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	Complete Lambert Solver Including Second-Order Sensitivities. Journal of Guidance, Control, and Dynamics, 2022, 45, 196-212.	1.6	8
2	Point Mascon Global Lunar Gravity Models. Journal of Guidance, Control, and Dynamics, 2022, 45, 815-829.	1.6	2
3	Efficient Analytical Derivatives of Rigid-Body Dynamics Using Spatial Vector Algebra. IEEE Robotics and Automation Letters, 2022, 7, 1776-1783.	3.3	11
4	Tumbling Small Body Spin State Estimation Using Independently Simulated Images. Journal of the Astronautical Sciences, 2022, 69, 51-76.	0.8	0
5	Piecewise Sundman Transformation for Spacecraft Trajectory Optimization Using Many Embedded Lambert Problems. Journal of Spacecraft and Rockets, 2022, 59, 1044-1061.	1.3	4
6	Global Trajectory Optimization, pathfinding, and scheduling for a multi-flyby, multi-spacecraft mission. Acta Astronautica, 2022, , .	1.7	0
7	Circulating, eccentric periodic orbits at the Moon. Celestial Mechanics and Dynamical Astronomy, 2021, 133, 1.	0.5	3
8	Unconstrained Direct Optimization of Spacecraft Trajectories Using Many Embedded Lambert Problems. Journal of Optimization Theory and Applications, 2021, 191, 634-674.	0.8	5
9	Optimization of Impulsive Europa Capture Trajectories using Primer Vector Theory. Journal of the Astronautical Sciences, 2020, 67, 485-510.	0.8	12
10	Analytical Solution to the Vinti Problem in Oblate Spheroidal Equinoctial Orbital Elements. Journal of the Astronautical Sciences, 2020, 67, 1-27.	0.8	7
11	Circulating, Eccentric Periodic Orbits at the Moon. , 2020, , .		1
12	A multiple-shooting differential dynamic programming algorithm. Part 1: Theory. Acta Astronautica, 2020, 170, 686-700.	1.7	11
13	A multiple-shooting differential dynamic programming algorithm. Part 2: Applications. Acta Astronautica, 2020, 173, 460-472.	1.7	4
14	On the solution to every Lambert problem. Celestial Mechanics and Dynamical Astronomy, 2019, 131, 1.	0.5	17
15	Mixed-model gravity representations for small celestial bodies using mascons and spherical harmonics. Celestial Mechanics and Dynamical Astronomy, 2019, 131, 1.	0.5	9
16	Semianalytical Technique for Six-Degree-of-Freedom Space Object Propagation. Journal of Guidance, Control, and Dynamics, 2019, 42, 217-228.	1.6	3
17	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
18	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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19	Equinoctial elements for Vinti theory: Generalizations to an oblate spheroidal geometry. Acta Astronautica, 2018, 153, 274-288.	1.7	7
20	Decoupled Direct State Transition Matrix Calculation with Runge-Kutta Methods. Journal of the Astronautical Sciences, 2018, 65, 321-354.	0.8	4
21	The eccentric case of a fast-rotating, gravity-gradient-perturbed satellite attitude solution. Celestial Mechanics and Dynamical Astronomy, 2018, 130, 1.	0.5	2
22	A database of planar axisymmetric periodic orbits for the Solar system. Celestial Mechanics and Dynamical Astronomy, 2018, 130, 1.	0.5	22
23	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
24	Shadow Trajectory Model for Fast Low-Thrust Indirect Optimization. Journal of Spacecraft and Rockets, 2017, 54, 44-54.	1.3	8
25	Halo orbit to science orbit captures at planetary moons. Acta Astronautica, 2017, 134, 141-151.	1.7	11
26	Precomputing Process Noise Covariance for Onboard Sequential Filters. Journal of Guidance, Control, and Dynamics, 2017, 40, 2062-2075.	1.6	4
27	Space Object Collision Probability via Monte Carlo on the Graphics Processing Unit. Journal of the Astronautical Sciences, 2017, 64, 285-309.	0.8	15
28	Parallel Implicit Runge-Kutta Methods Applied to Coupled Orbit/Attitude Propagation. Journal of the Astronautical Sciences, 2017, 64, 333-360.	0.8	10
29	Magnetour: Surfing planetary systems on electromagnetic and multi-body gravity fields. Acta Astronautica, 2017, 138, 543-558.	1.7	1
30	On the Computation and Accuracy of Trajectory State Transition Matrices. Journal of Guidance, Control, and Dynamics, 2016, 39, 2485-2499.	1.6	25
31	Space Object Collision Probability Using Multidirectional Gaussian Mixture Models. Journal of Guidance, Control, and Dynamics, 2016, 39, 2163-2169.	1.6	25
32	Spacecraft Uncertainty Propagation Using Gaussian Mixture Models and Polynomial Chaos Expansions. Journal of Guidance, Control, and Dynamics, 2016, 39, 2615-2626.	1.6	56
33	Heliotropic Orbits with Zonal Gravity and Shadow Perturbations: Application at Bennu. Journal of Guidance, Control, and Dynamics, 2016, 39, 1925-1933.	1.6	20
34	Efficient Interpolation of High-Fidelity Geopotentials. Journal of Guidance, Control, and Dynamics, 2016, 39, 128-143.	1.6	11
35	Spin State Estimation of Tumbling Small Bodies. Journal of the Astronautical Sciences, 2016, 63, 124-157.	0.8	8
36	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

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37	A study on simultaneous design of a Hall Effect Thruster and its low-thrust trajectory. Acta Astronautica, 2016, 119, 34-47.	1.7	9
38	V-Infinity Leveraging Boundary-Value Problem and Application in Spacecraft Trajectory Design. Journal of Spacecraft and Rockets, 2015, 52, 697-710.	1.3	10
39	Jovian Orbit Capture and Eccentricity Reduction Using Electrodynamic Tether Propulsion. Journal of Spacecraft and Rockets, 2015, 52, 506-516.	1.3	6
40	Periodic Orbits and Equilibria Near Jovian Moons Using an Electrodynamic Tether. Journal of Guidance, Control, and Dynamics, 2015, 38, 15-29.	1.6	5
41	Heliotropic orbits at oblate asteroids: balancing solar radiation pressure and J2 perturbations. Celestial Mechanics and Dynamical Astronomy, 2015, 121, 171-190.	0.5	31
42	Comparison of three Stark problem solution techniques for the bounded case. Celestial Mechanics and Dynamical Astronomy, 2015, 121, 39-60.	0.5	3
43	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
44	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
45	Partial Derivatives of the Solution to the Lambert Boundary Value Problem. Journal of Guidance, Control, and Dynamics, 2015, 38, 1563-1572.	1.6	23
46	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
47	Tisserand-Leveraging Transfers. Journal of Guidance, Control, and Dynamics, 2014, 37, 1202-1210.	1.6	24
48	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
49	Partial Derivatives of the Lambert Problem. , 2014, , .		1
50	Comparison of Statistical Estimation Techniques for Mars Entry, Descent, and Landing Reconstruction. Journal of Spacecraft and Rockets, 2013, 50, 1207-1221.	1.3	12
51	Using Multicomplex Variables for Automatic Computation of High-Order Derivatives. ACM Transactions on Mathematical Software, 2012, 38, 1-21.	1.6	109
52	Peer-to-Peer Refueling Strategy Using Low-Thrust Propulsion. Journal of Spacecraft and Rockets, 2012, 49, 944-954.	1.3	26
53	Global Point Mascon Models for Simple, Accurate, and Parallel Geopotential Computation. Journal of Guidance, Control, and Dynamics, 2012, 35, 1568-1581.	1.6	32
54	Utilization of Residual Helium to Extend Satellite Lifetimes and Mitigate Space Debris. Journal of Propulsion and Power, 2012, 28, 1406-1412.	1.3	0

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55	Quasi-Newton Differential Dynamic Programming for Robust Low-Thrust Optimization. , 2012, , .		6
56	Survey of Spacecraft Trajectory Design in Strongly Perturbed Environments. Journal of Guidance, Control, and Dynamics, 2012, 35, 705-720.	1.6	39
57	Flybys in the planar, circular, restricted, three-body problem. Celestial Mechanics and Dynamical Astronomy, 2012, 113, 343-368.	0.5	37
58	Optimal Control of Relative Motion in Arbitrary Fields: Application at Deimos. Journal of the Astronautical Sciences, 2012, 59, 193-215.	0.8	3
59	Automated Inclusion of n-pi Transfers in Gravity-Assist Flyby Tour Design. , 2012, , .		2
60	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
61	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
62	Near Ballistic Halo-to-Halo Transfers between Planetary Moons. Journal of the Astronautical Sciences, 2011, 58, 335-363.	0.8	21
63	Complete closed-form solutions of the Stark problem. Celestial Mechanics and Dynamical Astronomy, 2011, 109, 333-366.	0.5	30
64	Optimization of low-energy resonant hopping transfers between planetary moons. Acta Astronautica, 2011, 68, 1361-1378.	1.7	34
65	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
66	A fast tour design method using non-tangent v-infinity leveraging transfer. Celestial Mechanics and Dynamical Astronomy, 2010, 108, 165-186.	0.5	22
67	A fast, accurate, and smooth planetary ephemeris retrieval system. Celestial Mechanics and Dynamical Astronomy, 2010, 108, 107-124.	0.5	12
68	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
69	Endgame Problem Part 2: Multibody Technique and the Tisserand-Poincare Graph. Journal of Guidance, Control, and Dynamics, 2010, 33, 476-486.	1.6	81
70	A Unified Framework for Robust Optimization of Interplanetary Trajectories. , 2010, , .		3
71	Circulating Eccentric Orbits Around Planetary Moons. Journal of Guidance, Control, and Dynamics, 2009, 32, 424-436.	1.6	26
72	Cycler Trajectories in Planetary Moon Systems. Journal of Guidance, Control, and Dynamics, 2009, 32, 143-157.	1.6	27

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73	On the design of an Enceladus science orbit. Acta Astronautica, 2009, 65, 27-39.	1.7	29
74	FIRE: A Fast, Accurate, and Smooth Planetary Body Ephemeris Interpolation System. , 2008, , .		1
75	A Hybrid Differential Dynamic Programming Algorithm for Robust Low-Thrust Optimization. , 2008, , .		25
76	Low-Thrust Transfers Using Primer Vector Theory and a Second-Order Penalty Method. , 2008, , .		14
77	On the Design of an Enceladus Science Orbit. , 2008, , .		2
78	Fast design of repeat ground track orbits in high-fidelity geopotentials. Journal of the Astronautical Sciences, 2008, 56, 311-324.	0.8	20
79	Designing Ephemeris Capture Trajectories at Europa Using Unstable Periodic Orbits. Journal of Guidance, Control, and Dynamics, 2007, 30, 482-491.	1.6	26
80	Primer Vector Theory Applied to Global Low-Thrust Trade Studies. Journal of Guidance, Control, and Dynamics, 2007, 30, 460-472.	1.6	130
81	Classification of the Distant Stability Regions at Europa. Journal of Guidance, Control, and Dynamics, 2007, 30, 409-418.	1.6	50
82	Computation of a Science Orbit About Europa. Journal of Guidance, Control, and Dynamics, 2007, 30, 259-263.	1.6	40
83	Long-Lifetime Lunar Repeat Ground Track Orbits. Journal of Guidance, Control, and Dynamics, 2007, 30, 982-993.	1.6	40
84	Fast estimation of stable regions in real models. Meccanica, 2007, 42, 511-515.	1.2	17
85	Global search for planar and three-dimensional periodic orbits near Europa. Journal of the Astronautical Sciences, 2006, 54, 199-226.	0.8	79
86	Optimization of a Broad Class of Ephemeris Model Earth-Mars Cyclers. Journal of Guidance, Control, and Dynamics, 2006, 29, 354-367.	1.6	16
87	Toward a Standard Nomenclature for Earth-Mars Cycler Trajectories. Journal of Spacecraft and Rockets, 2005, 42, 694-698.	1.3	8
88	Global Search for Idealized Free-Return Earth-Mars Cyclers. Journal of Guidance, Control, and Dynamics, 2005, 28, 194-208.	1.6	18
89	Geometric Analysis of Free-Return Trajectories Following a Gravity-Assisted Flyby. Journal of Spacecraft and Rockets, 2005, 42, 138-152.	1.3	27
90	Systematic Method for Constructing Earth-Mars Cyclers Using Free-Return Trajectories. Journal of Guidance, Control, and Dynamics, 2004, 27, 321-335.	1.6	24