

Louis L Whitcomb

List of Publications by Year in descending order

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143
papers

5,392
citations

101543

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106344

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145
docs citations

145
times ranked

3666
citing authors

#	ARTICLE	IF	CITATIONS
1	Online Three-Axis Magnetometer Hard-Iron and Soft-Iron Bias and Angular Velocity Sensor Bias Estimation Using Angular Velocity Sensors for Improved Dynamic Heading Accuracy. , 2022, 2, 1001-1027.		1
2	Cooperative acoustic navigation of underwater vehicles without a DVL utilizing a dynamic process model: Theory and field evaluation. Journal of Field Robotics, 2021, 38, 700-726.	6.0	5
3	Performance Analysis of Ice-Relative Upward-Looking Doppler Navigation of Underwater Vehicles Beneath Moving Sea Ice. Journal of Marine Science and Engineering, 2021, 9, 174.	2.6	4
4	Stable adaptive identification of fullyâ€coupled secondâ€order 6 degreeâ€ofâ€freedom nonlinear plant models for underwater vehicles: Theory and experimental evaluation. International Journal of Adaptive Control and Signal Processing, 2021, 35, 786-810.	4.1	7
5	Uniform Complete Observability of Mass and Rotational Inertial Parameters in Adaptive Identification of Rigid-Body Plant Dynamics. , 2021, , .		1
6	Teleoperation and Visualization Interfaces for Remote Intervention in Space. Frontiers in Robotics and AI, 2021, 8, 747917.	3.2	4
7	A Novel Quotient Space Approach to Model-Based Fault Detection and Isolation: Theory and Preliminary Simulation Evaluation. , 2021, , .		2
8	Adaptive bias and attitude observer on the special orthogonal group for true-north gyrocompass systems: Theory and preliminary results. International Journal of Robotics Research, 2020, 39, 321-338.	8.5	5
9	Scientific Challenges and Present Capabilities in Underwater Robotic Vehicle Design and Navigation for Oceanographic Exploration Under-Ice. Remote Sensing, 2020, 12, 2588.	4.0	30
10	A Stable Adaptive Observer for Hard-Iron and Soft-Iron Bias Calibration and Compensation for Two-Axis Magnetometers: Theory and Experimental Evaluation. IEEE Robotics and Automation Letters, 2020, 5, 1295-1302.	5.1	3
11	Interactive Planning and Supervised Execution for High-Risk, High-Latency Teleoperation. , 2020, , .		8
12	Visual Monitoring and Servoing of a Cutting Blade during Telerobotic Satellite Servicing. , 2020, , .		1
13	Experimental Evaluation of Teleoperation Interfaces for Cutting of Satellite Insulation. , 2019, , .		9
14	Field Sensor Bias Calibration With Angular-Rate Sensors: Theory and Experimental Evaluation With Application to Magnetometer Calibration. IEEE/ASME Transactions on Mechatronics, 2019, 24, 1698-1710.	5.8	9
15	Temperature-controlled power modulation compensates for heterogeneous nanoparticle distributions: a computational optimization analysis for magnetic hyperthermia. International Journal of Hyperthermia, 2019, 36, 115-129.	2.5	36
16	Nonlinear Model-Based Tracking Control of Underwater Vehicles With Three Degree-of-Freedom Fully Coupled Dynamical Plant Models: Theory and Experimental Evaluation. IEEE Transactions on Control Systems Technology, 2018, 26, 404-414.	5.2	48
17	Preliminary Evaluation of Null-Space Dynamic Process Model Identification with Application to Cooperative Navigation of Underwater Vehicles. , 2018, , .		5
18	Preliminary Simulation Study of Combined Control and Cooperative Navigation for Underwater Vehicles. , 2018, , .		2

#	ARTICLE	IF	CITATIONS
19	Adaptive Parameter Identification of Underactuated Unmanned Underwater Vehicles: A Preliminary Simulation Study. , 2018, , .		5
20	Adaptive Sensor Bias Estimation in Nine Degree of Freedom Inertial Measurement Units: Theory and Preliminary Evaluation. , 2018, , .		4
21	A Preliminary Study of Ice-Relative Underwater Vehicle Navigation Beneath Moving Sea Ice. , 2018, , .		2
22	Preliminary Evaluation of Cooperative Navigation of Underwater Vehicles without a DVL Utilizing a Dynamic Process Model. , 2018, , .		7
23	Teleoperation and robotics under ice: Implications for planetary exploration. , 2018, , .		17
24	Scene Modeling and Augmented Virtuality Interface for Telerobotic Satellite Servicing. IEEE Robotics and Automation Letters, 2018, 3, 4241-4248.	5.1	12
25	A stable adaptive attitude estimator on SO(3) for true-North seeking gyrocompass systems: Theory and preliminary simulation evaluation. , 2017, , .		5
26	A preliminary study of an intent-recognition-based traded control architecture for high latency telemanipulation. , 2017, , .		1
27	Adaptive estimation of measurement bias in six degree of freedom inertial measurement units: Theory and preliminary simulation evaluation. , 2017, , .		4
28	Experimental Identification of Three Degree-of-Freedom Coupled Dynamic Plant Models for Underwater Vehicles. Lecture Notes in Control and Information Sciences, 2017, , 319-341.	1.0	2
29	Preliminary study of cooperative navigation of underwater vehicles without a DVL utilizing range and range-rate observations. , 2016, , .		8
30	A preliminary survey of underwater robotic vehicle design and navigation for under-ice operations. , 2016, , .		14
31	Preliminary simulation of a deployable GPS navigation system for ice-relative dead reckoning of underwater vehicles under moving sea ice. , 2016, , .		0
32	Semi-autonomous telerobotic assembly over high-latency networks. , 2016, , .		14
33	Fully actuated model-based control with six-degree-of-freedom coupled dynamical plant models for underwater vehicles: Theory and experimental evaluation. International Journal of Robotics Research, 2016, 35, 1164-1184.	8.5	14
34	Influence of ice thickness and surface properties on light transmission through <sc>A</sc>ctic sea ice. Journal of Geophysical Research: Oceans, 2015, 120, 5932-5944.	2.6	70
35	Preliminary results with a low-cost fiber-optic gyrocompass system. , 2015, , .		6
36	Experimental evaluation of force control for virtual-fixture-assisted teleoperation for on-orbit manipulation of satellite thermal blanket insulation. , 2015, , .		15

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37	Preliminary feasibility study of cooperative navigation of underwater vehicles with range and range-rate observations. , 2015, , .		5
38	Preliminary study of virtual nonholonomic constraints for time-delayed teleoperation. , 2015, , .		12
39	Toward ice-relative navigation of underwater robotic vehicles under moving sea ice: Experimental evaluation in the Arctic sea. , 2015, , .		18
40	Advances in <i>In Situ</i> Alignment Calibration of Doppler and High/Low-End Attitude Sensors for Underwater Vehicle Navigation: Theory and Experimental Evaluation. Journal of Field Robotics, 2015, 32, 655-674.	6.0	20
41	Experimental Identification of Six-Degree-of-Freedom Coupled Dynamic Plant Models for Underwater Robot Vehicles. IEEE Journal of Oceanic Engineering, 2014, 39, 662-671.	3.8	43
42	Experimental evaluation of adaptive model-based control for underwater vehicles in the presence of unmodeled actuator dynamics. , 2014, , .		8
43	Design of Nereid-UI: A remotely operated underwater vehicle for oceanographic access under ice. , 2014, , .		10
44	Development of and preliminary results with an extended Kalman filter for the estimation of the translational and angular velocity of underwater vehicles. , 2014, , .		2
45	Task-dependent impedance and implications for upper-limb prosthesis control. International Journal of Robotics Research, 2014, 33, 827-846.	8.5	21
46	Accuracy analysis in MRI-guided robotic prostate biopsy. International Journal of Computer Assisted Radiology and Surgery, 2013, 8, 937-944.	2.8	17
47	Model-based telerobotic control with virtual fixtures for satellite servicing tasks. , 2013, , .		23
48	Development and Evaluation of an Actuated MRI-Compatible Robotic System for MRI-Guided Prostate Intervention. IEEE/ASME Transactions on Mechatronics, 2013, 18, 273-284.	5.8	96
49	Decentralized Extended Information Filter for Single-Beacon Cooperative Acoustic Navigation: Theory and Experiments. IEEE Transactions on Robotics, 2013, 29, 957-974.	10.3	112
50	A pilot study in vision-based augmented telemanipulation for remote assembly over high-latency networks. , 2013, , .		17
51	Comparative experimental evaluation of a new adaptive identifier for underwater vehicles. , 2013, , .		19
52	Preliminary experimental evaluation of a Doppler-aided attitude estimator for improved Doppler navigation of underwater vehicles. , 2013, , .		12
53	Preliminary experiments in comparative experimental identification of six degree-of-freedom coupled dynamic plant models for underwater robot vehicles. , 2013, , .		9
54	Advances in single-beacon one-way-travel-time acoustic navigation for underwater vehicles. International Journal of Robotics Research, 2012, 31, 935-950.	8.5	160

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55	User comprehension of task performance with varying impedance in a virtual prosthetic arm: A pilot study. , 2012, , .		5
56	Acoustic measurement of the <i>Deepwater Horizon</i> Macondo well flow rate. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 20235-20239.	7.1	101
57	Preliminary experiments in underactuated nonlinear model-based tracking control of underwater vehicles with three degree-of-freedom fully-coupled dynamical plant models: Theory and experimental evaluation. , 2012, , .		3
58	Preliminary experiments in nonlinear model-based tracking control of underwater vehicles with three degree-of-freedom fully-coupled dynamical plant models. , 2012, , .		4
59	Design requirements and feasibility study for a 3-DOF MRI-compatible robotic device for MRI-guided prostate intervention. , 2012, , .		3
60	A new adaptive identifier for second-order rotational plants with applications to underwater vehicles. , 2012, , .		1
61	Preliminary experimental evaluation of in-situ calibration methods for MEMS-based attitude sensors and Doppler sonars in underwater vehicle navigation. , 2012, , .		4
62	Field performance evaluation of new methods for in-situ calibration of attitude and doppler sensors for underwater vehicle navigation. , 2012, , .		6
63	Lightly tethered unmanned underwater vehicle for under-ice exploration. , 2012, , .		5
64	Experimental evaluation of a MEMS inertial measurements unit for Doppler navigation of underwater vehicles. , 2012, , .		13
65	Biopsy Needle Artifact Localization in MRI-Guided Robotic Transrectal Prostate Intervention. IEEE Transactions on Biomedical Engineering, 2012, 59, 1902-1911.	4.2	17
66	Toward practical semi-autonomous teleoperation: Do what i intend, not what i do. , 2011, , .		2
67	Experimental evaluation of an inertial navigation system for underwater robotic vehicles. , 2011, , .		5
68	Experimental evaluation of new methods for in-situ calibration of attitude and doppler sensors for underwater vehicle navigation. , 2011, , .		8
69	A Portable Device for Quantification of Forearm Muscle Tone. PM and R, 2011, 3, 1075-1076.	1.6	1
70	An MRI-Compatible Robotic System With Hybrid Tracking for MRI-Guided Prostate Intervention. IEEE Transactions on Biomedical Engineering, 2011, 58, 3049-3060.	4.2	85
71	Synchronousâ€clock, oneâ€wayâ€travelâ€time acoustic navigation for underwater vehicles. Journal of Field Robotics, 2011, 28, 121-136.	6.0	87
72	A study of needle image artifact localization in confirmation imaging of MRI-guided robotic prostate biopsy. , 2011, 2011, 4834-4839.		9

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73	Task-dependent impedance improves user performance with a virtual prosthetic arm. , 2011, , .		11
74	Experimental evaluation of a trajectory/force tracking controller for a humanoid robot cleaning a vertical surface. , 2011, , .		1
75	Development and preliminary evaluation of an actuated MRI-compatible robotic device for MRI-guided prostate intervention. , 2010, , .		28
76	Advances in decentralized single-beacon acoustic navigation for underwater vehicles: Theory and simulation. , 2010, , .		12
77	Diverse styles of submarine venting on the ultraslow spreading Mid-Cayman Rise. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 14020-14025.	7.1	140
78	Accuracy validation for MRI-guided robotic prostate biopsy. , 2010, 7625, 762517-762518.		13
79	Navigation and control of the Nereus hybrid underwater vehicle for global ocean science to 10,903 m depth: Preliminary results. , 2010, , .		31
80	New methods for in-situ calibration of attitude and doppler sensors for underwater vehicle navigation: Preliminary results. , 2010, , .		11
81	MRI-Guided Robotic Prostate Biopsy: A Clinical Accuracy Validation. Lecture Notes in Computer Science, 2010, 13, 383-391.	1.3	18
82	Field trials of the Nereus hybrid underwater robotic vehicle in the challenger deep of the Mariana Trench. , 2009, , .		12
83	Acoustic communication performance of the WHOI Micro-Modem in sea trials of the Nereus vehicle to 11,000 m depth. , 2009, , .		15
84	Tissue property estimation and graphical display for teleoperated robot-assisted surgery. , 2009, , .		72
85	Preliminary deep water results in single-beacon one-way-travel-time acoustic navigation for underwater vehicles. , 2009, , .		57
86	Journey to the Challenger Deep: 50 Years Later With the <i>Nereus</i> Hybrid Remotely Operated Vehicle. Marine Technology Society Journal, 2009, 43, 65-76.	0.4	34
87	Toward a platform-independent acoustic communications and navigation system for underwater vehicles. , 2009, , .		5
88	Surgical and Interventional Robotics - Core Concepts, Technology, and Design [Tutorial]. IEEE Robotics and Automation Magazine, 2008, 15, 122-130.	2.0	115
89	Surgical and interventional robotics: Part II. IEEE Robotics and Automation Magazine, 2008, 15, 94-102.	2.0	37
90	Surgical and interventional robotics: part III [Tutorial]. IEEE Robotics and Automation Magazine, 2008, 15, 84-93.	2.0	44

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91	Preliminary results in experimental identification of 3-DOF coupled dynamical plant for underwater vehicles. , 2008, , .		14
92	Toward under-ice operations with hybrid underwater robotic vehicles. , 2008, , .		3
93	Proof of concept demonstration of the Hybrid Remotely Operated Vehicle (HROV) light fiber tether system. , 2008, , .		15
94	The Nereus hybrid underwater robotic vehicle for global ocean science operations to 11,000m depth. , 2008, , .		43
95	MRI Compatibility of Robot Actuation Techniques – A Comparative Study. Lecture Notes in Computer Science, 2008, 11, 509-517.	1.3	57
96	Experimental Results in Synchronous-Clock One-Way-Travel-Time Acoustic Navigation for Autonomous Underwater Vehicles. , 2007, , .		103
97	Longitudinal Control Design and Performance Evaluation for the Nereus 11,000 m Underwater Vehicle. , 2007, , .		5
98	Numerical Simulation of the Deployment of a Hybrid ROV Optical Fiber Tether. , 2007, , 633.		1
99	PRELIMINARY SIMULATION STUDIES OF A NEW FOUR-QUADRANT PROPELLER THRUST CONTROLLER APPLIED TO UNDERWATER VEHICLES. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 217-222.	0.4	1
100	In Situ Alignment Calibration of Attitude and Doppler Sensors for Precision Underwater Vehicle Navigation: Theory and Experiment. IEEE Journal of Oceanic Engineering, 2007, 32, 286-299.	3.8	75
101	Model-Based Nonlinear Observers for Underwater Vehicle Navigation: Theory and Preliminary Experiments. Proceedings - IEEE International Conference on Robotics and Automation, 2007, , .	0.0	12
102	Adaptive Identification on the Group of Rigid-Body Rotations and its Application to Underwater Vehicle Navigation. , 2007, 23, 124-136.		74
103	Submeter bathymetric mapping of volcanic and hydrothermal features on the East Pacific Rise crest at 9°50'N. Geochemistry, Geophysics, Geosystems, 2007, 8, n/a-n/a.	2.5	40
104	Design and Preliminary Accuracy Studies of an MRI-Guided Transrectal Prostate Intervention System. , 2007, 10, 59-67.		13
105	Session Overview Underwater Robotics. , 2007, , 399-401.		0
106	Transrectal Prostate Biopsy and Fiducial Marker Placement in a Standard 1.5T Magnetic Resonance Imaging Scanner. Journal of Urology, 2006, 175, 113-120.	0.4	89
107	A preliminary analysis and model of prostate injection distributions. Prostate, 2006, 66, 344-357.	2.3	20
108	Robotically assisted prostate brachytherapy with transrectal ultrasound guidance – Phantom experiments. Brachytherapy, 2006, 5, 14-26.	0.5	74

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109	Field Tests of the Hybrid Remotely Operated Vehicle (HROV) Light Fiber Optic Tether. , 2006, , .		13
110	A Mission Controller for High Level Control of Autonomous and Semi-Autonomous Underwater Vehicles. , 2006, , .		7
111	Recent Advances in Synchronous-Clock One-Way-Travel-Time Acoustic Navigation. , 2006, , .		54
112	Haptic Feedback Enhancement Through Adaptive Force Scaling: Theory and Experiment. , 2006, , 293-316.		1
113	Design of a Novel MRI Compatible Manipulator for Image Guided Prostate Interventions. IEEE Transactions on Biomedical Engineering, 2005, 52, 306-313.	4.2	263
114	An Interventional Magnetic Resonance Imaging Technique for the Molecular Characterization of Intraprostatic Dynamic Contrast Enhancement. Molecular Imaging, 2005, 4, 153535002005041.	1.4	14
115	An interventional magnetic resonance imaging technique for the molecular characterization of intraprostatic dynamic contrast enhancement. Molecular Imaging, 2005, 4, 63-6.	1.4	7
116	Preliminary field experience with the DVLNAV integrated navigation system for oceanographic submersibles. Control Engineering Practice, 2004, 12, 1541-1549.	5.5	102
117	Model-Based Dynamic Positioning of Underwater Robotic Vehicles: Theory and Experiment. IEEE Journal of Oceanic Engineering, 2004, 29, 169-186.	3.8	193
118	Exploring the Deepest Depths: Preliminary Design of a Novel Light-Tethered Hybrid ROV for Global Science in Extreme Environments. Marine Technology Society Journal, 2004, 38, 92-101.	0.4	35
119	Adaptive identification of dynamically positioned underwater robotic vehicles. IEEE Transactions on Control Systems Technology, 2003, 11, 505-515.	5.2	100
120	A miniature microsurgical instrument tip force sensor for enhanced force feedback during robot-assisted manipulation. IEEE Transactions on Automation Science and Engineering, 2003, 19, 917-922.	2.3	142
121	Task Performance in Stapedotomy: Comparison Between Surgeons of Different Experience Levels. Otolaryngology - Head and Neck Surgery, 2003, 128, 71-77.	1.9	25
122	System for MR Image-guided Prostate Interventions: Canine Study. Radiology, 2003, 228, 886-894.	7.3	78
123	Preliminary Field Experience with the DVLNAV Integrated Navigation System for Manned and Unmanned Submersibles. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 79-84.	0.4	22
124	A New Control System for the Next Generation of US and UK Deep Submergence Oceanographic ROVS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 133-138.	0.4	10
125	Adaptive Parameter Identification of an Accurate Nonlinear Dynamical Model for Marine Thrusters. Journal of Dynamic Systems, Measurement and Control, Transactions of the ASME, 2003, 125, 491-494.	1.6	11
126	Iron Age Shipwrecks in Deep Water off Ashkelon, Israel. American Journal of Archaeology, 2002, 106, 151-168.	0.1	121

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127	Robot-Assisted Stapedotomy: Micropick Fenestration of the Stapes Footplate. Otolaryngology - Head and Neck Surgery, 2002, 127, 417-426.	1.9	45
128	Adaptive force control of position/velocity controlled robots: theory and experiment. IEEE Transactions on Automation Science and Engineering, 2002, 18, 121-137.	2.3	150
129	Transrectal Prostate Biopsy Inside Closed MRI Scanner with Remote Actuation, under Real-Time Image Guidance. Lecture Notes in Computer Science, 2002, , 91-98.	1.3	38
130	Performance Evaluation of a Cooperative Manipulation Microsurgical Assistant Robot Applied to Stapedotomy. Lecture Notes in Computer Science, 2001, , 1426-1429.	1.3	5
131	Motion-Based Robotic Instrument Targeting under C-Arm Fluoroscopy. Lecture Notes in Computer Science, 2000, , 988-998.	1.3	15
132	A Miniature Instrument Tip Force Sensor for Robot/Human Cooperative Microsurgical Manipulation with Enhanced Force Feedback. Lecture Notes in Computer Science, 2000, , 897-906.	1.3	24
133	Microbathymetric Mapping from Underwater Vehicles in the Deep Ocean. Computer Vision and Image Understanding, 2000, 79, 143-161.	4.7	58
134	The discovery of ancient history in the deep sea using advanced deep submergence technology. Deep-Sea Research Part I: Oceanographic Research Papers, 2000, 47, 1591-1620.	1.4	70
135	An accurate four-quadrant nonlinear dynamical model for marine thrusters: theory and experimental validation. IEEE Journal of Oceanic Engineering, 2000, 25, 146-159.	3.8	98
136	Development, comparison, and preliminary experimental validation of nonlinear dynamic thruster models. IEEE Journal of Oceanic Engineering, 1999, 24, 481-494.	3.8	114
137	Preliminary experiments in model-based thruster control for underwater vehicle positioning. IEEE Journal of Oceanic Engineering, 1999, 24, 495-506.	3.8	65
138	Performance of Robotic Augmentation in Microsurgery-Scale Motions. Lecture Notes in Computer Science, 1999, , 1108-1115.	1.3	18
139	Teleprogramming for subsea teleoperation using acoustic communication. IEEE Journal of Oceanic Engineering, 1998, 23, 60-71.	3.8	29
140	A modular surgical robotic system for image guided percutaneous procedures. Lecture Notes in Computer Science, 1998, , 404-410.	1.3	108
141	An efficient needle injection technique and radiological guidance method for percutaneous procedures. Lecture Notes in Computer Science, 1997, , 295-298.	1.3	36
142	Adaptive model-based hybrid control of geometrically constrained robot arms. IEEE Transactions on Automation Science and Engineering, 1997, 13, 105-116.	2.3	59
143	Comparative experiments with a new adaptive controller for robot arms. IEEE Transactions on Automation Science and Engineering, 1993, 9, 59-70.	2.3	195