

# Daniele Mortari

## List of Publications by Year in descending order

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125  
papers

2,990  
citations

186265

28  
h-index

197818

49  
g-index

126  
all docs

126  
docs citations

126  
times ranked

1094  
citing authors

#	ARTICLE	IF	CITATIONS
1	Theory of functional connections applied to quadratic and nonlinear programming under equality constraints. <i>Journal of Computational and Applied Mathematics</i> , 2022, 406, 113912.	2.0	13
2	Time-energy optimal landing on planetary bodies via theory of functional connections. <i>Advances in Space Research</i> , 2022, 69, 4198-4220.	2.6	4
3	Fast 2-impulse non-Keplerian orbit transfer using the Theory of Functional Connections. <i>European Physical Journal Plus</i> , 2021, 136, 1.	2.6	8
4	Energy-optimal trajectory problems in relative motion solved via Theory of Functional Connections. <i>Acta Astronautica</i> , 2021, 182, 361-382.	3.2	20
5	A Functional Interpolation Approach to Compute Periodic Orbits in the Circular-Restricted Three-Body Problem. <i>Mathematics</i> , 2021, 9, 1210.	2.2	8
6	Recursive Star-Identification Algorithm Using an Adaptive Singular-Value-Decomposition-Based Angular-Velocity Estimator. <i>Journal of Spacecraft and Rockets</i> , 2021, 58, 1138-1148.	1.9	1
7	Physics-Informed Neural Networks and Functional Interpolation for Data-Driven Parameters Discovery of Epidemiological Compartmental Models. <i>Mathematics</i> , 2021, 9, 2069.	2.2	23
8	Theory of Functional Connections Applied to Linear ODEs Subject to Integral Constraints and Linear Ordinary Integro-Differential Equations. <i>Mathematical and Computational Applications</i> , 2021, 26, 65.	1.3	5
9	Least-squares solutions of boundary-value problems in hybrid systems. <i>Journal of Computational and Applied Mathematics</i> , 2021, 393, 113524.	2.0	11
10	Extreme theory of functional connections: A fast physics-informed neural network method for solving ordinary and partial differential equations. <i>Neurocomputing</i> , 2021, 457, 334-356.	5.9	81
11	Analysis of Timoshenko's Ehrenfest beam problems using the Theory of Functional Connections. <i>Engineering Analysis With Boundary Elements</i> , 2021, 132, 271-280.	3.7	11
12	Univariate Theory of Functional Connections Applied to Component Constraints. <i>Mathematical and Computational Applications</i> , 2021, 26, 9.	1.3	3
13	High Accurate Mathematical Tools to Estimate the Gravity Direction Using Two Non-Orthogonal Inclinometers. <i>Sensors</i> , 2021, 21, .	3.8	0
14	High Accurate Mathematical Tools to Estimate the Gravity Direction Using Two Non-Orthogonal Inclinometers. <i>Sensors</i> , 2021, 21, 5727.	3.8	1
15	Least-squares solution of a class of optimal space guidance problems via Theory of Connections. <i>Acta Astronautica</i> , 2020, 168, 92-103.	3.2	25
16	The n-dimensional k-vector and its application to orthogonal range searching. <i>Applied Mathematics and Computation</i> , 2020, 372, 125010.	2.2	5
17	QuateRA: The Quaternion Regression Algorithm. <i>Journal of Guidance, Control, and Dynamics</i> , 2020, 43, 1600-1616.	2.8	5
18	The Multivariate Theory of Functional Connections: Theory, Proofs, and Application in Partial Differential Equations. <i>Mathematics</i> , 2020, 8, 1303.	2.2	29

#	ARTICLE	IF	CITATIONS
19	Bijjective Mapping Analysis to Extend the Theory of Functional Connections to Non-Rectangular 2-Dimensional Domains. <i>Mathematics</i> , 2020, 8, 1593.	2.2	7
20	Fuel-Efficient Powered Descent Guidance on Large Planetary Bodies via Theory of Functional Connections. <i>Journal of the Astronautical Sciences</i> , 2020, 67, 1521-1552.	1.5	26
21	Non-Dimensional Star-Identification. <i>Sensors</i> , 2020, 20, 2697.	3.8	5
22	Deep Theory of Functional Connections: A New Method for Estimating the Solutions of Partial Differential Equations. <i>Machine Learning and Knowledge Extraction</i> , 2020, 2, 37-55.	5.0	46
23	Impulsive orbit correction using second-order Gauss's variational equations. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2020, 132, 1.	1.4	2
24	Least-Squares Solutions of Eighth-Order Boundary Value Problems Using the Theory of Functional Connections. <i>Mathematics</i> , 2020, 8, 397.	2.2	9
25	Selected Applications of the Theory of Connections: A Technique for Analytical Constraint Embedding. <i>Mathematics</i> , 2019, 7, 537.	2.2	10
26	The Multivariate Theory of Connections. <i>Mathematics</i> , 2019, 7, 296.	2.2	29
27	Random Sampling Using $\ell_1$ -Vector. <i>Computing in Science and Engineering</i> , 2019, 21, 94-107.	1.2	3
28	Analytically Embedding Differential Equation Constraints into Least Squares Support Vector Machines Using the Theory of Functional Connections. <i>Machine Learning and Knowledge Extraction</i> , 2019, 1, 1058-1083.	5.0	18
29	Theoretical Limits of Star Sensor Accuracy. <i>Sensors</i> , 2019, 19, 5355.	3.8	22
30	Derivation of All Attitude Error Governing Equations for Attitude Filtering and Control. <i>Sensors</i> , 2019, 19, 4682.	3.8	11
31	High accuracy least-squares solutions of nonlinear differential equations. <i>Journal of Computational and Applied Mathematics</i> , 2019, 352, 293-307.	2.0	49
32	Virtual Reality As a Testbed for Star Tracker Algorithms. , 2019, , .		1
33	Second-Order Integral-Form Gauss's Variational Equations Under Impulsive Control. <i>Journal of Guidance, Control, and Dynamics</i> , 2019, 42, 284-302.	2.8	9
34	Covariance analysis of Lambert's problem via Lagrange's transfer-time formulation. <i>Aerospace Science and Technology</i> , 2018, 77, 765-773.	4.8	18
35	The n-dimensional k-vector with Applications. , 2018, , .		0
36	Least-Squares Solutions of Nonlinear Differential Equations. , 2018, , .		2

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37	Nonlinear function inversion using $k$ -vector. <i>Applied Mathematics and Computation</i> , 2018, 320, 754-768.	2.2	5
38	Design of Constellations for Earth Observation with Intersatellite Links. <i>Journal of Guidance, Control, and Dynamics</i> , 2017, 40, 1263-1271.	2.8	9
39	Fast and robust kernel generators for star trackers. <i>Acta Astronautica</i> , 2017, 134, 291-302.	3.2	9
40	Quasi-equal area subdivision algorithm for uniform points on a sphere with application to any geographical data distribution. <i>Computers and Geosciences</i> , 2017, 103, 142-151.	4.2	6
41	3-Dimensional Necklace Flower Constellations. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2017, 129, 433-448.	1.4	15
42	Single-point position estimation in interplanetary trajectories using star trackers. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2017, 128, 115-130.	1.4	9
43	Least-Squares Solution of Linear Differential Equations. <i>Mathematics</i> , 2017, 5, 48.	2.2	48
44	The Theory of Connections: Connecting Points. <i>Mathematics</i> , 2017, 5, 57.	2.2	60
45	Satellite constellation design for telecommunication in Antarctica. <i>International Journal of Satellite Communications and Networking</i> , 2016, 34, 725-737.	1.8	11
46	Image Processing of Illuminated Ellipsoid. <i>Journal of Spacecraft and Rockets</i> , 2016, 53, 448-456.	1.9	38
47	BÄzier Description of Space Trajectories. <i>Journal of Guidance, Control, and Dynamics</i> , 2016, 39, 2535-2539.	2.8	4
48	Analytical approximate solutions to ground track adjustment for responsive space. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2016, 52, 1366-1383.	4.7	21
49	Cohesive Autonomous Navigation System. , 2016, , .		1
50	Position Estimation Using the Image Derivative. <i>Aerospace</i> , 2015, 2, 435-460.	2.2	31
51	Eastâ€West GEO Satellite Station-Keeping with Degraded Thruster Response. <i>Aerospace</i> , 2015, 2, 581-601.	2.2	6
52	Analytical Study of Periodic Solutions on Perturbed Equatorial Two-Body Problem. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2015, 25, 1540040.	1.7	37
53	Interplanetary Autonomous Navigation Using Visible Planets. <i>Journal of Guidance, Control, and Dynamics</i> , 2015, 38, 1151-1156.	2.8	22
54	Solving Keplerâ€™s equation using implicit functions. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2014, 118, 1-11.	1.4	12

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55	Seeking GDOP-optimal Flower Constellations for global coverage problems through evolutionary algorithms. <i>Aerospace Science and Technology</i> , 2014, 39, 331-337.	4.8	22
56	Design of flower constellations using necklaces. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2014, 50, 1347-1358.	4.7	13
57	Attitude Error Kinematics. <i>Journal of Guidance, Control, and Dynamics</i> , 2014, 37, 330-336.	2.8	23
58	J2-Propelled Orbits and Constellations. <i>Journal of Guidance, Control, and Dynamics</i> , 2014, 37, 1701-1706.	2.8	9
59	The 3-D lattice theory of Flower Constellations. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2013, 116, 339-356.	1.4	37
60	The 2-D lattice theory of Flower Constellations. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2013, 116, 325-337.	1.4	44
61	Removing Space Debris Through Sequential Captures and Ejections. <i>Journal of Guidance, Control, and Dynamics</i> , 2013, 36, 743-752.	2.8	16
62	Path optimization for Space Sweeper with Sling-Sat: A method of active space debris removal. <i>Advances in Space Research</i> , 2013, 52, 1339-1348.	2.6	20
63	A k-Vector Approach to Sampling, Interpolation, and Approximation. <i>Journal of the Astronautical Sciences</i> , 2013, 60, 686-706.	1.5	8
64	A Survey of Attitude Error Representations. , 2012, , .		7
65	Analytical Study of Tangent Orbit and Conditions for Its Solution Existence. <i>Journal of Guidance, Control, and Dynamics</i> , 2012, 35, 186-194.	2.8	26
66	J2-Propelled Orbits and Constellations. , 2012, , .		2
67	Optimizing Flower Constellations for Global Coverage. , 2012, , .		5
68	An approximate analytical method for short-range impulsive orbit rendezvous using relative Lambert solutions. <i>Acta Astronautica</i> , 2012, 81, 318-324.	3.2	15
69	Flower Constellations for future space missions. , 2012, , .		1
70	New Insights on Flower Constellations Theory. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2012, 48, 1018-1030.	4.7	16
71	Information Theoretic Weighting for Robust Star Centroiding. <i>Journal of the Astronautical Sciences</i> , 2011, 58, 241-259.	1.5	5
72	The K-Vector ND and its Application to Building a Non-Dimensional Star Identification Catalog. <i>Journal of the Astronautical Sciences</i> , 2011, 58, 261-274.	1.5	5

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73	Design of Flower Constellations for Telecommunication Services. Proceedings of the IEEE, 2011, 99, 2008-2019.	21.3	34
74	Initial orbit determination using multiple observations. Celestial Mechanics and Dynamical Astronomy, 2011, 109, 167-180.	1.4	24
75	Optimal two-impulse rendezvous using constrained multiple-revolution Lambert solutions. Celestial Mechanics and Dynamical Astronomy, 2011, 110, 305-317.	1.4	35
76	Rock-Around Orbits. Journal of Guidance, Control, and Dynamics, 2011, 34, 810-819.	2.8	2
77	Sequential Design of Satellite Formations with Invariant Distances. Journal of Spacecraft and Rockets, 2011, 48, 1025-1032.	1.9	5
78	A closed-form solution to the minimum $\Delta V_{tot}^2$ Lambert's problem. Celestial Mechanics and Dynamical Astronomy, 2010, 106, 25-37.	1.4	13
79	Sequential solution to Kepler's equation. Celestial Mechanics and Dynamical Astronomy, 2010, 108, 59-72.	1.4	8
80	An analytical approach to star identification reliability. Acta Astronautica, 2010, 66, 508-515.	3.2	23
81	Orthonormality and Spectral Analysis for Robotics and Astrodynamics. Solid State Phenomena, 2010, 164, 392-404.	0.3	0
82	Stellar Positioning System (Part I): An Autonomous Position Determination Solution. Navigation, Journal of the Institute of Navigation, 2010, 57, 1-12.	2.8	9
83	Stellar Positioning System (Part II): Improving Accuracy During Implementation. Navigation, Journal of the Institute of Navigation, 2010, 57, 13-24.	2.8	4
84	Constrained Multiple-Revolution Lambert's Problem. Journal of Guidance, Control, and Dynamics, 2010, 33, 1779-1786.	2.8	44
85	High-Repetition Millimeter-Wave Passive Remote Sensing of Humidity and Hydrometeor Profiles from Elliptical Orbit Constellations. Journal of Applied Meteorology and Climatology, 2010, 49, 1454-1476.	1.5	4
86	Space system architectures for Interplanetary Internet. , 2010, , .		17
87	Norm-Constrained Kalman Filtering. Journal of Guidance, Control, and Dynamics, 2009, 32, 1458-1465.	2.8	98
88	Flower Constellation of Millimeter-Wave Radiometers for Tropospheric Monitoring at Pseudogeostationary Scale. IEEE Transactions on Geoscience and Remote Sensing, 2009, 47, 3107-3122.	6.3	22
89	Multiplicative Measurement Model. Journal of the Astronautical Sciences, 2009, 57, 47-60.	1.5	14
90	A Survey on Star Identification Algorithms. Algorithms, 2009, 2, 93-107.	2.1	140

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91	Stellar Positioning System Part II: Overcoming Error During Implementation. , 2008, , .		3
92	Compass star tracker for GPS-like applications. IEEE Transactions on Aerospace and Electronic Systems, 2008, 44, 1629-1634.	4.7	8
93	Stellar Positioning System Part I: Applying Ancient Theory to a Modern World. , 2008, , .		3
94	An Analytical Approach to Star Identification Reliability. , 2008, , .		0
95	Flower constellation set theory. Part I: Compatibility and phasing. IEEE Transactions on Aerospace and Electronic Systems, 2008, 44, 953-962.	4.7	60
96	Planet or Moon image processing for spacecraft attitude estimation. Journal of Electronic Imaging, 2008, 17, 023020.	0.9	10
97	Optimal Linear Attitude Estimator. Journal of Guidance, Control, and Dynamics, 2007, 30, 1619-1627.	2.8	38
98	N-Impulse Orbit Transfer Using Genetic Algorithms. Journal of Spacecraft and Rockets, 2007, 44, 456-460.	1.9	67
99	Flower Constellation of Orbiters for Martian Communication. , 2007, , .		22
100	Solving Kepler's Equation using Bézier curves. Celestial Mechanics and Dynamical Astronomy, 2007, 99, 45-57.	1.4	17
101	Nondimensional star identification for uncalibrated star cameras. Journal of the Astronautical Sciences, 2006, 54, 95-111.	1.5	29
102	MRAD: Modified rodrigues vector attitude determination. Journal of the Astronautical Sciences, 2006, 54, 383-390.	1.5	9
103	Attitude and orbit error in n-dimensional spaces. Journal of the Astronautical Sciences, 2006, 54, 467-484.	1.5	7
104	From the Editor-in-Chief. IEEE Transactions on Aerospace and Electronic Systems, 2006, 42, 769-769.	4.7	0
105	Two-Way Orbits. Celestial Mechanics and Dynamical Astronomy, 2006, 94, 399-410.	1.4	6
106	Optimal cones intersection technique. Acta Astronautica, 2006, 59, 474-482.	3.2	6
107	Orbit Design for Ground Surveillance Using Genetic Algorithms. Journal of Guidance, Control, and Dynamics, 2006, 29, 1231-1235.	2.8	51
108	Communication Architecture and Technologies for Missions to Moon, Mars, and Beyond. , 2005, , .		7

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109	Recursive mode star identification algorithms. IEEE Transactions on Aerospace and Electronic Systems, 2005, 41, 1246-1254.	4.7	65
110	The Flower Constellations. Journal of the Astronautical Sciences, 2004, 52, 107-127.	1.5	93
111	The Pyramid Star Identification Technique. Navigation, Journal of the Institute of Navigation, 2004, 51, 171-183.	2.8	160
112	Constellation Design via Projection of an Arbitrary Shape onto a Flower Constellation Surface. , 2004, , .		9
113	Ortho-Skew and Ortho-Sym Matrix Trigonometry. Journal of the Astronautical Sciences, 2004, 52, 269-279.	1.5	0
114	On the Rigid Rotation Concept in n-Dimensional Spaces. Journal of the Astronautical Sciences, 2001, 49, 401-420.	1.5	26
115	Quaternion Attitude Estimation Using Vector Observations. Journal of the Astronautical Sciences, 2000, 48, 359-380.	1.5	276
116	Second Estimator of the Optimal Quaternion. Journal of Guidance, Control, and Dynamics, 2000, 23, 885-888.	2.8	94
117	Euler-q Algorithm for Attitude Determination from Vector Observations. Journal of Guidance, Control, and Dynamics, 1998, 21, 328-334.	2.8	53
118	Moon-Sun Attitude Sensor. Journal of Spacecraft and Rockets, 1997, 34, 360-364.	1.9	11
119	n-Dimensional Cross Product and its Application to the Matrix Eigenanalysis. Journal of Guidance, Control, and Dynamics, 1997, 20, 509-515.	2.8	12
120	Search-Less Algorithm for Star Pattern Recognition. Journal of the Astronautical Sciences, 1997, 45, 179-194.	1.5	73
121	ESQ: A Closed-Form Solution to the Wahba Problem. Journal of the Astronautical Sciences, 1997, 45, 195-204.	1.5	121
122	Energy Approach Algorithm for Attitude Determination from Vector Observations. Journal of the Astronautical Sciences, 1997, 45, 41-55.	1.5	12
123	The moon-sun attitude sensors. , 1996, , .		1
124	The n-dimensional cross product and its application to the matrix eigenanalysis. , 1996, , .		2
125	Angular Velocity and Covariance Estimates for Rigid Bodies in Near Pure-Spin Using Orientation Measurements. Journal of the Astronautical Sciences, 0, , .	1.5	0