

List of papers in Impact Journals in 2021

1. Adamek, K.; **Novotny, J.**; Thiyaalingam, J.; Armour, W., Efficiency near the Edge: Increasing the Energy Efficiency of FFTs on GPUs for Real-Time Edge Computing, IEEE ACCESS, 9, 2021 (IF: 3,367)
2. Arai, M.; **Blaschke, F.**; Eto, M.; Kawaguchi, M; Sakai, N., Standard model gauge fields localized on non-Abelian vortices in six dimensions, PROGRESS OF THEORETICAL AND EXPERIMENTAL PHYSICS, 2021, 123B07, 2021 (IF: 2,572)
3. Bhatta, G.; **Pánis, R.**; **Stuchlík, Z.**, Deterministic Aspect of the γ -Ray Variability in Blazars, ASTROPHYSICAL JOURNAL, 905, 160, 2021 (IF: 5 877)
4. **Bormotova, I.**; **Kopteva, E.**; **Stuchlik, Z.**, Geodesic Structure of the Accelerated Stephani Universe, SYMMETRY-BASEL, 13, 1001, 2021 (IF: 2,713)
5. Britzen S.; Zajaček M.; Popović L.Č.; Fendt C.; Tramacere A.; Pashchenko I.N.; Jaron F.; **Pánis R.**; Petrov L.; Aller M.F.; Aller H.D., A ring accelerator? Unusual jet dynamics in the IceCube candidate PKS 1502+106, MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, 503, 2021 (IF: 5,287)
6. Bronnikov, K.A.; **Konoplya, R. A.**; **Pappas, T. D.**, General parametrization of wormhole spacetimes and its application to shadows and quasinormal modes, PHYSICAL REVIEW D, 103, 124062, 2021 (IF: 5,296)
7. Contreras, E.; **Ovalle, J.**; Casadio, R., Gravitational decoupling for axially symmetric systems and rotating black holes, PHYSICAL REVIEW D, 103, 044020, 2021 (IF: 5.296)
8. **Cremaschini, C.**; Kovar, J.; Stuchlik, Z.; Tessarotto, M., Variational theory of the Ricci curvature tensor dynamics, EUROPEAN PHYSICAL JOURNAL C, 81, 1030, 2021 (IF: 4,59)
9. **Cremaschini, C.**; Tessarotto, M., Coupling of quantum gravitational field with Riemann and Ricci curvature tensors, EUROPEAN PHYSICAL JOURNAL C, 81, 548, 2021 (IF: 4,59)
10. **Cremaschini, C.**; Tessarotto, M., Physical Properties of Schwarzschild-deSitter Event Horizon Induced by Stochastic Quantum Gravity, ENTROPY, 23, 511, 2021 (IF: 2,524)
11. Falanga M.; **Bakala P.**; Placa R.L.; De Falco V.; De Rosa A.; Stella L., Exploring higher order images with Fe K-alpha-lines from relativistic discs: black hole spin determination and bias, MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, 504, 2021 (IF: 5,287)

12. Gialamas, I. D.; Karam, A.; **Pappas, T. D.**; Spanos, V.C., Scale-invariant quadratic gravity and inflation in the Palatini formalism, PHYSICAL REVIEW D, 104, 023521, 2021 (IF: 5,296)
13. **Habrman, P.**, Air equivalence of some solid fluoropolymers in photon beams, JOURNAL OF INSTRUMENTATION, 16, P06026, 2021 (IF: 1,415)
14. **Hensh, S.**; Liberati, S., Raychaudhuri equations and gravitational collapse in Einstein-Cartan theory, PHYSICAL REVIEW D, 104, 084073, 2021 (IF: 5,296)
15. **Churilova, M. S.**, Quasinormal modes of the Dirac field in the consistent 4D Einstein-Gauss-Bonnet gravity, PHYSICS OF THE DARK UNIVERSE, 31, 100748, 2021 (IF: 4,243)
16. **Churilova, M. S.**, Quasinormal modes of the test fields in the consistent 4D Einstein-Gauss-Bonnet-(anti) de Sitter gravity, ANNALS OF PHYSICS, 427, 168425, 2021 (IF: 2,668)
17. **Churilova, M. S.**; **Konoplya, R. A.**; **Stuchlik, Z.**; **Zhidenko, A.**, Wormholes without exotic matter: quasinormal modes, echoes and shadows, JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, 2021, 010, 2021 (IF: 5,839)
18. Kara, J.; Zharikov, S.; Wolf, M.; **Kucakova, H.**, et al., The period-gap cataclysmic variable CzeV404 Her: A link between SW Sex and SU UMa systems, ASTRONOMY & ASTROPHYSICS, 652, A49, 2021 (IF: 5,803)
19. **Kolos, M.**; **Tursunov, A.**; **Stuchlik, Z.**, Radiative Penrose process: Energy gain by a single radiating charged particle in the ergosphere of rotating black hole, PHYSICAL REVIEW D, 103, 024021, 2021 (IF: 5,296)
20. **Konoplya, R. A.**, Conformal Weyl gravity via two stages of quasinormal ringing and late-time behavior, PHYSICAL REVIEW D, 103, 044033, 2021 (IF: 5,296)
21. **Konoplya, R. A.**, Black holes in galactic centers: Quasinormal ringing, grey-body factors and Unruh temperature, PHYSICS LETTERS B, 823, 136734, 2021 (IF: 4,771)
22. **Konoplya, R. A.**; Kunz, J.; Zhidenko, A., Blandford-Znajek mechanism in the general stationary axially-symmetric black-hole spacetime, JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, 2021, 002, 2021 (IF: 5,839)
23. **Konoplya, R. A.**; Zhidenko, A., Shadows of parametrized axially symmetric black holes allowing for separation of variables, PHYSICAL REVIEW D, 103, 104033, 2021 (IF: 5,296)
24. **Konoplya, R. A.**; Zhidenko, A., Massive particles in the Einstein-Lovelock-anti-de Sitter black hole spacetime, CLASSICAL AND QUANTUM GRAVITY, 38, 045015, 2021 (IF: 3,528)

25. Liu, F. K.; Cao, C. Y.; **Abramowicz, M. A.**; Wielgus, et al., Elliptical Accretion Disk as a Model for Tidal Disruption Events, *ASTROPHYSICAL JOURNAL*, 908, 179, 2021 (IF: 5,877)

26. Mardor I.; S. Ayet San Andrés; T. Dickel; D. Amanbayev; S. Beck; J. Bergmann; H. Geissel; L. Gröf; E. Haettner; C. Hornung; N. Kalantar-Nayestanaki; G. Kripko-Koncz; I. Miskun; A. Mollaebrahimi; W. R. Plaß; C. Scheidenberger; H. Weick; Soumya Bagchi; D. L. Balabanski; A. A. Bezbakh; Z. Brencic; O. Charviakova; **Chudoba, V.**, et al., Mass measurements of As, Se, and Br nuclei, and their implication on the proton-neutron interaction strength toward the $N = Z$ line, *PHYSICAL REVIEW C*, 103, 034319, 2021 (IF: 3,296)

27. **Muzalevskii, I. A.**; Bezbakh, A. A.; Nikolskii, E. Yu; **Chudoba, V.**, et al., Resonant states in H-7: Experimental studies of the H-2(He-8, He-3) reaction, *PHYSICAL REVIEW C*, 103, 044313, 2021 (IF: 3,296)

28. **Novotny, J.**; **Stuchlik, Z.**; **Hladik, J.**, Polytropic spheres modelling dark matter haloes of dwarf galaxies, *ASTRONOMY & ASTROPHYSICS*, 647, A29, 2021 (IF: 5,803)

29. **Ovalle, J.**; Contreras, E.; **Stuchlik, Z.**, Kerr-de Sitter black hole revisited, *PHYSICAL REVIEW D*, 103, 084016, 2021 (IF: 5,296)

30. **Ovalle, J.**; Casadio, R.; Contreras, E.; Sotomayor, A., Hairy black holes by gravitational decoupling, *PHYSICS OF THE DARK UNIVERSE*, 31, 100744, 2021 (IF: 4,243)

31. **Ovchinnikov D.**; Farooq M.U.; Hussain I.; Abdujabbarov A.; Ahmedov B.; **Stuchlík Z.**, Epicyclic oscillations of test particles near marginally stable circular orbits around charged Kiselev black holes, *PHYSICAL REVIEW D*, 104, 063027, 2021 (IF: 5,296)

32. Pechanec, V.; Cudlin, O.; **Zapletal, M.**; Purkyt, J., et al., Assessing Habitat Vulnerability and Loss of Naturalness: Applying the GLOBIO3 Model in the Czech Republic, *SUSTAINABILITY*, 13, 5355, 2021 (IF: 3,251)

33. **Posada, C.**; **Hladik, J.**; **Stuchlik, Z.**, Dynamical stability of the modified Tolman VII solution, *PHYSICAL REVIEW D*, 103, 104067, 2021 (IF: 5,296)

34. **Pugliese, D.**; **Stuchlik, Z.**, General relativistic rotational energy extraction from black holes-accretion disk systems, *CLASSICAL AND QUANTUM GRAVITY*, 38, 145014, 2021 (IF: 3,528)

35. **Pugliese, D.**; **Stuchlik, Z.**, Jet collision with accreting tori around SMBHs GRHD and light surface constraints in aggregates of misaligned tori, *PUBLICATIONS OF THE ASTRONOMICAL SOCIETY OF JAPAN*, 73, 2021 (IF: 5,071)

36. **Pugliese, D.; Stuchlik, Z.**, Dragged surfaces. On the accretion tori in the ergoregion, PUBLICATIONS OF THE ASTRONOMICAL SOCIETY OF JAPAN, 73, 2021 (IF: 5,071)
37. **Pugliese, D.**; Montani, G., Aspects of GRMHD in high-energy astrophysics: geometrically thick disks and tori agglomerates around spinning black holes, GENERAL RELATIVITY AND GRAVITATION, 53, 51, 202 (IF: 2,513)
38. **Pugliese, D.**; Quevedo, H., Kerr metric Killing bundles Killing horizons confinement, light-surfaces and horizons replicas, EUROPEAN PHYSICAL JOURNAL C, 81, 258, 2021 (IF: 4,59)
39. **Pugliese, D.**; Quevedo, H., Extracting information on black hole horizons, NUCLEAR PHYSICS B, 972, 115544, 2021 (IF: 2,759)
40. **Pugliese, D.**; Quevedo, H., Repulsive gravity effects in horizon formation Horizon remnants in naked singularities, GENERAL RELATIVITY AND GRAVITATION, 53, 89, 2021 (IF: 2,513)
41. Shafter, A. W.; Hornoch, K.; Benacek, J.; Galad, A.; Janik, J.; Jurysek, J.; Kotkova, L.; Kurfurst, P.; **Kucakova, H.**, et al., Survey of Novae in M83, ASTROPHYSICAL JOURNAL, 923, 239, 2021 (IF: 5,877)
42. Shahzadi, M., **Kolos, M., Stuchlik, Z.**, Habib, Y., Epicyclic oscillations in spinning particle motion around Kerr black hole applied in models fitting the quasi-periodic oscillations observed in microquasars and AGNs, EUROPEAN PHYSICAL JOURNAL C, 12, 531, 2021 (IF: 4,59)
43. Scheirich, P.; Pravec, P.; Kusnirak, P.; Hornoch, K.; McMahon, J.; Scheeres, D. J.; Capek, D.; Pray, D. P.; **Kucakova, H.**, et al., A satellite orbit drift in binary near-Earth asteroids (66391) 1999 KW4 and (88710) 2001 SL9-Indication of the BYORP effect, ICARUS, 360, 114321, 2021 (IF: 3,508)
44. **Stuchlik, Z.; Klimovicova, K.; Schee, J.; Torok, G.; Kotrlova, A.**, Comparison of the Hartle-Thorne Model of Neutron Stars with its Kerr Approximation by using Resonant Switch Model ACTA ASTRONOMICA, 71, 2021 (IF: 2,447)
45. **Stuchlik, Z.; Vrba, J.**, Trapping of null geodesics in slowly rotating extremely compact Tolman VII spacetimes, EUROPEAN PHYSICAL JOURNAL PLUS, 136, 977, 2021 (IF: 3.911)
46. **Stuchlik, Z.; Vrba, J.**, Supermassive black holes surrounded by dark matter modeled as anisotropic fluid: epicyclic oscillations and their fitting to observed QPOs, JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS, 2021, 059, 2021 (IF: 5,839)

47. **Stuchlik, Z.; Kolos, M.; Tursunov, A.**, Penrose Process: Its Variants and Astrophysical Applications, *UNIVERSE*, 7, 416, 2021 (IF: 2,278)
48. **Stuchlik, Z.; Hladik, J.; Vrba, J.; Posada, C.**, Neutrino trapping in extremely compact Tolman VII spacetimes, *EUROPEAN PHYSICAL JOURNAL C*, 81, 529, 2021 (IF: 4,59)
49. **Stuchlik, Z.; Vrba, J.**, Epicyclic orbits in the field of Einstein-Dirac-Maxwell traversable wormholes applied to the quasiperiodic oscillations observed in microquasars and active galactic nuclei, *EUROPEAN PHYSICAL JOURNAL PLUS*, 136, 1127, 2021 (IF: 3,911)
50. **Stuchlik, Z.; Vrba, J.**, Epicyclic Oscillations around Simpson-Visser Regular Black Holes and Wormholes, *UNIVERSE*, 7, 279, 2021 (IF: 2,278)
51. Tessarotto, M.; **Cremaschini, C.**, The Principle of Covariance and the Hamiltonian Formulation of General Relativity, *ENTROPY*, 23, 215, 2021 (IF: 2,524)
52. Tessarotto, M.; **Cremaschini, C.**, The Quantum Regularization of Singular Black-Hole Solutions in Covariant Quantum Gravity, *ENTROPY*, 23, 370, 2021 (IF: 2,524)
53. **Turimov, B.**; Rahimov, O.; Ahmedov, B.; **Stuchlik, Z.**; Boymurodova, K., Dynamical motion of matter around a charged black hole, *INTERNATIONAL JOURNAL OF MODERN PHYSICS D*, 30, 2150037, 2021 (IF: 2,461)
54. **Turimov, B.**; Ahmedov, B.; **Stuchlik, Z.**, On exact analytical solution of Einstein-Maxwell-scalar field equations, *PHYSICS OF THE DARK UNIVERSE*, 33, 100868, 2021 (IF: 4,243)
55. **Turimov, B.; Stuchlik, Z.**; Rayimbayev, J.; Abdujabbarov, A., General relativistic effects in neutron star electrodynamics, *PHYSICAL REVIEW D*, 103, 124039, 2021 (IF: 5,296)
56. **Tursunov, A.; Juraev, B.; Stuchlik, Z.; Kolos, M.**, Electric Penrose process: High-energy acceleration of ionized particles by nonrotating weakly charged black hole, *PHYSICAL REVIEW D*, 104, 084099, 2021 (IF: 5,296)
57. Vahedi, A.; Khodagholizadeh, J.; **Tursunov, A.**, Aschenbach effect for spinning particles in Kerr-(A)dS spacetime, *EUROPEAN PHYSICAL JOURNAL C*, 81, 280, 2021 (IF: 4,59)
58. Vincent, F. H.; Wielgus, M.; **Abramowicz, M. A.**; Gourgoulhon, E., et al., Geometric modeling of M87* as a Kerr black hole or a non-Kerr compact object, *ASTRONOMY & ASTROPHYSICS*, 646, A37, 2021 (IF: 5,803)
59. Wolf, M.; **Kucakova, H.**; Zasche, P.; Hornoch, K.; Kara, J.; Merc, J.; Zejda, M., Possible substellar companions in dwarf eclipsing binaries SDSS J143547.87+373338.5, NSVS 7826147, and NSVS 14256825, *ASTRONOMY & ASTROPHYSICS*, 647, A65, 2021 (IF: 5,803)