Slava G Turyshev

List of Publications by Year
in descending order

106 papers	3,815 citations	186265 28 h-index	133252 59 g-index
109 all docs	109 docs citations	109 times ranked	1620 citing authors

#	Article	IF	Citations
1	Progress in Lunar Laser Ranging Tests of Relativistic Gravity. Physical Review Letters, 2004, 93, 261101.	7.8	515
2	Indication, from Pioneer 10/11, Galileo, and Ulysses Data, of an Apparent Anomalous, Weak, Long-Range Acceleration. Physical Review Letters, 1998, 81, 2858-2861.	7.8	449
3	Study of the anomalous acceleration of Pioneer 10 and 11. Physical Review D, 2002, 65, .	4.7	387
4	LUNAR LASER RANGING TESTS OF THE EQUIVALENCE PRINCIPLE WITH THE EARTH AND MOON. International Journal of Modern Physics D, 2009, 18, 1129-1175.	2.1	140
5	Lunar laser ranging tests of the equivalence principle. Classical and Quantum Gravity, 2012, 29, 184004.	4.0	125
6	Support for the Thermal Origin of the Pioneer Anomaly. Physical Review Letters, 2012, 108, 241101.	7.8	125
7	Experimental Tests of General Relativity. Annual Review of Nuclear and Particle Science, 2008, 58, 207-248.	10.2	121
8	The Pioneer Anomaly. Living Reviews in Relativity, 2010, 13, 4.	26.7	113
9	IMPROVING LLR TESTS OF GRAVITATIONAL THEORY. International Journal of Modern Physics D, 2004, 13, 567-582.	2.1	83
10	The laser astrometric test of relativity mission. Classical and Quantum Gravity, 2004, 21, 2773-2799.	4.0	72
11	SPACE-BASED TESTS OF GRAVITY WITH LASER RANGING. International Journal of Modern Physics D, 2007, 16, 2165-2179.	2.1	61
12	Lunar laser ranging science: Gravitational physics and lunar interior and geodesy. Advances in Space Research, 2006, 37, 67-71.	2.6	59
13	A STUDY OF THE PIONEER ANOMALY: NEW DATA AND OBJECTIVES FOR NEW INVESTIGATION. International Journal of Modern Physics D, 2006, 15, 1-55.	2.1	59
14	Lunar Laser Ranging Contributions to Relativity and Geodesy. Astrophysics and Space Science Library, 2008, , 457-472.	2.7	58
15	The Solar Test of the Equivalence Principle. Astrophysical Journal, 1996, 459, 365.	4.5	54
16	SEARCH FOR A STANDARD EXPLANATION OF THE PIONEER ANOMALY. Modern Physics Letters A, 2002, 17, 875-885.	1.2	53
17	FINDING VERY SMALL NEAR-EARTH ASTEROIDS USING SYNTHETIC TRACKING. Astrophysical Journal, 2014, 782, 1.	4.5	51
18	Advancing tests of relativistic gravity via laser ranging to Phobos. Experimental Astronomy, 2010, 28, 209-249.	3.7	50

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19	Finding the origin of the Pioneer anomaly. Classical and Quantum Gravity, 2004, 21, 4005-4023.	4.0	47
20	Diffraction of electromagnetic waves in the gravitational field of the Sun. Physical Review D, 2017, 96, .	4.7	47
21	General Theory of Relativity: Will It Survive the Next Decade?. Astrophysics and Space Science Library, 2008, , 27-74.	2.7	47
22	Support for Temporally Varying Behavior of the Pioneer Anomaly from the Extended Pioneer 10 and 11 Doppler Data Sets. Physical Review Letters, 2011, 107, 081103.	7.8	44
23	SPACE-BASED RESEARCH IN FUNDAMENTAL PHYSICS AND QUANTUM TECHNOLOGIES. International Journal of Modern Physics D, 2007, 16, 1879-1925.	2.1	41
24	Directly measured limit on the interplanetary matter density from Pioneer 10 and 11. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2005, 613, 11-19.	4.1	36
25	Astrodynamical Space Test of Relativity Using Optical Devices I (ASTROD I)â€"A class-M fundamental physics mission proposal for Cosmic Vision 2015â€"2025. Experimental Astronomy, 2009, 23, 491-527.	3.7	30
26	DETECTION OF A FAINT FAST-MOVING NEAR-EARTH ASTEROID USING THE SYNTHETIC TRACKING TECHNIQUE. Astrophysical Journal, 2014, 792, 60.	4.5	30
27	Study of the Pioneer anomaly: A problem set. American Journal of Physics, 2005, 73, 1033-1044.	0.7	29
28	General relativistic observables of the GRAIL mission. Physical Review D, 2013, 87, .	4.7	28
29	Diffraction of light by the gravitational field of the Sun and the solar corona. Physical Review D, 2019, 99, .	4.7	28
30	A MISSION TO TEST THE PIONEER ANOMALY. International Journal of Modern Physics D, 2002, 11, 1545-1551.	2.1	27
31	EXPERIMENTAL DESIGN FOR THE LATOR MISSION. International Journal of Modern Physics D, 2004, 13, 2035-2063.	2.1	27
32	Corner-cube retro-reflector instrument for advanced lunar laser ranging. Experimental Astronomy, 2013, 36, 105-135.	3.7	27
33	General relativistic laser interferometric observables of the GRACE-Follow-On mission. Physical Review D, 2014, 89, .	4.7	26
34	35 Years of Testing Relativistic Gravity: Where Do We Go from Here?. Lecture Notes in Physics, 2004, , 311-330.	0.7	25
35	Image formation for extended sources with the solar gravitational lens. Physical Review D, 2020, 102, .	4.7	25
36	A SEARCH FOR NEW PHYSICS WITH THE BEACON MISSION. International Journal of Modern Physics D, 2009, 18, 1025-1038.	2.1	24

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37	Imaging extended sources with the solar gravitational lens. Physical Review D, 2019, 100, .	4.7	24
38	The Pioneer Anomaly in the Light of New Data. Space Science Reviews, 2009, 148, 149-167.	8.1	23
39	The past and present Earth-Moon system: the speed of light stays steady as tides evolve. Planetary Science, 2014, 3, 2.	1.5	23
40	â€œGalileo Galileiâ€•(GG) a small satellite to test the equivalence principle of Galileo, Newton and Einstein. Experimental Astronomy, 2009, 23, 689-710.	3.7	22
41	The Puzzle of the Flyby Anomaly. Space Science Reviews, 2009, 148, 169-174.	8.1	22
42	Wave-theoretical description of the solar gravitational lens. Physical Review D, 2017, 95, .	4.7	22
43	Diffraction of electromagnetic waves by an extended gravitational lens. Physical Review D, 2021, 103, .	4.7	22
44	LASER ASTROMETRIC TEST OF RELATIVITY: SCIENCE, TECHNOLOGY AND MISSION DESIGN. International Journal of Modern Physics D, 2007, 16, 2191-2203.	2.1	21
45	Andersonet al.Reply:. Physical Review Letters, 1999, 83, 1891-1891.	7.8	20
46	Thermal recoil force, telemetry, and the Pioneer anomaly. Physical Review D, 2009, 79, .	4.7	20
47	Image formation process with the solar gravitational lens. Physical Review D, 2020, 101, .	4.7	20
48	Andersonet al.Reply:. Physical Review Letters, 1999, 83, 1893-1893.	7.8	18
49	The Pioneer anomaly: seeking an explanation in newly recovered data. Canadian Journal of Physics, 2006, 84, 1063-1087.	1.1	18
50	GETEMMEâ€”a mission to explore the Martian satellites and the fundamentals of solar system physics. Experimental Astronomy, 2012, 34, 243-271.	3.7	17
51	Pioneer Anomaly: Evaluating Newly Recovered Data. AIP Conference Proceedings, 2008, , .	0.4	16
52	Image recovery with the solar gravitational lens. Physical Review D, 2021, 103, .	4.7	16
53	New concept for testing General Relativity: the Laser Astrometric Test Of Relativity (LATOR) mission. Astronomische Nachrichten, 2004, 325, 267-277.	1.2	15
54	New perturbative method for solving the gravitational N-body problem in the general theory of relativity. International Journal of Modern Physics D, 2015, 24, 1550039.	2.1	15

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55	Simulating social-ecological systems: the Island Digital Ecosystem Avatars (IDEA) consortium. GigaScience, 2016, 5, 14.	6.4	15
56	Optical properties of an extended gravitational lens. Physical Review D, 2021, 104, .	4.7	15
57	Williams, Turyshev, and Boggs Reply:. Physical Review Letters, 2007, 98, .	7.8	14
58	Lessons learned from the Pioneers 10/11 for a mission to test the Pioneer anomaly. Advances in Space Research, 2007, 39, 291-296.	2.6	14
59	Photometric imaging with the solar gravitational lens. Physical Review D, 2020, 101, .	4.7	14
60	General relativistic observables for the ACES experiment. Physical Review D, 2016, 93, .	4.7	13
61	Diffraction of light by plasma in the solar system. Journal of Optics (United Kingdom), 2019, 21, 045601.	2.2	13
62	Wave-optical treatment of the shadow cast by a large gravitating sphere. Physical Review D, 2018, 98, .	4.7	12
63	Accelerating relativistic reference frames in Minkowski space-time. Journal of Mathematical Physics, 2012, 53, 032501.	1.1	11
64	Wave-optical treatment of the shadow cast by a large sphere. Physical Review A, 2018, 97, .	2.5	11
65	Wave-optical study of the Einstein cross formed by a quadrupole gravitational lens. Physical Review D, 2021, 104, .	4.7	11
66	Accurate Ground-based Near-Earth-Asteroid Astrometry Using Synthetic Tracking. Astronomical Journal, 2018, 156, 65.	4.7	9
67	Optical properties of the solar gravitational lens in the presence of the solar corona. European Physical Journal Plus, 2019, 134, 1.	2.6	9
68	Imaging point sources with the gravitational lens of an extended sun. Physical Review D, 2021, 104, .	4.7	9
69	Potential Capabilities of Lunar Laser Ranging for Geodesy and Relativity. , 2007, , 903-909.		9
70	A constellation of SmallSats with synthetic tracking cameras to search for 90% of potentially hazardous near-Earth objects. Astronomy and Astrophysics, 2017, 603, A126.	5.1	8
71	Gravitational lensing by an extended mass distribution. Physical Review D, 2021, 104, .	4.7	8
72	A fast response mission to rendezvous with an interstellar object. Experimental Astronomy, 2022, 53, 945-960.	3.7	8

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73	Effect of wave-number error on the computation of path-length delay in white-light interferometry. Applied Optics, 2002, 41, 4884.	2.1	7
74	Analytical modeling of the white-light fringe. Applied Optics, 2003, 42, 71.	2.1	7
75	MEASURING THE INTERPLANETARY MEDIUM WITH A SOLAR SAIL. International Journal of Modern Physics D, 2004, 13, 899-906.	2.1	7
76	Survey of Capabilities and Applications of Accurate Clocks: Directions for Planetary Science. Space Science Reviews, 2017, 212, 1433-1451.	8.1	7
77	Navigating stellar wobbles for imaging with the solar gravitational lens. Physical Review D, 2022, 105, .	4.7	7
78	A new solution for dilaton-Maxwell gravity. General Relativity and Gravitation, 1995, 27, 981-987.	2.0	5
79	Multipole decomposition of gravitational lensing. Physical Review D, 2022, 105, .	4.7	5
80	Science with the Space Interferometry Mission. , 1998, , .		4
81	The Laser Astrometric Test of Relativity Mission. Nuclear Physics, Section B, Proceedings Supplements, 2004, 134, 171-178.	0.4	4
82	Pioneer anomaly put to the test. Physics World, 2004, 17, 21-22.	0.0	4
83	The Pioneer Anomaly: The Data, its Meaning, and a Future Test. AIP Conference Proceedings, 2005, , .	0.4	4
84	Science, Technology, and Mission Design for the Laser Astrometric Test of Relativity. Astrophysics and Space Science Library, 2008, , 473-543.	2.7	4
85	Recovering the mass distribution of an extended gravitational lens. Monthly Notices of the Royal Astronomical Society, 2022, 513, 5355-5376.	4.4	4
86	Black holes with regular horizons in Maxwell-scalar gravity. Canadian Journal of Physics, 1996, 74, 17-28.	1.1	3
87	Are the Singularities Stable?. General Relativity and Gravitation, 1997, 29, 417-433.	2.0	3
88	Finding the source of the pioneer anomaly. IEEE Spectrum, 2012, 49, 38-62.	0.7	3
89	Testing Fundamental Gravitation in Space. Nuclear Physics, Section B, Proceedings Supplements, 2013, 243-244, 197-202.	0.4	3
90	Putting gravity to work: Imaging of exoplanets with the solar gravitational lens. International Journal of Modern Physics D, 2019, 28, 1950125.	2.1	3

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91	Using optical communications links for deep-space navigation. , 2017, , .		2
92	Testing General Relativity in the Solar System: Present Status and Possible Future Developments. , 2010, , .		1
93	Nanoradian ground-based astrometry, optical navigation, and artificial reference stars. , 2016, , .		1
94	Relativity studies with high-precision astrometry. , 1998, 3350, 139.		0
95	Modeling the white light fringe. , 2003, , .		0
96	Mission design for the laser astrometric test of relativity. Advances in Space Research, 2007, 39, 297-304.	2.6	0
97	SPACE-BASED TESTS OF GRAVITY WITH LASER RANGING. , 2009, , 293-307.		0
98	SPACE-BASED RESEARCH IN FUNDAMENTAL PHYSICS AND QUANTUM TECHNOLOGIES. , 2009, , 3-49.		0
99	Tests of relativistic gravity from space. Proceedings of the International Astronomical Union, 2009, 5, 204-208.	0.0	0
100	Solar-system tests of relativistic gravity. , 2010, , .		0
101	Solar lens mission concept for interstellar exploration. , 2015, , .		0
102	The Pioneer Anomaly in the Light of New Data. Space Sciences Series of ISSI, 2009, , 149-167.	0.0	0
103	LASER ASTROMETRIC TEST OF RELATIVITY: SCIENCE, TECHNOLOGY AND MISSION DESIGN. , 2009, , 319-331.		0
104	Survey of Capabilities and Applications of Accurate Clocks: Directions for Planetary Science. Space Sciences Series of ISSI, 2017, , 163-181.	0.0	0
105	Science, technology and mission design for LATOR experiment. , 2017, , .		0
106	A constellation of MicroSats to search for NEOs. , 2018, , .		0