virgo Data from S5 and VSR1", Physical Review D, Vol. 82, p. 102001, 2010. Impact factor: 4.964

[16] The LIGO Scientific Collaboration & The Virgo Collaboration (..., **Raffai, P.**, et al.), "Sensitivity to Gravitational Waves from Compact Binary Coalescences Achieved during LIGO's Fifth and Virgo's First Science Run". Non-journal companion to paper [15]. arXiv:1003.2481

[15] The LIGO Scientific Collaboration & The Virgo Collaboration (..., **Raffai, P.**, et al.), "Predictions for the Rates of Compact Binary Coalescences Observable by Ground-based Gravitational-wave Detectors", Classical and Quantum Gravity, Vol. 27, p. 173001, 2010. Impact factor: 3.029

[14] The LIGO Scientific Collaboration & The Virgo Collaboration (..., **Raffai, P.**, et al.), "All-sky search for gravitational-wave bursts in the first joint LIGO-GEO-Virgo run", Physical Review D, Vol. 81, p. 102001, 2010. Impact factor: 4.964

[13] The LIGO Scientific Collaboration & The Virgo Collaboration (..., **Raffai, P.**, et al.), "Search for gravitational-wave inspiral signals associated with short Gamma-Ray Bursts during LIGO's fifth and Virgo's first science run", The Astrophysical Journal, Vol. 715, p. 1453, 2010. Impact factor: 7.436

[12] The LIGO Scientific Collaboration & The Virgo Collaboration (..., **Raffai, P.**, et al.), „Searches for gravitational waves from known pulsars with S5 LIGO data", The Astrophysical Journal, Vol. 713, p. 671, 2010. Impact factor: 7.436

[11] Abbott, B., ..., **Raffai, P.**, et al., „LIGO: The Laser Interferometer Gravitational-Wave Observatory", Reports on Progress in Physics, Vol. 72, p. 076901, 2009. Impact factor: 12.090

[10] Abbott, B., ..., **Raffai, P.**, et al., „Search for High Frequency Gravitational Wave Bursts in the First Calendar Year of LIGO's Fifth Science Run", Physical Review D, Vol. 80, p. 102002, 2009. Impact factor: 4.922

[9] Abbott, B., ..., **Raffai, P.**, et al., „Search for gravitational wave ringdowns from perturbed black holes in LIGO S4 data", Physical Review D, Vol. 80, p. 062001, 2009. Impact factor: 4.922

[8] Abbott, B., ..., **Raffai, P.**, et al., „Search for gravitational-wave bursts in the first year of the fifth LIGO science run", Physical Review D, Vol. 80, p. 102001, 2009. Impact factor: 4.922

[7] Abbott, B., ..., **Raffai, P.**, et al., „First LIGO search for gravitational wave bursts from cosmic (super)strings", Physical Review D, Vol. 80, p. 062002, 2009. Impact factor: 4.922

[6] The LIGO Scientific Collaboration & The Virgo Collaboration (..., **Raffai, P.**, et al.), „An upper limit on the stochastic gravitational-wave background of cosmological origin", Nature, Vol. 460, p. 990-994, 2009. Impact factor: 34.480

[5] LIGO Scientific Collaboration (..., **Raffai, P.**, et al.), „Stacked Search for Gravitational Waves from the 2006 SGR 1900+14 Storm", The Astrophysical Journal, Vol. 701, p. L68-L74, 2009. Impact factor: 7.364

[4] LIGO Scientific Collaboration (..., **Raffai, P.**, et al.), „Einstein@Home search for periodic gravitational waves in early S5 LIGO data", Physical Review D, Vol. 80, p. 042003, 2009. Impact factor: 4.922

[3] LIGO Scientific Collaboration (..., **Raffai, P.**, et al.), „Search for Gravitational Waves from Low Mass Compact Binary Coalescence in 186 Days of LIGO's fifth Science Run", Physical Review D, Vol. 80, p. 047101, 2009. Impact factor: 4.922

[2] Abbott, B., ..., **Raffai, P.**, et al., „Search for Gravitational Waves from Low Mass Binary Coalescences in the First Year of LIGO's S5 Data", Physical Review D, Vol. 79, p. 122001, 2009. Impact factor: 4.922

[1] Abbott, B., ..., **Raffai, P.**, et al., „All-sky LIGO Search for Periodic Gravitational Waves in the Early S5 Data", Physical Review Letters, Vol. 102, 111102, 2009. Impact factor: 7.328

4. Conference proceedings:

[7] Bécsy, B., Dálya, G., and **Raffai, P.**; „Bayesian reconstruction of gravitational waves from eccentric binary black holes with minimal assumptions", American Astronomical Society meeting #237, id. 146.06. Bulletin of the American Astronomical Society, Vol. 53, No. 1 e-id 2021n1i146p06, 2021.

[6] **Raffai, P.**, Bécsy, B., Haiman, Z., and Frei, Z.; "A Statistical Method for Detecting Gravitational Recoils of Supermassive Black Holes in Active Galactic Nuclei", New Frontiers in Black Hole Astrophysics, Proceedings of the International Astronomical Union, IAU Symposium, Vol. 324, pp. 227-230, 2017.

[5] Acernese F., ..., **Raffai P.**, et al.; "Concepts and research for future detectors", General Relativity and Gravitation, Vol. 46, p. 1700, 2014. Impact factor: 1.771

[4] Baret, B., I. Bartos, B. Bouhou, E. Chassande-Mottin, A. Corsi, I. Di Palma, C. Donzaud, M. Drago, C. Finley, G. Jones, S. Klimenko, A. Kouchner, S. Márka, Z. Márka, L. Moscoso, M. A. Papa, T. Pradier, G. Prodi, **P. Raffai**, V. Re, J. Rollins, F. Salemi, P. Sutton, M. Tse, V. Van Elewyck and G. Vedovato; „ Multimessenger Sources of Gravitational Waves and High-energy Neutrinos: Science Reach and Analysis Method", Journal of Physics: Conference Series, Vol. 363, Issue 1, p. 012022, 2012.

[3] L. Veréb, Z. Keresztes, **P. Raffai**, Zs. Udvari, M. Tápai, and L. Á. Gergely; "Compact binary waveform recovery from the cross-correlated data of two detectors by matched filtering with spinning templates", Journal of Physics: Conference Series, Vol. 243, p. 012008, 2010.

[2] L. Veréb, Z. Keresztes, **P. Raffai**, S. Mészáros, and L. Á. Gergely; „Recovering a spinning inspiralling compact binary waveform immersed in LIGO-like noise with spinning templates", Journal of Physics: Conference Series, Vol. 228, p. 012003, 2010.

[1] **P. Raffai**, S. Márka, L. Matone and Z. Márka; „Concept Study of Yukawa-like Potential Tests Using Dynamic Gravity Gradients with Interferometric Gravitational Wave Detectors", Proceedings of the Eleventh Marcel Grossmann Meeting on General Relativity, edited by H. Kleinert, R.T. Jantzen and R. Ruffini, World Scientific, Singapore, p. 2382-2385, 2008.

5. Data catalogs:

[3] Dálya, 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.**; "VizieR Online Data Catalog: GLADE+ (Galaxy List for the Advanced Detector Era) (Dalya+, 2022)", VizieR On-line Data Catalog: VII/291. Originally published in: 2022MNRAS.514.1403D; 2021.

[2] Abbott, B. P., ..., **Raffai, P.,** et al. (+1180 authors); "VizieR Online Data Catalog: Search for GW signals associated with GRBs (Abbott+, 2019)", VizieR On-line Data Catalog: J/ApJ/886/75. Originally published in: 2019ApJ...886...75A; 2021.

[1] Dálya, G., Galgóczi, G., Dobos, L., Frei, Z., Heng, I. S., Macas, R., Messenger, C., **Raffai, P.**, and de Souza, R. S.; "VizieR Online Data Catalog: GLADE v2.3 catalog (Dalya+, 2018)", VizieR On-line Data Catalog: VII/281. Originally published in: 2018MNRAS.479.2374D; 2018.

6. Selected LIGO documents:

[4] **Raffai, P.**, Belopolski, I., Countryman, S., et al. (+2 authors); "The Advanced LIGO Timing System Timing Comparator/Radio Frequency Counter Module", LIGO Document T1200331, 2012.

[3] **Raffai, P.**; "LUMIN Expert Shifter Manual", LIGO Document M1000224, 2010.

[2] Gelencsér, G., Szeifert, G., **Raffai, P.**, et al. (+3 authors); „User's manual for the Infrasonic Microphone System developed by the Eötvös Gravity Research Group", LIGO Document E1000282, 2010.

[1] **Raffai, P.**, Handbauer, P.; „An X-ray source catalog for joint gravitational wave and X-ray observations", LIGO Document T1000305, 2010.

7. Theses:

[3] **Peter Raffai,** "Gravitational-wave Astronomy" (in Hungarian), Habilitation thesis, Eötvös Loránd University, Budapest, 2023.

[2] **Peter Raffai**, „Application of interferometric gravitational-wave detectors in astrophysics and gravity research" (in Hungarian), Ph.D. thesis, Eötvös Loránd University, Budapest, 2012.

[1] **Peter Raffai**, “Searching for quasi-monochromatic gravitational-wave signals in time-frequency space” (in Hungarian), diploma thesis, Eötvös Loránd University, Budapest, 2006.

8. Scientific outreach papers:

[7] Molnár András, **Raffai Péter**; "A gravitációs hullámok bemutatása középiskolásoknak – 2. rész: A téma tanításának módszertani megfontolásai" (in Hungarian), Fizikai Szemle, Vol. 72, Issue 10, pp. 324-330, 2022.

[6] Molnár András, **Raffai Péter**; "A gravitációs hullámok bemutatása középiskolásoknak – 1. rész: Nemzetközi példák" (in Hungarian), Fizikai Szemle, Vol. 72, Issue 9, pp. 285-291, 2022.

[5] **Raffai Péter**; „Az emberiség új érzékszervei: A gravitációshullám-detektorok” (in Hungarian), Természet Világa, 2018/2., 2018.

[4] Bécsy Bence, Dálya Gergely, **Raffai Péter**; “Összeütköző neutroncsillagok – a többcsatornás csillagászat forradalma” (in Hungarian), Meteor, Vol. 47, Issue 12, 2017.

[3] Dálya Gergely, Bécsy Bence, **Raffai Péter**; “GW150914: először hallottuk az Univerzum zenéjét” (in Hungarian), Meteor, Vol. XLVI., Issue 3. (480.), 2016.

[2] Bécsy Bence, Dálya Gergely, **Raffai Péter**; “Interferométerekkel a gravitációs hullámok nyomában” (in Hungarian), Természet Világa, Vol. 147, Issue 3, 2016.

[1] **Raffai Péter**, Bartos Imre; “Searching for gravitational waves” (in Hungarian), Középiskolai Matematikai és Fizikai Lapok, 2006.

Peter Raffai
September 5, 2026