

List of papers in Impact Journals in 2022

1. **Abramowicz, M;** Bejger, M; Udalski, A; Wielgus, M., *A Robust Test of the Existence of Primordial Black Holes in Galactic Dark Matter Halos*, ASTROPHYSICAL JOURNAL LETTERS, 935, L28, 2022 (IF: 8,811), Q1
2. **Bardiev, D; Kolos, M; Pugliese, D; Stuchlik, Z.**, *GRMHD Evolution of Interacting Double Accretion Tori Orbiting a Central Black Hole*, ASTROPHYSICAL JOURNAL, 941, 173, 2022 (IF: 5,521), Q1
3. **Blaschke, F;** Benes, P., *All finite-mass Dirac monopoles*, PHYSICAL REVIEW D, 106, 125014, 2022 (IF: 5,407), Q1
4. **Blaschke, F; Karpisek, ON.**, *Mechanization of scalar field theory in 1+1 dimensions*, PROGRESS OF THEORETICAL AND EXPERIMENTAL PHYSICS, 2022, 103A01, 2022 (IF: 7,492), Q1
5. **Blaschke, M; Stuchlik, Z; Hensh, S.**, *Evolution of braneworld Kerr-Newman naked singularities*, PHYSICAL REVIEW D, 105, 084069, 2022 (IF: 5,407), Q1
6. Blaschke, P; **Blaschke, F; Blaschke, M.**, *Pedal coordinates and free double linkage*, JOURNAL OF GEOMETRY AND PHYSICS, 171, 104397, 2022 (IF: 1,38), Q3
7. Casadio, R; Giusti, A; **Ovalle, J.**, *Quantum Reissner- Nordström geometry: Singularity and Cauchy horizon*, PHYSICAL REVIEW D, 105, 124026, 2022 (IF: 5,407), Q1
8. **Churilova, MS; Konoplya, RA; Zhidenko, A.**, *Analytic formula for quasinormal modes in the near-extreme Kerr-Newman-de Sitter spacetime governed by a non-Poschl-Teller potential*, PHYSICAL REVIEW D, 105, 084003, 2022 (IF: 5,407), Q1
9. Clay, R; Singh, J; Homola, P; Bar, O; Beznosko, D; Bhatt, A; Bhatta, G; Bibrzycki, L; Budnev, N; Alvarez-Castillo, DE; Dhital, N; Duffy, AR; Frontczak, M; Gora, D; Gupta, AC; Lozowski, B; Medvedev, MV; Medrala, J; Miszczyk, J; Niedzwiecki, M; Piekarczyk, M; Rzecki, K; Zamora-Saa, J; Smelcerz, K; Smolek, K; Sosnicki, T; Stasielak, J; Stuglik, S; Sushchov, O; **Tursunov, A;** Wibig, T., *A Search for Cosmic Ray Bursts at 0.1 PeV with a Small Air Shower Array*, SYMMETRY-BASEL, 14, 501, 2022 (IF: 2,94), Q2
10. **Cremaschini, C; Kovar, J; Stuchlik, Z; Tessarotto, M.**, *Kinetic formulation of Tolman-Ehrenfest effect: Non-ideal fluids in Schwarzschild and Kerr space-times*, PHYSICS OF FLUIDS, 34, 091701, 2022 (IF: 4,98), Q1
11. Contreras, E; **Stuchlik, Z.**, *A simple protocol to construct solutions with vanishing complexity by Gravitational Decoupling*, EUROPEAN PHYSICAL JOURNAL C, 82, 706, 2022 (IF: 4,994), Q2
12. Contreras, E; **Stuchlik, Z.**, *Energy exchange between Tolman VII and a polytropic fluid*, EUROPEAN PHYSICAL JOURNAL C, 82, 365, 2022 (IF: 4,994), Q2

13. Dhital, N; Homola, P; Alvarez-Castillo, D; Gora, D; Cheminant, KA; Poncyljusz, B; Medralla, J; Opila, G; Bhatt, A; Lozowski, B; Bretz, T; Del Peral, L; Duffy, AR; Gupta, AC; Hnatyk, B; Jagoda, P; Kasztelan, M; Kopanski, K; Kovacs, P; Krupinski, M; Medvedev, M; Nazari, V; Niedzwiecki, M; Ostrogorski, D; Piekarczyk, M; Frias, MDR; Rzecki, K; Smelcerz, K; Smolek, K; Stasielak, J; Sushchov, O; Wibig, T; Wozniak, K; Zamora-Saa, J; Zimboras, Z; **Tursunov, A.**, *Cosmic ray ensembles as signatures of ultra-high energy photons interacting with the solar magnetic field*, JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, 038, 2022 (IF: 7,28), Q1
14. **Hensh, S; Schee, J;** Abdujabbarov, A; **Stuchlik, Z.**, *Strong gravitational lensing around Kehagias-Sfetsos compact objects surrounded by plasma*, EUROPEAN PHYSICAL JOURNAL PLUS, 137, 242, 2022 (IF: 3,758), Q2
15. Kaspar, V; **Zapletal, M;** Samec, P; Komarek, J; Bilek, J; Juran, S., *Unmanned aerial systems for modelling air pollution removal by urban greenery*, URBAN FORESTRY & URBAN GREENING, 78, 127757, 2022 (IF: 5,766), Q1
16. **Konoplya, R;** Zhidenko, A., *Can the abyss swallow gravitational waves or why do we not observe echoes?*, EPL, 138, 49001, 2022 (IF: 1,958), Q3
17. **Konoplya, R;** Zhidenko, A., *Quasinormal ringing of general spherically symmetric parametrized black holes*, PHYSICAL REVIEW D, 105, 104032, 2022 (IF: 5,407), Q1
18. **Konoplya, R;** Zhidenko, A., *Nonoscillatory gravitational quasinormal modes and telling tails for Schwarzschild-de Sitter black holes*, PHYSICAL REVIEW D, 105, 124004, 2022 (IF: 5,407), Q1
19. **Konoplya, R;** Zhidenko, A., *Solutions of the Einstein Equations for a Black Hole Surrounded by a Galactic Halo*, ASTROPHYSICAL JOURNAL, 933, 166, 2022 (IF: 5,521), Q1
20. **Konoplya, R; Zhidenko, A.**, *Traversable Wormholes in General Relativity*, PHYSICAL REVIEW LETTERS, 128, 091104, 2022 (IF: 9,185), Q1
21. **Konoplya, R; Zinhailo, AF;** Kunz, J; **Stuchlik, Z;** Zhidenko, A., *Quasinormal ringing of regular black holes in asymptotically safe gravity: the importance of overtones*, JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, 2022, 091, 2022 (IF: 7,28), Q1
22. **Konoplya, R.**, Zhidenko, A., *How general is the strong cosmic censorship bound for quasinormal modes?*, JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, 2022, 028, 2022 (IF: 7,28), Q1
23. Mosallanezhad, A; Bu, DF; **Cemeljic, M;** Zeraatgari, FZ; Hai, Y; Mei, LQ., *Numerical Simulation of Hot Accretion Flow around Bondi Radius*, ASTROPHYSICAL JOURNAL, 939, 12, 2022 (IF:5,521), Q1

24. Mohorian, M; Bhatta, G; Adhikari, TP; Dhital, N; **Panis, R**; Dinesh, A; Chaudhary, SC; Bachchan, RK; **Stuchlik, Z.**, *X-ray timing and spectral variability properties of blazars S5 0716+714, OJ 287, Mrk 501, and RBS 2070*, MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, 510, ?, 2022 (IF: 5,235), Q1
25. Nikolskii, EY; **Muzalevskii, IA**; **Bezbakh, AA**; **Chudoba, V**; Krupko, SA; Belogurov, SG; Biare, D; Fomichev, AS; Gazeeva, EM; Gorshkov, AV; Grigorenko, LV; Kaminski, G; Khirk, M; Kiselev, O; Kostyleva, DA; Kozlov, MY; Mauey, B; Mukha, I; Parfenova, YL; Piatek, W; Quynh, AM; Schetinin, VN; Serikov, A; Sidorchuk, SI; **Sharov, G**; Shulgina, NB; Slepnev, RS; Stepantsov, SV; Swiercz, A; Szymkiewicz, P; Ter-Akopian, GM; Wolski, R; Zalewski, B; Zhukov, MV., *H-6 states studied in the H-2(He-8, He-4) reaction and evidence of an extremely correlated character of the(5)H ground state*, PHYSICAL REVIEW C, 105, 064605, 2022 (IF: 3,199), Q2
26. **Ovalle, J**; Contreras, E; **Stuchlik, Z.**, *Energy exchange between relativistic fluids: the polytropic case*, EUROPEAN PHYSICAL JOURNAL C, 82, 211, 2022 (IF: 4,994), Q2
27. **Ovalle, J.**, *Warped vacuum energy by black holes*, EUROPEAN PHYSICAL JOURNAL C, 82, 170, 2022 (IF: 4,994), Q2
28. **Pappas, TD**; **Posada, C**; **Stuchlik, Z.**, *Extended Tolman III and VII solutions in $f(R, T)$ gravity: Models for neutron stars and supermassive stars*, PHYSICAL REVIEW D, 106, 124014, 2022 (IF: 5,407), Q1
29. Poncyljusz, B; Bulik, T; Dhital, N; Sushchov, O; Stuglik, S; Homola, P; Alvarez-Castillo, D; Piekarczyk, M; Wibig, T; Stasielak, J; Kovacs, P; Smelcerz, K; Frias, MDR; Niedzwiecki, M; Miszczyk, J; Sosnicki, T; Bibrzycki, L; **Tursunov, A**; Del Peral, L; Rzecki, K., *Simulation of the Isotropic Ultra-High Energy Photon Flux in the Solar Magnetic Field*, UNIVERSE, 8, 498, 2022 (IF: 2,813), Q2
30. **Posada, C**; **Hladik, J**; **Stuchlik, Z.**, *New interior model of neutron stars*, PHYSICAL REVIEW D, 105, 104020, 2022 (IF: 5,407), Q1
31. Powell, BP; Rappaport, SA; Borkovits, T; Kostov, VB; Torres, G; Jayaraman, R; Latham, DW; **Kucakova, H**; Garai, Z; Pribulla, T; Vanderburg, A; Kruse, E; Barclay, T; Olmschenk, G; Kristiansen, MHK; Gagliano, R; Jacobs, TL; LaCourse, DM; Omohundro, M; Schwengeler, HM; Terentev, IA; Schmitt, AR., *TIC 114936199: A Quadruple Star System with a 12 Day Outer-orbit Eclipse*, ASTROPHYSICAL JOURNAL, 938, 133, 2022 (IF: 5,521), Q1
32. Pryga, JS; Stanek, W; Wozniak, KW; Homola, P; Cheminant, KA; Stuglik, S; Alvarez-Castillo, D; Bibrzycki, L; Piekarczyk, M; Bar, O; Wibig, T; **Tursunov, A**; Niedzwiecki, M; Sosnicki, T; Rzecki, K., *Analysis of the Capability of Detection of Extensive Air Showers by Simple Scintillator Detectors*, UNIVERSE, 8, 425, 2022 (IF: 2,813), Q2
33. **Pugliese, D**; Quevedo, H., *On light surfaces in black hole thermodynamics*, EUROPEAN PHYSICAL JOURNAL C, 82, 456, 2022 (IF: 4,994), Q2

34. **Pugliese, D;** Quevedo, H., *Wormholes, killing horizons and naked singularities: light surfaces in axially symmetric spacetimes*, EUROPEAN PHYSICAL JOURNAL C, 82, 1090, 2022 (IF: 4,994), Q2
35. **Pugliese, D; Stuchlik, Z.**, *Dark matter effect on black hole accretion disks*, PHYSICAL REVIEW D, 106, 2022 (IF: 5,407), Q1
36. **Pugliese, D; Stuchlik, Z.**, *Lense-Thirring effect on accretion flow from counter-rotating tori*, MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, 512, 2022 (IF:5,235), Q1
37. Rayimbaev, J; **Bardiev, D;** Abdujabbarov, A; Turaev, Y; **Stuchlik, Z.**, *Quasi-periodic oscillation around regular Bardeen black holes in 4D Einstein-Gauss-Bonnet gravity*, INTERNATIONAL JOURNAL OF MODERN PHYSICS D, 31, 2250004, 2022 (IF: 2,547), Q3
38. Rayimbaev, J; **Bardiev, D;** Abdulxamidov, F; Abdujabbarov, A; Ahmedov, B., *Magnetized and Magnetically Charged Particles Motion around Regular Bardeen Black Hole in 4D Einstein Gauss-Bonnet Gravity*, UNIVERSE, 8, 549, 2022 (IF: 2,813), Q2
39. Rayimbaev, J; **Bardiev, D;** Mirzaev, T; Abdujabbarov, A; Khalmirzaev, A., *Shadow and massless particles around regular Bardeen black holes in 4D Einstein Gauss-Bonnet gravity*, INTERNATIONAL JOURNAL OF MODERN PHYSICS D, 31, 2250055, 2022 (IF: 2,547), Q3
40. Samec, P; Rychtecka, P; Zeman, M; **Zapletal, M.**, *Environmental Effects among Differently Located and Fertile Sites on Forest Basal-Area Increment in Temperate Zone*, FORESTS, 13, 588, 2022 (IF: 3,282), Q1
41. **Schee, J; Boj, E. N.**, *Temperature anisotropy of the CMBR and the nonzero cosmological constant*, INTERNATIONAL JOURNAL OF MODERN PHYSICS D, 31, 2250085, 2022 (IF: 2,547), Q3
42. **Schee, J; Stuchlik, Z.**, *Appearance of Keplerian discs orbiting on both sides of reflection-symmetric wormholes*, JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, 2022, 054, 2022 (IF: 7,28), Q1
43. Shahzadi, M; **Kolos, M; Stuchlik, Z;** Habib, Y., *Testing alternative theories of gravity by fitting the hot-spot data of Sgr A*.*, EUROPEAN PHYSICAL JOURNAL C, 82, 407, 2022 (IF: 4,994), Q2
44. **Stuchlik, Z; Blaschke, M; Kovar, J; Slany, P.**, *Charged fluid nonconducting toroidal structures orbiting a Schwarzschild black hole immersed in a split-monopole magnetic field*, PHYSICAL REVIEW D, 105, 103012, 2022 (IF: 5,407), Q1
45. **Stuchlik, Z; Kolos, M; Tursunov, A.**, *Large-scale magnetic fields enabling fitting of the high-frequency QPOs observed around supermassive black holes*, PUBLICATIONS OF THE ASTRONOMICAL SOCIETY OF JAPAN, 74, ?, 2022, (IF: 3,31), Q2

46. **Stuchlik, Z; Vrba, J.**, *Geodesic Model of HF QPOs Tested for Black Holes in Spacetimes Reflecting the Effect of Surrounding Dark Matter*, ASTROPHYSICAL JOURNAL, 935, 91, 2022 (IF: 5,521), Q1

47. Suliyeva, G.B., Boshkayev, K.A., Nurbakyt, G., Quevedo, H., Taukenova, A.S., **Tlemissov, A.T., Tlemissova, Z.**, Urazalina, A., *Adiabatic Theory Of Motion Of Bodies In The Hartle-Thorne Spacetime*, INTERNATIONAL JOURNAL OF MATHEMATICS AND PHYSICS, 2022, ?, 2022 (IF: 0,0), Q4

48. Sushchov, O; Homola, P; Piekarczyk, M; Ruimi, O; Cheminant, KA; Bar, O; Bibrzycki, L; Hnatyk, B; Kovacs, P; Lozowski, B; Niedzwiecki, M; Stuglik, S; **Tursunov, A**; Wibig, T., *A New Method of Simulation of Cosmic-ray Ensembles Initiated by Synchrotron Radiation*, SYMMETRY-BASEL, 14, 1961, 2022 (IF: 2,94), Q2

49. **Tessarotto, M; Cremaschini, C.**, *Background Independence and Gauge Invariance in General Relativity Part 1-The Classical Theory*, SYMMETRY-BASEL, 14, 2083, 2022 (IF: 2,94), Q2

50. **Tessarotto, M; Cremaschini, C.**, *Background Independence and Gauge Invariance in General Relativity Part 2-Covariant Quantum Gravity*, SYMMETRY-BASEL, 14, 2229, 2022 (IF: 2,94), Q2

51. **Tessarotto, M; Cremaschini, C.**, *The Common Logic of Quantum Universe-Part I: The Case of Non-relativistic Quantum Mechanics*, FOUNDATIONS OF PHYSICS, 52, 30, 2022 (IF: 1,276), Q4

52. **Tessarotto, M; Cremaschini, C.**, *The Common Logic of Quantum Universe-Part II: The Case of Quantum Gravity*, FOUNDATIONS OF PHYSICS, 52, 39, 2022 (IF: 1,276), Q4

53. **Torok, G; Kotrlova, A; Matuszkova, M; Klimovicova, K; Lancova, D; Urbancova, G; Sramkova, E.**, *Simple Analytic Formula Relating the Mass and Spin of Accreting Compact Objects to Their Rapid X-Ray Variability*, ASTROPHYSICAL JOURNAL, 929, 28, 2022 (IF: 5,521), Q1

54. Turimov, B; Abdujabbarov, A; Ahmedov, B; **Stuchlik, Z.**, *Generic Three-Parameter Wormhole Solution in Einstein-Scalar Field Theory*, PARTICLES, 5 (1), pp. 1-11, 2022 (IF: 0,6), Q2

55. Turimov, B; Boboqambarova, M; Ahmedov, B; **Stuchlik, Z.**, *Distinguishable feature of electric and magnetic charged black hole Acceleration of charged particle in Reissner-Nordstrom spacetime*, EUROPEAN PHYSICAL JOURNAL PLUS, 137, 222, 2022 (IF: 3,758), Q2

56. Turimov, B; Turaev, Y; Ahmedov, B; **Stuchlik, Z.**, *Circular motion of test particles around wormhole represented by exponential metric*, PHYSICS OF THE DARK UNIVERSE, 35, 100946, 2022 (IF: 5,09), Q2

57. **Tursunov, A; Kolos, M; Stuchlik, Z.**, *Constraints on Cosmic Ray Acceleration Capabilities of Black Holes in X-ray Binaries and Active Galactic Nuclei*, SYMMETRY-BASEL, 14, 482, 2022 (IF: 2,94), Q2
58. Verbetsky, Y; Svanidze, M; Ruimi, O; Wibig, T; Kakabadze, L; Homola, P; Alvarez-Castillo, DE; Beznosko, D; Sarkisyan-Grinbaum, EK; Bar, O; Sushchov, O; **Tursunov, A.**, *First Results on the Revealing of Cognate Ancestors among the Particles of the Primary Cosmic Rays That Gave Rise to Extensive Air Showers Observed by the GELATICA Network*, SYMMETRY-BASEL, 14, 1749, 2022 (IF: 2,94), Q2
59. Wielgus, M; **Lancova, D**; Straub, O; Kluzniak, W; Narayan, R; Abarca, D; Rozanska, A; Vincent, F; **Torok, G; Abramowicz, M.**, *Observational properties of puffy discs: radiative GRMHD spectra of mildly sub-Eddington accretion*, MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, 514 (1), pp. 780-789, 2022 (IF: 5,235), Q1
60. Wolf, M; Zejda, M; Masek, M; **Kucakova, H**; de Joode, MS; Uhlar, R; Zasche, P., *The two eccentric eclipsing binaries in multiple systems: V539 Arae and V335 Serpentis*, NEW ASTRONOMY, 92, 101708, 2022 (IF: 2,096), Q3
61. **Zapletal, M**; Cudlin, P; Khadka, C; Krupal, K; Mikuska, P; Cigankova, H; Polasek, M., *Characteristics and Sources of PAHs, Hopanes, and Elements in PM10 Aerosol in Tulsipur and Charikot (Nepal)*, WATER AIR AND SOIL POLLUTION, 233, 486, 2022 (IF: 2,984), Q3