Pedro Batista

List of Publications by Year
in descending order

130 papers	1,494 citations	361413 20 h-index	395702 33 g-index
131 all docs	131 docs citations	131 times ranked	849 citing authors

#	ARTICLE	IF	CITATIONS
1	Discrete‐time decentralized linear quadratic control for linear time‐varying systems. International Journal of Robust and Nonlinear Control, 2023, 33, 67-101.	3.7	5
2	Decentralised navigation systems for bearing-based position and velocity estimation in tiered formations. International Journal of Systems Science, 2022, 53, 504-525.	5.5	0
3	Earth-based Simultaneous Localization and Mapping for Drones in Dynamic Environments. Journal of Intelligent and Robotic Systems: Theory and Applications, 2022, 104, 1.	3.4	1
4	Design and analysis of attitude observers based on the Lagrange-d'Alembert principle applied to constrained three-vehicle formations. Advances in Space Research, 2022, 69, 4001-4012.	2.6	2
5	Discrete-time distributed Kalman filter design for networks of interconnected systems with linear time-varying dynamics. International Journal of Systems Science, 2022, 53, 1334-1351.	5.5	6
6	Attitude Uncertainty Analysis of a Three-Vehicle Constrained Formation. Sensors, 2022, 22, 3879.	3.8	0
7	Distributed controller design and performance optimization for discrete‐time linear systems. Optimal Control Applications and Methods, 2021, 42, 126-143.	2.1	4
8	Attitude, body-fixed Earth rotation rate, and sensor bias estimation using single observations of direction of gravitational field. Automatica, 2021, 125, 109475.	5.0	4
9	Efficient Algorithm for the Computation of the Solution to a Sparse Matrix Equation in Distributed Control Theory. Mathematics, 2021, 9, 1497.	2.2	6
10	Characterization of Degenerate Configurations in Attitude Determination of Three-Vehicle Heterogeneous Formations. Sensors, 2021, 21, 4631.	3.8	1
11	Decentralized store-and-forward based strategies for the signal control problem in large-scale congested urban road networks. Transportation Research Part C: Emerging Technologies, 2021, 132, 103412.	7.6	12
12	Attitude observers for three-vehicle heterogeneous formations based on the Lagrange-d'Alembert principle. , 2021, , .		1
13	Kalman filtering technique for attitude estimation on SO(3) using single inertial vector observations. , 2021, , .		0
14	A study on cooperative navigation of AUVs based on bearing measurements. , 2021, , .		1
15	Decentralized Navigation Systems for Bearing-based Position and Velocity Estimation in Tiered Formations. , 2020, , .		2
16	Special Cases in the Attitude Determination of Three-Vehicle Heterogeneous Formations. , 2020, , .		3
17	Navigation and source localization based on single pseudo-ranges. , 2020, , .		1
18	Long baseline navigation filter with clock offset estimation. Nonlinear Dynamics, 2020, 100, 2557-2573.	5.2	2

#	Article	IF	Citations
19	Earth-fixed trajectory and map online estimation: Building on GES sensor-based SLAM filters. Robotics and Autonomous Systems, 2020, 130, 103552.	5.1	1
20	Kalman Filter Cascade for Attitude Estimation on Rotating Earth. IEEE/ASME Transactions on Mechatronics, 2020, 25, 327-338.	5.8	4
21	Attitude observers aided by implicit measurements of the Earth angular velocity. , 2020, , .		1
22	Cooperative Navigation Based on Bearing and Range Measurements to Different Vehicles. IFAC-PapersOnLine, 2020, 53, 14552-14557.	0.9	1
23	Distributed Formation Control of Double-Integrator Vehicles with Disturbance Rejection. IFAC-PapersOnLine, 2020, 53, 3118-3123.	0.9	4
24	Navigation and Source Localization based on Single Pseudo-Ranges with an Unknown Multiplicative Factor. IFAC-PapersOnLine, 2020, 53, 14662-14667.	0.9	0
25	A solution for the attitude determination of three-vehicle heterogeneous formations. Aerospace Science and Technology, 2019, 93, 105275.	4.8	5
26	Long Baseline Aided Inertial Navigation System with Clock Offset Estimation. , 2019, , .		2
27	Special issue on â€œRecent Advances on Data Fusion, Estimation in Navigation and Controlâ€. Asian Journal of Control, 2019, 21, 1407-1408.	3.0	2
28	Robustness to measurement noise of a globally convergent attitude observer with topological relaxations. Nonlinear Dynamics, 2019, 98, 589-600.	5.2	3
29	Attitude estimation using high-grade gyroscopes. Control Engineering Practice, 2019, 92, 104134.	5.5	5
30	Nonlinear Observer on SO(3) for Attitude Estimation on Rotating Earth Using Single Vector Measurements. , 2019, 3, 392-397.		9
31	Attitude observer on the special orthogonal group with Earth velocity estimation. Systems and Control Letters, 2019, 126, 33-39.	2.3	5
32	Calibration of High-Grade Inertial Measurement Units Using a Rate Table. , 2019, 3, 1-4.		6
33	Globally exponentially stable attitude observer with Earth velocity estimation. Asian Journal of Control, 2019, 21, 1409-1422.	3.0	7
34	Preliminary Results on 2-D Simultaneous Localization and Mapping for Aerial Robots in Dynamics Environments. , 2019, , .		3
35	Long baseline navigation with explicit pseudo-range clock offset and propagation speed estimation. European Journal of Control, 2019, 49, 116-130.	2.6	2
36	Strategies for uncertainty optimization through motion planning in GES sensor-based SLAM. Robotics and Autonomous Systems, 2019, 113, 38-55.	5.1	3

#	Article	IF	Citations
37	Discrete-time distributed Kalman filter design for formations of autonomous vehicles. Control Engineering Practice, 2018, 75, 55-68.	5.5	43
38	Hovercraft Control With Dynamic Parameters Identification. IEEE Transactions on Control Systems Technology, 2018, 26, 785-796.	5.2	22
39	A globally exponentially stable filter for bearing-only simultaneous localization and mapping with monocular vision. Robotics and Autonomous Systems, 2018, 100, 61-77.	5.1	12
40	Nonlinear Attitude Observer on SO(3) Based on Single Body-Vector Measurements. , 2018, , .		3
41	Relative and inertial attitude determination in three-vehicle long formations. , 2018, , .		0
42	A Globally Exponentially Stable Solution for Frequency Estimation. , 2018, , .		0
43	Source Localization Based on Acoustic Single Direction Measurements. IEEE Transactions on Aerospace and Electronic Systems, 2018, 54, 2837-2852.	4.7	8
44	Discrete-time distributed Kalman filter design for multi-vehicle systems. , 2017, , .		5
45	Uncertainty characterization of the orthogonal Procrustes problem with arbitrary covariance matrices. Pattern Recognition, 2017, 61, 210-220.	8.1	13
46	Relaxed conditions for uniform complete observability and controllability of LTV systems with bounded realizations 1 1This work was supported by the Fundação para a Ciência e a Tecnologia (FCT) through ISR under LARSyS UID/EEA/50009/2013, and through IDMEC, under LAETA UID/EMS/50022/2013 contracts, by the University of Macau Projects MYRG2015-00126-FST and MYRG2015-00127-FST, and by the Macao Science and Technology Development Fund under Grant FDCT/048/2014/A1.. IFAC-PapersOnLine, 2017, 50, 3598-3605.	0.9	4
47	New Design Techniques for Globally Convergent Simultaneous Localization and Mapping: Analysis and Implementation. Lecture Notes in Control and Information Sciences, 2017, , 121-141.	1.0	0
48	Design and Experimental Validation of a USBL Underwater Acoustic Positioning System. Sensors, 2016, 16, 1491.	3.8	34
49	Relative attitude observers for three-platform formations with inertial spread observations. , 2016, , .		0
50	On the stability of the continuous-time Kalman filter subject to exponentially decaying perturbations. Systems and Control Letters, 2016, 89, 41-46.	2.3	2
51	Tightly coupled long baseline/ultra-short baseline integrated navigation system. International Journal of Systems Science, 2016, 47, 1837-1855.	5.5	21
52	Simultaneous localization and mapping for aerial vehicles: a 3-D sensor-based GAS filter. Autonomous Robots, 2016, 40, 881-902.	4.8	17
53	Decentralized state observers for range‐based position and velocity estimation in acyclic formations with fixed topologies. International Journal of Robust and Nonlinear Control, 2016, 26, 963-994.	3.7	9
54	Torwards uncertainty optimization in active SLAM. , 2015, , .		3

#	Article	IF	Citations
55	Pseudo-range navigation with clock offset and propagation speed estimation. , 2015, , .		0
56	A globally exponentially stable filter for bearing-only simultaneous localization and mapping in 3-D. , 2015, , .		2
57	Simultaneous Localization and mapping in sensor networks: A GES sensor-based filter with moving object tracking. , 2015, , .		1
58	Globally convergent relative attitude observers for three-platform formations. , 2015, , .		1
59	Navigation systems based on multiple bearing measurements. IEEE Transactions on Aerospace and Electronic Systems, 2015, 51, 2887-2899.	4.7	10
60	Distributed state estimation for linear multi-agent systems with time-varying measurement topology. Automatica, 2015, 54, 72-79.	5.0	35
61	Sensor-based globally exponentially stable range-only simultaneous localization and mapping. Robotics and Autonomous Systems, 2015, 68, 72-85.	5.1	12
62	GES Long Baseline Navigation With Unknown Sound Velocity and Discrete-Time Range Measurements. IEEE Transactions on Control Systems Technology, 2015, 23, 219-230.	5.2	22
63	Design and Validation of an RGB-D Based Localization System - Integration in a Docking System. Journal of Intelligent and Robotic Systems: Theory and Applications, 2015, 80, 423-440.	3.4	5
64	Long baseline navigation with clock offset estimation and discrete-time measurements. Control Engineering Practice, 2015, 35, 43-53.	5.5	21
65	A two€step control approach for docking of autonomous underwater vehicles. International Journal of Robust and Nonlinear Control, 2015, 25, 1528-1547.	3.7	24
66	Nonlinear observability and observer design through state augmentation. , 2014, , .		4
67	Sensor€Based Long Baseline Navigation: Observability Analysis and Filter Design. Asian Journal of Control, 2014, 16, 974-994.	3.0	28
68	Filter design for localization aided by direction and Doppler measurements. , 2014, , .		0
69	Design and validation of a linear parameter varying localization system. , 2014, , .		0
70	Position and Velocity Filters for ASC/I-AUV Tandems Based on Single Range Measurements. Journal of Intelligent and Robotic Systems: Theory and Applications, 2014, 74, 745-768.	3.4	11
71	GES Long Baseline Navigation with clock offset estimation. , 2014, , .		3
72	Attitude and earth velocity estimation - Part I: Globally exponentially stable observer. , 2014, , .		13

#	Article	IF	Citations
73	Attitude and earth velocity estimation - Part II: Observer on the special orthogonal group. , 2014, , .		7
74	Preliminary results on the estimation performance of single range source localization. , 2013, , .		1
75	GES source localization based on discrete-time position and single range measurements. , 2013, , .		5
76	A received signal strength indication-based localization system. , 2013, , .		8
77	Globally Asymptotically Stable Sensor-Based Simultaneous Localization and Mapping. IEEE Transactions on Robotics, 2013, 29, 1380-1395.	10.3	36
78	Globally exponentially stable filters for source localization and navigation aided by direction measurements. Systems and Control Letters, 2013, 62, 1065-1072.	2.3	25
79	Decentralized linear state observers for vehicle formations with time-varying topologies. , 2013, , .		2
80	GAS decentralized navigation filters in a continuous-discrete fixed topology framework. , 2013, , .		3
81	GES long baseline navigation with unknown sound velocity and discrete-time range measurements. , 2013, , .		3
82	Preliminary results on globally asymptotically stable simultaneous localization and mapping in 3-D. , 2013, , .		11
83	Sensor-based globally asymptotically stable range-only simultaneous localization and mapping. , 2013, , .		3
84	GES source localization and navigation based on discrete-time bearing measurements. , 2013, , .		6
85	Further results on the observability in magneto-inertial navigation. , 2013, , .		3
86	GES tightly coupled attitude estimation based on a LBL/USBL positioning system. , 2013, , .		0
87	3-D inertial trajectory and map online estimation: Building on a GAS sensor-based SLAM filter. , 2013, , .		12
88	GAS tightly coupled LBL/USBL position and velocity filter for underwater vehicles. , 2013, , .		5
89	Position and velocity filters for intervention AUVs based on single range and depth measurements. , 2012, , .		6
90	Sensor-based simultaneous localization and mapping — Part I: GAS robocentric filter. , 2012, , .		7

#	Article	IF	Citations
91	GAS Ocean Current Estimation with Limited Velocity Readings. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 337-342.	0.4	1
92	Attitude Estimation for Intervention-AUVs Working in Tandem with Autonomous Surface Craft. European Journal of Control, 2012, 18, 485-495.	2.6	4
93	GES integrated LBL/USBL navigation system for underwater vehicles. , 2012, , .		18
94	Globally asymptotically stable filter for navigation aided by direction and depth measurements. , 2012, , .		1
95	Sensor-based simultaneous localization and mapping — Part II: Online inertial map and trajectory estimation. , 2012, , .		8
96	Sensor-Based Globally Asymptotically Stable Filters for Attitude Estimation: Analysis, Design, and Performance Evaluation. IEEE Transactions on Automatic Control, 2012, 57, 2095-2100.	5.7	55
97	Globally exponentially stable cascade observers for attitude estimation. Control Engineering Practice, 2012, 20, 148-155.	5.5	46
98	A GES attitude observer with single vector observations. Automatica, 2012, 48, 388-395.	5.0	55
99	Decentralized observers for position and velocity estimation in vehicle formations with fixed topologies. Systems and Control Letters, 2012, 61, 443-453.	2.3	28
100	Globally asymptotically stable filters for source localization and navigation aided by direction measurements. , 2011, , .		4
101	Partial attitude and rate gyro bias estimation: observability analysis, filter design, and performance evaluation. International Journal of Control, 2011, 84, 895-903.	1.9	10
102	Discrete-Time Complementary Filters for Attitude and Position Estimation: Design, Analysis and Experimental Validation. IEEE Transactions on Control Systems Technology, 2011, 19, 181-198.	5.2	56
103	GES Attitude Observers â€" Part I: Multiple General Vector Observations. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 2985-2990.	0.4	6
104	GES Attitude Observers â€" Part II: Single Vector Observations. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 2991-2996.	0.4	7
105	Position USBL/DVL sensor-based navigation filter in the presence of unknown ocean currents. Automatica, 2011, 47, 2604-2614.	5.0	53
106	Accelerometer Calibration and Dynamic Bias and Gravity Estimation: Analysis, Design, and Experimental Evaluation. IEEE Transactions on Control Systems Technology, 2011, 19, 1128-1137.	5.2	65
107	Vector-Based Attitude Filter for Space Navigation. Journal of Intelligent and Robotic Systems: Theory and Applications, 2011, 64, 221-243.	3.4	7
108	On the observability of linear motion quantities in navigation systems. Systems and Control Letters, 2011, 60, 101-110.	2.3	42

#	ARTICLE	IF	CITATIONS
109	Single range aided navigation and source localization: Observability and filter design. Systems and Control Letters, 2011, 60, 665-673.	2.3	129
110	Computationally efficient GES cascade observer for attitude estimation. , 2011, , .		1
111	A Sensor-based Long Baseline Position and Velocity Navigation Filter for Underwater Vehicles. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2010, 43, 302-307.	0.4	19
112	Optimal position and velocity navigation filters for autonomous vehicles. Automatica, 2010, 46, 767-774.	5.0	49
113	A time differences of arrivalâ€based homing strategy for autonomous underwater vehicles. International Journal of Robust and Nonlinear Control, 2010, 20, 1758-1773.	3.7	13
114	Position USBL/DVL sensor-based navigation filter in the presence of unknown ocean currents. , 2010, , .		6
115	Low-cost Attitude and Heading Reference System: Filter design and experimental evaluation. , 2010, , .		24
116	Single range navigation in the presence of constant unknown drifts. , 2009, , .		15
117	Necessary and sufficient conditions for the observability of linear motion quantities in strapdown navigation systems. , 2009, , .		7
118	Discrete time-varying attitude complementary filter. , 2009, , .		16
119	A Sensor-Based Controller for Homing of Underactuated AUVs. IEEE Transactions on Robotics, 2009, 25, 701-716.	10.3	42
120	Low-Cost Sensor-Based Integrated Attitude Filter for Space Applications. , 2009, , .		1
121	Position and velocity optimal sensor-based navigation filters for UAVs. , 2009, , .		12
122	Position and Velocity Navigation Systems for Unmanned Vehicles. IEEE Transactions on Control Systems Technology, 2009, 17, 707-715.	5.2	3
123	Sensor-based complementary globally asymptotically stable filters for attitude estimation. , 2009, , .		21
124	Optimal position and velocity navigation filters with discrete-time delayed measurements. , 2008, , .		0
125	Kalman and Hâˆž Optimal Filtering for a Class of Kinematic Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 12528-12533.	0.4	4
126	Position and Velocity Navigation Filters for Marine Vehicles. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 15016-15021.	0.4	8

#	Article	IF	Citations
127	Observer design for a class of kinematic systems. , 2007, , .		1
128	A Sensor Based Homing Strategy for Autonomous Underwater Vehicles. , 2006, , .		3
129	A Quaternion Sensor Based Controller for Homing of Underactuated AUVs. , 2006, , .		8
130	Decentralized control and state estimation of linear time‐periodic systems. International Journal of Robust and Nonlinear Control, 0, , .	3.7	1