Ryan P Russell

List of Publications by Year
in descending order

90	1,797	257357	315616
papers	citations	24 h-index	38 g-index

93	93	93	718
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Primer Vector Theory Applied to Global Low-Thrust Trade Studies. Journal of Guidance, Control, and Dynamics, 2007, 30, 460-472.	1.6	130
2	Using Multicomplex Variables for Automatic Computation of High-Order Derivatives. ACM Transactions on Mathematical Software, 2012, 38, 1-21.	1.6	109
3	Endgame Problem Part 2: Multibody Technique and the Tisserand-Poincare Graph. Journal of Guidance, Control, and Dynamics, 2010, 33, 476-486.	1.6	81
4	Global search for planar and three-dimensional periodic orbits near Europa. Journal of the Astronautical Sciences, 2006, 54, 199-226.	0.8	79
5	A Hybrid Differential Dynamic Programming Algorithm for Constrained Optimal Control Problems. Part 1: Theory. Journal of Optimization Theory and Applications, 2012, 154, 382-417.	0.8	70
6	Spacecraft Uncertainty Propagation Using Gaussian Mixture Models and Polynomial Chaos Expansions. Journal of Guidance, Control, and Dynamics, 2016, 39, 2615-2626.	1.6	56
7	Endgame Problem Part 1: V-Infinity-Leveraging Technique and the Leveraging Graph. Journal of Guidance, Control, and Dynamics, 2010, 33, 463-475.	1.6	51
8	Classification of the Distant Stability Regions at Europa. Journal of Guidance, Control, and Dynamics, 2007, 30, 409-418.	1.6	50
9	A Hybrid Differential Dynamic Programming Algorithm for Constrained Optimal Control Problems. Part 2: Application. Journal of Optimization Theory and Applications, 2012, 154, 418-442.	0.8	43
10	Computation of a Science Orbit About Europa. Journal of Guidance, Control, and Dynamics, 2007, 30, 259-263.	1.6	40
11	Long-Lifetime Lunar Repeat Ground Track Orbits. Journal of Guidance, Control, and Dynamics, 2007, 30, 982-993.	1.6	40
12	Survey of Spacecraft Trajectory Design in Strongly Perturbed Environments. Journal of Guidance, Control, and Dynamics, 2012, 35, 705-720.	1.6	39
13	Flybys in the planar, circular, restricted, three-body problem. Celestial Mechanics and Dynamical Astronomy, 2012, 113, 343-368.	0.5	37
14	Optimization of low-energy resonant hopping transfers between planetary moons. Acta Astronautica, 2011, 68, 1361-1378.	1.7	34
15	Global Point Mascon Models for Simple, Accurate, and Parallel Geopotential Computation. Journal of Guidance, Control, and Dynamics, 2012, 35, 1568-1581.	1.6	32
16	Heliotropic orbits at oblate asteroids: balancing solar radiation pressure and J2 perturbations. Celestial Mechanics and Dynamical Astronomy, 2015, 121, 171-190.	0.5	31
17	Complete closed-form solutions of the Stark problem. Celestial Mechanics and Dynamical Astronomy, 2011, 109, 333-366.	0.5	30
18	On the design of an Enceladus science orbit. Acta Astronautica, 2009, 65, 27-39.	1.7	29

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19	Mission design through averaging of perturbed Keplerian systems: the paradigm of an Enceladus orbiter. Celestial Mechanics and Dynamical Astronomy, 2010, 108, 1-22.	0.5	28
20	Geometric Analysis of Free-Return Trajectories Following a Gravity-Assisted Flyby. Journal of Spacecraft and Rockets, 2005, 42, 138-152.	1.3	27
21	Cycler Trajectories in Planetary Moon Systems. Journal of Guidance, Control, and Dynamics, 2009, 32, 143-157.	1.6	27
22	Designing Ephemeris Capture Trajectories at Europa Using Unstable Periodic Orbits. Journal of Guidance, Control, and Dynamics, 2007, 30, 482-491.	1.6	26
23	Circulating Eccentric Orbits Around Planetary Moons. Journal of Guidance, Control, and Dynamics, 2009, 32, 424-436.	1.6	26
24	Peer-to-Peer Refueling Strategy Using Low-Thrust Propulsion. Journal of Spacecraft and Rockets, 2012, 49, 944-954.	1.3	26
25	Parallel Computation of Trajectories Using Graphics Processing Units and Interpolated Gravity Models. Journal of Guidance, Control, and Dynamics, 2015, 38, 1345-1355.	1.6	26
26	A Hybrid Differential Dynamic Programming Algorithm for Robust Low-Thrust Optimization. , 2008, , .		25
27	On the Computation and Accuracy of Trajectory State Transition Matrices. Journal of Guidance, Control, and Dynamics, 2016, 39, 2485-2499.	1.6	25
28	Space Object Collision Probability Using Multidirectional Gaussian Mixture Models. Journal of Guidance, Control, and Dynamics, 2016, 39, 2163-2169.	1.6	25
29	Systematic Method for Constructing Earth-Mars Cyclers Using Free-Return Trajectories. Journal of Guidance, Control, and Dynamics, 2004, 27, 321-335.	1.6	24
30	Tisserand-Leveraging Transfers. Journal of Guidance, Control, and Dynamics, 2014, 37, 1202-1210.	1.6	24
31	Partial Derivatives of the Solution to the Lambert Boundary Value Problem. Journal of Guidance, Control, and Dynamics, 2015, 38, 1563-1572.	1.6	23
32	A fast tour design method using non-tangent v-infinity leveraging transfer. Celestial Mechanics and Dynamical Astronomy, 2010, 108, 165-186.	0.5	22
33	A database of planar axisymmetric periodic orbits for the Solar system. Celestial Mechanics and Dynamical Astronomy, 2018, 130, 1.	0.5	22
34	Near Ballistic Halo-to-Halo Transfers between Planetary Moons. Journal of the Astronautical Sciences, 2011, 58, 335-363.	0.8	21
35	Fast design of repeat ground track orbits in high-fidelity geopotentials. Journal of the Astronautical Sciences, 2008, 56, 311-324.	0.8	20
36	Heliotropic Orbits with Zonal Gravity and Shadow Perturbations: Application at Bennu. Journal of Guidance, Control, and Dynamics, 2016, 39, 1925-1933.	1.6	20

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37	Global Search for Idealized Free-Return Earth-Mars Cyclers. Journal of Guidance, Control, and Dynamics, 2005, 28, 194-208.	1.6	18
38	Fast estimation of stable regions in real models. Meccanica, 2007, 42, 511-515.	1.2	17
39	On the solution to every Lambert problem. Celestial Mechanics and Dynamical Astronomy, 2019, 131, 1.	0.5	17
40	Optimization of a Broad Class of Ephemeris Model Earth-Mars Cyclers. Journal of Guidance, Control, and Dynamics, 2006, 29, 354-367.	1.6	16
41	Space Object Collision Probability via Monte Carlo on the Graphics Processing Unit. Journal of the Astronautical Sciences, 2017, 64, 285-309.	0.8	15
42	Low-Thrust Transfers Using Primer Vector Theory and a Second-Order Penalty Method. , 2008, , .		14
43	F and G Taylor series solutions to the Stark and Kepler problems with Sundman transformations. Celestial Mechanics and Dynamical Astronomy, 2014, 118, 355-378.	0.5	13
44	A fast, accurate, and smooth planetary ephemeris retrieval system. Celestial Mechanics and Dynamical Astronomy, 2010, 108, 107-124.	0.5	12
45	Comparison of Statistical Estimation Techniques for Mars Entry, Descent, and Landing Reconstruction. Journal of Spacecraft and Rockets, 2013, 50, 1207-1221.	1.3	12
46	Optimization of Impulsive Europa Capture Trajectories using Primer Vector Theory. Journal of the Astronautical Sciences, 2020, 67, 485-510.	0.8	12
47	Efficient Interpolation of High-Fidelity Geopotentials. Journal of Guidance, Control, and Dynamics, 2016, 39, 128-143.	1.6	11
48	Halo orbit to science orbit captures at planetary moons. Acta Astronautica, 2017, 134, 141-151.	1.7	11
49	A satellite relative motion model including $$J_2$$ and $$J_3$$ via Vintiâ€™s intermediary. Celestial Mechanics and Dynamical Astronomy, 2018, 130, 1.	0.5	11
50	A multiple-shooting differential dynamic programming algorithm. Part 1: Theory. Acta Astronautica, 2020, 170, 686-700.	1.7	11
51	Efficient Analytical Derivatives of Rigid-Body Dynamics Using Spatial Vector Algebra. IEEE Robotics and Automation Letters, 2022, 7, 1776-1783.	3.3	11
52	V-Infinity Leveraging Boundary-Value Problem and Application in Spacecraft Trajectory Design. Journal of Spacecraft and Rockets, 2015, 52, 697-710.	1.3	10
53	Parallel Implicit Runge-Kutta Methods Applied to Coupled Orbit/Attitude Propagation. Journal of the Astronautical Sciences, 2017, 64, 333-360.	0.8	10
54	Survey of Mars Ballistic Capture Trajectories Using Periodic Orbits as Generating Mechanisms. Journal of Guidance, Control, and Dynamics, 2018, 41, 1227-1242.	1.6	10

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55	A study on simultaneous design of a Hall Effect Thruster and its low-thrust trajectory. Acta Astronautica, 2016, 119, 34-47.	1.7	9
56	Mixed-model gravity representations for small celestial bodies using mascons and spherical harmonics. Celestial Mechanics and Dynamical Astronomy, 2019, 131, 1.	0.5	9
57	Toward a Standard Nomenclature for Earth-Mars Cycler Trajectories. Journal of Spacecraft and Rockets, 2005, 42, 694-698.	1.3	8
58	A Continuation Method for Converting Trajectories from Patched Conics to Full Gravity Models. Journal of the Astronautical Sciences, 2014, 61, 227-254.	0.8	8
59	Spin State Estimation of Tumbling Small Bodies. Journal of the Astronautical Sciences, 2016, 63, 124-157.	0.8	8
60	Shadow Trajectory Model for Fast Low-Thrust Indirect Optimization. Journal of Spacecraft and Rockets, 2017, 54, 44-54.	1.3	8
61	Complete Lambert Solver Including Second-Order Sensitivities. Journal of Guidance, Control, and Dynamics, 2022, 45, 196-212.	1.6	8
62	Equinoctial elements for Vinti theory: Generalizations to an oblate spheroidal geometry. Acta Astronautica, 2018, 153, 274-288.	1.7	7
63	Analytical Solution to the Vinti Problem in Oblate Spheroidal Equinoctial Orbital Elements. Journal of the Astronautical Sciences, 2020, 67, 1-27.	0.8	7
64	Quasi-Newton Differential Dynamic Programming for Robust Low-Thrust Optimization. , 2012, , .		6
65	Jovian Orbit Capture and Eccentricity Reduction Using Electrodynamic Tether Propulsion. Journal of Spacecraft and Rockets, 2015, 52, 506-516.	1.3	6
66	A smooth and robust Harris-Priester atmospheric density model for low Earth orbit applications. Advances in Space Research, 2017, 59, 571-586.	1.2	6
67	Periodic Orbits and Equilibria Near Jovian Moons Using an Electrodynamic Tether. Journal of Guidance, Control, and Dynamics, 2015, 38, 15-29.	1.6	5
68	Unconstrained Direct Optimization of Spacecraft Trajectories Using Many Embedded Lambert Problems. Journal of Optimization Theory and Applications, 2021, 191, 634-674.	0.8	5
69	Precomputing Process Noise Covariance for Onboard Sequential Filters. Journal of Guidance, Control, and Dynamics, 2017, 40, 2062-2075.	1.6	4
70	Decoupled Direct State Transition Matrix Calculation with Runge-Kutta Methods. Journal of the Astronautical Sciences, 2018, 65, 321-354.	0.8	4
71	A multiple-shooting differential dynamic programming algorithm. Part 2: Applications. Acta Astronautica, 2020, 173, 460-472.	1.7	4
72	Piecewise Sundman Transformation for Spacecraft Trajectory Optimization Using Many Embedded Lambert Problems. Journal of Spacecraft and Rockets, 2022, 59, 1044-1061.	1.3	4

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73	A Unified Framework for Robust Optimization of Interplanetary Trajectories. , 2010, , .		3
74	Optimal Control of Relative Motion in Arbitrary Fields: Application at Deimos. Journal of the Astronautical Sciences, 2012, 59, 193-215.	0.8	3
75	Comparison of three Stark problem solution techniques for the bounded case. Celestial Mechanics and Dynamical Astronomy, 2015, 121, 39-60.	0.5	3
76	Semianalytical Technique for Six-Degree-of-Freedom Space Object Propagation. Journal of Guidance, Control, and Dynamics, 2019, 42, 217-228.	1.6	3
77	Circulating, eccentric periodic orbits at the Moon. Celestial Mechanics and Dynamical Astronomy, 2021, 133, 1.	0.5	3
78	On the Design of an Enceladus Science Orbit. , 2008, , .		2
79	Automated Inclusion of n-pi Transfers in Gravity-Assist Flyby Tour Design. , 2012, , .		2
80	Periodic Orbits in the Elliptical Relative Motion Problem with Space Surveillance Applications. Journal of Guidance, Control, and Dynamics, 2015, 38, 1452-1467.	1.6	2
81	The eccentric case of a fast-rotating, gravity-gradient-perturbed satellite attitude solution. Celestial Mechanics and Dynamical Astronomy, 2018, 130, 1.	0.5	2
82	Point Mascon Global Lunar Gravity Models. Journal of Guidance, Control, and Dynamics, 2022, 45, 815-829.	1.6	2
83	FIRE: A Fast, Accurate, and Smooth Planetary Body Ephemeris Interpolation System. , 2008, , .		1
84	Partial Derivatives of the Lambert Problem. , 2014, , .		1
85	Small-Body Optical Navigation Using the Additive Divided Difference Sigma Point Filter. Journal of Guidance, Control, and Dynamics, 2016, 39, 922-928.	1.6	1
86	Magnetour: Surfing planetary systems on electromagnetic and multi-body gravity fields. Acta Astronautica, 2017, 138, 543-558.	1.7	1
87	Circulating, Eccentric Periodic Orbits at the Moon. , 2020, , .		1
88	Utilization of Residual Helium to Extend Satellite Lifetimes and Mitigate Space Debris. Journal of Propulsion and Power, 2012, 28, 1406-1412.	1.3	0
89	Tumbling Small Body Spin State Estimation Using Independently Simulated Images. Journal of the Astronautical Sciences, 2022, 69, 51-76.	0.8	0
90	Global Trajectory Optimization, pathfinding, and scheduling for a multi-flyby, multi-spacecraft mission. Acta Astronautica, 2022, , .	1.7	0