

# 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	Quaternion Attitude Estimation Using Vector Observations. <i>Journal of the Astronautical Sciences</i> , 2000, 48, 359-380.	1.5	276
2	The Pyramid Star Identification Technique. <i>Navigation, Journal of the Institute of Navigation</i> , 2004, 51, 171-183.	2.8	160
3	A Survey on Star Identification Algorithms. <i>Algorithms</i> , 2009, 2, 93-107.	2.1	140
4	ESQ: A Closed-Form Solution to the Wahba Problem. <i>Journal of the Astronautical Sciences</i> , 1997, 45, 195-204.	1.5	121
5	Norm-Constrained Kalman Filtering. <i>Journal of Guidance, Control, and Dynamics</i> , 2009, 32, 1458-1465.	2.8	98
6	Second Estimator of the Optimal Quaternion. <i>Journal of Guidance, Control, and Dynamics</i> , 2000, 23, 885-888.	2.8	94
7	The Flower Constellations. <i>Journal of the Astronautical Sciences</i> , 2004, 52, 107-127.	1.5	93
8	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
9	Search-Less Algorithm for Star Pattern Recognition. <i>Journal of the Astronautical Sciences</i> , 1997, 45, 179-194.	1.5	73
10	N-Impulse Orbit Transfer Using Genetic Algorithms. <i>Journal of Spacecraft and Rockets</i> , 2007, 44, 456-460.	1.9	67
11	Recursive mode star identification algorithms. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2005, 41, 1246-1254.	4.7	65
12	Flower constellation set theory. Part I: Compatibility and phasing. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2008, 44, 953-962.	4.7	60
13	The Theory of Connections: Connecting Points. <i>Mathematics</i> , 2017, 5, 57.	2.2	60
14	Euler-q Algorithm for Attitude Determination from Vector Observations. <i>Journal of Guidance, Control, and Dynamics</i> , 1998, 21, 328-334.	2.8	53
15	Orbit Design for Ground Surveillance Using Genetic Algorithms. <i>Journal of Guidance, Control, and Dynamics</i> , 2006, 29, 1231-1235.	2.8	51
16	High accuracy least-squares solutions of nonlinear differential equations. <i>Journal of Computational and Applied Mathematics</i> , 2019, 352, 293-307.	2.0	49
17	Least-Squares Solution of Linear Differential Equations. <i>Mathematics</i> , 2017, 5, 48.	2.2	48
18	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

#	ARTICLE	IF	CITATIONS
19	Constrained Multiple-Revolution Lambert's Problem. <i>Journal of Guidance, Control, and Dynamics</i> , 2010, 33, 1779-1786.	2.8	44
20	The 2-D lattice theory of Flower Constellations. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2013, 116, 325-337.	1.4	44
21	Optimal Linear Attitude Estimator. <i>Journal of Guidance, Control, and Dynamics</i> , 2007, 30, 1619-1627.	2.8	38
22	Image Processing of Illuminated Ellipsoid. <i>Journal of Spacecraft and Rockets</i> , 2016, 53, 448-456.	1.9	38
23	The 3-D lattice theory of Flower Constellations. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2013, 116, 339-356.	1.4	37
24	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
25	Optimal two-impulse rendezvous using constrained multiple-revolution Lambert solutions. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2011, 110, 305-317.	1.4	35
26	Design of Flower Constellations for Telecommunication Services. <i>Proceedings of the IEEE</i> , 2011, 99, 2008-2019.	21.3	34
27	Position Estimation Using the Image Derivative. <i>Aerospace</i> , 2015, 2, 435-460.	2.2	31
28	Nondimensional star identification for uncalibrated star cameras. <i>Journal of the Astronautical Sciences</i> , 2006, 54, 95-111.	1.5	29
29	The Multivariate Theory of Connections. <i>Mathematics</i> , 2019, 7, 296.	2.2	29
30	The Multivariate Theory of Functional Connections: Theory, Proofs, and Application in Partial Differential Equations. <i>Mathematics</i> , 2020, 8, 1303.	2.2	29
31	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
32	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
33	On the Rigid Rotation Concept in n-Dimensional Spaces. <i>Journal of the Astronautical Sciences</i> , 2001, 49, 401-420.	1.5	26
34	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
35	Initial orbit determination using multiple observations. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2011, 109, 167-180.	1.4	24
36	An analytical approach to star identification reliability. <i>Acta Astronautica</i> , 2010, 66, 508-515.	3.2	23

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37	Attitude Error Kinematics. <i>Journal of Guidance, Control, and Dynamics</i> , 2014, 37, 330-336.	2.8	23
38	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
39	Flower Constellation of Orbiters for Martian Communication. , 2007, , .		22
40	Flower Constellation of Millimeter-Wave Radiometers for Tropospheric Monitoring at Pseudogeostationary Scale. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2009, 47, 3107-3122.	6.3	22
41	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
42	Interplanetary Autonomous Navigation Using Visible Planets. <i>Journal of Guidance, Control, and Dynamics</i> , 2015, 38, 1151-1156.	2.8	22
43	Theoretical Limits of Star Sensor Accuracy. <i>Sensors</i> , 2019, 19, 5355.	3.8	22
44	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
45	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
46	Energy-optimal trajectory problems in relative motion solved via Theory of Functional Connections. <i>Acta Astronautica</i> , 2021, 182, 361-382.	3.2	20
47	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
48	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
49	Solving Kepler's Equation using Bézier curves. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2007, 99, 45-57.	1.4	17
50	Space system architectures for Interplanetary Internet. , 2010, , .		17
51	New Insights on Flower Constellations Theory. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2012, 48, 1018-1030.	4.7	16
52	Removing Space Debris Through Sequential Captures and Ejections. <i>Journal of Guidance, Control, and Dynamics</i> , 2013, 36, 743-752.	2.8	16
53	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
54	3-Dimensional Necklace Flower Constellations. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2017, 129, 433-448.	1.4	15

#	ARTICLE	IF	CITATIONS
55	Multiplicative Measurement Model. <i>Journal of the Astronautical Sciences</i> , 2009, 57, 47-60.	1.5	14
56	A closed-form solution to the minimum $\Delta V_{tot}^2$ Lambert's problem. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2010, 106, 25-37.	1.4	13
57	Design of flower constellations using necklaces. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2014, 50, 1347-1358.	4.7	13
58	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
59	n-Dimensional Cross Product and its Application to the Matrix Eigenanalysis. <i>Journal of Guidance, Control, and Dynamics</i> , 1997, 20, 509-515.	2.8	12
60	Solving Kepler's equation using implicit functions. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2014, 118, 1-11.	1.4	12
61	Energy Approach Algorithm for Attitude Determination from Vector Observations. <i>Journal of the Astronautical Sciences</i> , 1997, 45, 41-55.	1.5	12
62	Moon-Sun Attitude Sensor. <i>Journal of Spacecraft and Rockets</i> , 1997, 34, 360-364.	1.9	11
63	Satellite constellation design for telecommunication in Antarctica. <i>International Journal of Satellite Communications and Networking</i> , 2016, 34, 725-737.	1.8	11
64	Derivation of All Attitude Error Governing Equations for Attitude Filtering and Control. <i>Sensors</i> , 2019, 19, 4682.	3.8	11
65	Least-squares solutions of boundary-value problems in hybrid systems. <i>Journal of Computational and Applied Mathematics</i> , 2021, 393, 113524.	2.0	11
66	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
67	Planet or Moon image processing for spacecraft attitude estimation. <i>Journal of Electronic Imaging</i> , 2008, 17, 023020.	0.9	10
68	Selected Applications of the Theory of Connections: A Technique for Analytical Constraint Embedding. <i>Mathematics</i> , 2019, 7, 537.	2.2	10
69	Constellation Design via Projection of an Arbitrary Shape onto a Flower Constellation Surface. , 2004, , .		9
70	MRAD: Modified rodrigues vector attitude determination. <i>Journal of the Astronautical Sciences</i> , 2006, 54, 383-390.	1.5	9
71	Stellar Positioning System (Part I): An Autonomous Position Determination Solution. <i>Navigation, Journal of the Institute of Navigation</i> , 2010, 57, 1-12.	2.8	9
72	J2-Propelled Orbits and Constellations. <i>Journal of Guidance, Control, and Dynamics</i> , 2014, 37, 1701-1706.	2.8	9

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73	Design of Constellations for Earth Observation with Intersatellite Links. <i>Journal of Guidance, Control, and Dynamics</i> , 2017, 40, 1263-1271.	2.8	9
74	Fast and robust kernel generators for star trackers. <i>Acta Astronautica</i> , 2017, 134, 291-302.	3.2	9
75	Single-point position estimation in interplanetary trajectories using star trackers. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2017, 128, 115-130.	1.4	9
76	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
77	Least-Squares Solutions of Eighth-Order Boundary Value Problems Using the Theory of Functional Connections. <i>Mathematics</i> , 2020, 8, 397.	2.2	9
78	Compass star tracker for GPS-like applications. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2008, 44, 1629-1634.	4.7	8
79	Sequential solution to Kepler's equation. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2010, 108, 59-72.	1.4	8
80	A k-Vector Approach to Sampling, Interpolation, and Approximation. <i>Journal of the Astronautical Sciences</i> , 2013, 60, 686-706.	1.5	8
81	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
82	A Functional Interpolation Approach to Compute Periodic Orbits in the Circular-Restricted Three-Body Problem. <i>Mathematics</i> , 2021, 9, 1210.	2.2	8
83	Communication Architecture and Technologies for Missions to Moon, Mars, and Beyond. , 2005, , .		7
84	Attitude and orbit error in n-dimensional spaces. <i>Journal of the Astronautical Sciences</i> , 2006, 54, 467-484.	1.5	7
85	A Survey of Attitude Error Representations. , 2012, , .		7
86	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
87	Two-Way Orbits. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2006, 94, 399-410.	1.4	6
88	Optimal cones intersection technique. <i>Acta Astronautica</i> , 2006, 59, 474-482.	3.2	6
89	East-West GEO Satellite Station-Keeping with Degraded Thruster Response. <i>Aerospace</i> , 2015, 2, 581-601.	2.2	6
90	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

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91	Information Theoretic Weighting for Robust Star Centroiding. Journal of the Astronautical Sciences, 2011, 58, 241-259.	1.5	5
92	The K-Vector ND and its Application to Building a Non-Dimensional Star Identification Catalog. Journal of the Astronautical Sciences, 2011, 58, 261-274.	1.5	5
93	Sequential Design of Satellite Formations with Invariant Distances. Journal of Spacecraft and Rockets, 2011, 48, 1025-1032.	1.9	5
94	Optimizing Flower Constellations for Global Coverage. , 2012, , .		5
95	Nonlinear function inversion using k -vector. Applied Mathematics and Computation, 2018, 320, 754-768.	2.2	5
96	The n-dimensional k-vector and its application to orthogonal range searching. Applied Mathematics and Computation, 2020, 372, 125010.	2.2	5
97	QuateRA: The Quaternion Regression Algorithm. Journal of Guidance, Control, and Dynamics, 2020, 43, 1600-1616.	2.8	5
98	Non-Dimensional Star-Identification. Sensors, 2020, 20, 2697.	3.8	5
99	Theory of Functional Connections Applied to Linear ODEs Subject to Integral Constraints and Linear Ordinary Integro-Differential Equations. Mathematical and Computational Applications, 2021, 26, 65.	1.3	5
100	Stellar Positioning System (Part II): Improving Accuracy During Implementation. Navigation, Journal of the Institute of Navigation, 2010, 57, 13-24.	2.8	4
101	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
102	BÄzier Description of Space Trajectories. Journal of Guidance, Control, and Dynamics, 2016, 39, 2535-2539.	2.8	4
103	Time-energy optimal landing on planetary bodies via theory of functional connections. Advances in Space Research, 2022, 69, 4198-4220.	2.6	4
104	Stellar Positioning System Part II: Overcoming Error During Implementation. , 2008, , .		3
105	Stellar Positioning System Part I: Applying Ancient Theory to a Modern World. , 2008, , .		3
106	Random Sampling Using -Vector. Computing in Science and Engineering, 2019, 21, 94-107.	1.2	3
107	Univariate Theory of Functional Connections Applied to Component Constraints. Mathematical and Computational Applications, 2021, 26, 9.	1.3	3
108	The n-dimensional cross product and its application to the matrix eigenanalysis. , 1996, , .		2

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109	Rock-Around Orbits. <i>Journal of Guidance, Control, and Dynamics</i> , 2011, 34, 810-819.	2.8	2
110	J2-Propelled Orbits and Constellations. , 2012, , .		2
111	Least-Squares Solutions of Nonlinear Differential Equations. , 2018, , .		2
112	Impulsive orbit correction using second-order Gaussâ€™s variational equations. <i>Celestial Mechanics and Dynamical Astronomy</i> , 2020, 132, 1.	1.4	2
113	The moon-sun attitude sensors. , 1996, , .		1
114	Flower Constellations for future space missions. , 2012, , .		1
115	Cohesive Autonomous Navigation System. , 2016, , .		1
116	Virtual Reality As a Testbed for Star Tracker Algorithms. , 2019, , .		1
117	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
118	High Accurate Mathematical Tools to Estimate the Gravity Direction Using Two Non-Orthogonal Inclinometers. <i>Sensors</i> , 2021, 21, 5727.	3.8	1
119	From the Editor-in-Chief. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2006, 42, 769-769.	4.7	0
120	An Analytical Approach to Star Identification Reliability. , 2008, , .		0
121	Orthonormality and Spectral Analysis for Robotics and Astrodynamics. <i>Solid State Phenomena</i> , 2010, 164, 392-404.	0.3	0
122	The n-dimensional k-vector with Applications. , 2018, , .		0
123	Ortho-Skew and Ortho-Sym Matrix Trigonometry. <i>Journal of the Astronautical Sciences</i> , 2004, 52, 269-279.	1.5	0
124	High Accurate Mathematical Tools to Estimate the Gravity Direction Using Two Non-Orthogonal Inclinometers. <i>Sensors</i> , 2021, 21, .	3.8	0
125	Angular Velocity and Covariance Estimates for Rigid Bodies in Near Pure-Spin Using Orientation Measurements. <i>Journal of the Astronautical Sciences</i> , 0, , .	1.5	0