

Enfoque y alcance

La **Revista Iberoamericana de Automática e Informática Industrial (RIAI)** es el órgano de expresión del **Comité Español de Automática (CEA)**, miembro de la Federación Internacional de Control Automático (**IFAC**). La revista se desarrolla en el marco de la comunidad iberoamericana, y en general, en los entornos en los que el español constituye el idioma básico y no excluyente de comunicación. RIAI engloba el amplio campo de la **Teoría de Control**, la **Ingeniería de Sistemas**, la **Automatización**, la **Robótica**, la **Regulación Automática** y las diferentes tecnologías empleadas en la realización de los sistemas de control, en particular los basados en computadores y redes de comunicaciones.

Dentro del campo citado previamente, RIAI engloba artículos enmarcados en las siguientes temáticas, **siempre que tengan contenidos relacionados con la Automática y la Informática Industrial.**

- Teoría de control y sistemas.
- Ingeniería de control de procesos e instrumentación.
- Técnicas de control avanzado.
- Automatización y control de sistemas de producción.
- Robótica y sistemas robotizados.
- Arquitecturas de control y tecnología de computadores aplicada al control automático de sistemas.
- Sistemas de tiempo real e informática industrial aplicados al control automático de sistemas.
- Filtrado, estimación y análisis y tratamiento de señales e imágenes aplicados al control automático de sistemas.
- Visión por computador aplicada al control automático de sistemas.
- Modelado, identificación, simulación y optimización de sistemas.
- Inteligencia computacional y técnicas de supervisión y detección de fallos aplicados al control automático de sistemas.
- Historia de la automática. La automática en sistemas sociales, económicos y empresariales.
- Cuestiones docentes y de formación en automática.
- Control de sistemas en red y complejos a gran escala.
- Control de procesos industriales, sistemas energéticos, mineros, ingeniería civil y edificios.
- Control de sistemas de transporte y vehículos.
- Control en bioingeniería, biología, agricultura, ecología y medicina.
- Control de máquinas y motores y mecatrónica.

LISTADO DE ARTÍCULOS RECIENTES POR AÑOS

<p>Sánchez, C., Muñoz de la Peña, D., Gómez-Estern, F. 2020. Automated generation of control design benchmark problems for computer-assessed education with Doctus. Revista Iberoamericana de Automática e Informática Industrial, 17(1):1-9. https://doi.org/10.4995/riai.2019.11243</p>	<p>Control education, Educational aids 2, Teaching, PID Control, Linear control systems, Benchmark examples, Software tools, Automated assessment.</p>
<p>Suárez, R. Palomo-Avellaneda, L., Martínez, J., Clos, D., García, N. 2020. Dual-arm dexterous mobile manipulator with new omnidirectional wheels. Revista Iberoamericana de Automática e Informática Industrial, 17(1):10-21. https://doi.org/10.4995/riai.2019.11422</p>	<p>Robotics and robotic systems, Industrial Robotics and robotic manipulators, Robot manipulators, Dexterous manipulators.</p>
<p>García-Moreno, A., González-Barbosa, J. 2020. Virtual 3D reconstruction of complex urban environments. Revista Iberoamericana de Automática e Informática Industrial, 17(1):22-33. https://doi.org/10.4995/riai.2019.11203</p>	<p>3D reconstruction, texturing, Meshing, LIDAR.</p>
<p>Roman, J. Marquez-Viloria, D., Velásquez, R.A., Botero-Valencia, J. 2020. Indoor Positioning system using FM radio stations signals and deep learning. Revista Iberoamericana de Automática e Informática Industrial, 17(1):34-43. https://doi.org/10.4995/riai.2019.10894</p>	<p>Frequency Modulation, Indoor, Position Estimation, Positioning Systems, Radio Signals.</p>
<p>Velasco, E., Zapata-Impata, B.S., Gil, P., Torres, F. 2020. Object classification using bimodal perception data extracted from single-touch robotic grasps. Revista Iberoamericana de Automática e Informática Industrial, 17(1):44-55. https://doi.org/10.4995/riai.2019.10923</p>	<p>Robotic manipulators, Proprioceptive-tactile perception, Proprioceptive-tactile learning, Objects classification, Objects recognition.</p>
<p>Hidalgo, C.E., Marcano, M., Fernández, G., Pérez, J.M. 2020. Cooperative maneuvers applied to automated vehicles in real and virtual environments. Revista Iberoamericana de Automática e Informática Industrial, 17(1):56-65. https://doi.org/10.4995/riai.2019.11155</p>	<p>Cooperative Maneuvers, Hybrid Cooperative Framework, ACC, Stop & Go, ITS, Fuzzy Logic.</p>
<p>Lattarulo, R., Matute, J.A., Pérez, J., Gomez Garay, V. 2020. Dual-modular architecture for developing and validation of decision and control modules for automated vehicles. Revista Iberoamericana de Automática e Informática Industrial, 17(1):66-75. https://doi.org/10.4995/riai.2019.9542</p>	<p>Automotive, Intelligent and automated vehicles, Guidance, Control architecture, Planning and trajectory tracking, Multibody systems.</p>
<p>Blanco, J., García, A., Cañas, V. 2020. Analysis and characterization of the backscatter-link frequency in passive UHF-RFID systems. Revista Iberoamericana de Automática e Informática Industrial, 17(1):76-83. https://doi.org/10.4995/riai.2019.11115</p>	<p>Radio-frequency identification, passive tag, Backscatter-Link Frequency, frequency dispersion, protocol communication, pseudorandom sequences.</p>
<p>Jove, E., Casteleiro-Roca, J., Quintián, H., Méndez-Pérez, J.A., Calvo-Rolle, J.L. 2020. Anomaly detection based on intelligent techniques over a bicomponent production plant used on wind generator blades manufacturing. Revista Iberoamericana de Automática e Informática Industrial, 17(1):84-93. https://doi.org/10.4995/riai.2019.11055</p>	<p>Renewable energy systems, Windmills, Fault detection, System diagnosis, Neural networks.</p>
<p>Núñez A., J.R., Benítez P., I.F., Proenza Y., R., Vázquez S., L., Díaz M., D. Methodology of fault diagnosis for grid-connected photovoltaic systems of network connection. 2020. Revista Iberoamericana de Automática e Informática Industrial, 17(1):94-105. https://doi.org/10.4995/riai.2019.11449</p>	<p>Detection, isolation, diagnosis, identification, estimation and accommodation of faults, photovoltaic systems, monitoring and supervision.</p>
<p>Arevalo, V., Vicente-del-Rey, J.M., Garcia-Morales, I., Rivas-Blanco, I. 2020. Minivideos tutorials to reinforce the learning of basic concepts for an Automatic Control course. Revista Iberoamericana de Automática e Informática Industrial, 17(2):107-115. https://doi.org/10.4995/riai.2020.12156</p>	<p>Control education, teaching tools, automatic control theory, linear control systems, e-learning.</p>

Zaragoza, S., Sánchez, J., Baños, A. 2020. Identification of first and second order systems by reset control. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 17(2):116-129. https://doi.org/10.4995/riai.2020.11598	Non-linear control systems, reset control, system identification and parameters estimation, closed-loop identification.
Terán, R., Pérez, J., Beristáin, J., Cárdenas, V. 2020. PI-STA cascade controller tuning for active power filter applications. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 17(2):130-143. https://doi.org/10.4995/riai.2020.12403	Active power filters, inverters, power electronics, cascade control, sliding-mode control, PI controller, power quality.
Mañas-Álvarez, F.J., Blanco-Claraco, J.L., Torres-Moreno, J.L., Giménez-Fernández, A. 2020. Modeling and multivariable control of the urban electric vehicle UAL-eCARM. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 17(2):144-155. https://doi.org/10.4995/riai.2019.12679	Multi-input/multi-output systems, PID control, electric and solar vehicles.
Manrique-Córdoba, J., Romero-Ante, J.D., Vivas, A., Vicente, J.M., Sabater-Navarro, J.M. 2020. Mathematical modeling of food intake and insulin infusion in a patient with type 1 Diabetes in closed loop. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 17(2):156-168. https://doi.org/10.4995/riai.2019.11161	Type 1 diabetes, mathematical model dynamic glucose insulin, insulin regulation in closed loop.
Cecilia, A., Costa-Castelló, R. 2020. High gain observer with dynamic deadzone to estimate liquid water saturation in PEM fuel cells. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 17(2):169-180. https://doi.org/10.4995/riai.2020.12689	State observers, measurement noise, nonlinear systems, renewable energy systems.
Villanueva, J., Bueno, M., Simón, J., Molinas, M., Flores, J., Méndez, P.E. 2020. Application of Hilbert-Huang transform in the analysis of satellite-communication signals. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 17(2):181-189. https://doi.org/10.4995/riai.2019.10878	Satellite-communication signals, empirical-mode-decomposition, instant-frequency, Hilbert Huang transform.
Torralba-Morales, L.M., Reynoso-Meza, G., Carrillo-Ahumada, J. 2020. Tuning and comparison of design concepts applying Pareto optimality. A case study of Cholette bioreactor. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 17(2):190-201. https://doi.org/10.4995/riai.2019.11424	PID control, design concepts, Cholette's bioreactor, optimum control, decision making.
García, J.M., Valero, A., Bohórquez, A. 2020. Suspension effect in tip-over stability and steerability of robots moving on terrain discontinuities. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 17(2):202-214. https://doi.org/10.4995/riai.2020.12308	Passive suspension, skid steer robot, tip-over stability, vehicle steerability, computer simulation.
Flores-Calero, M., Torres-Torriti, M., Retamales-Ortega, F., Rosas-Díaz, F. 2020. Low-cost virtual presence platform for people with severe motor disability. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 17(2):215-228. https://doi.org/10.4995/riai.2019.10634	Motor disability, low-cost, assistive technology, virtual presence, social interaction, children.
Toriz Palacios, A., Sánchez López, A. 2020. On the expected improvement of odometry estimation in integrated exploration. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 17(2):229-238. https://doi.org/10.4995/riai.2019.11828	Autonomous mobile robot, path planning, motion estimation, position errors, error rates.
Bordons, C., Garcia-Torres, F., Ridao, M.A. 2020. Model predictive control of interconnected microgrids and electric vehicles. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 17(3):239-253. https://doi.org/10.4995/riai.2020.13304	Microgrids, control of renewable energy resources, dynamic interaction of power plants, predictive control, multiagent systems, smart grids, optimal operation and control of power systems, intelligent control of power systems.
Madridano, Á., Campos, S., Al-Kaff, A., García, F., Martín, D., Escalera, A. 2020. Unmanned aerial vehicle for fire surveillance and monitoring. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 17(3):254-263.	UAVs, detection, sensors, intelligent autonomous vehicles, navigation,

https://doi.org/10.4995/riai.2020.11806	monitoring.
Sanchez-Fontes, E., Avila Vilchis, J.C., Vilchis-González, A.H., Saldivar, B., Jacinto-Villegas, J.M., Martínez-Mendez, R. 2020. New stable by construction autonomous aerial vehicle: configuration and dynamic model. Revista Iberoamericana de Automática e Informática Industrial, 17(3):244-275. https://doi.org/10.4995/riai.2020.11603	Stability, unmanned aerial vehicle (UAV), dynamic model, actuators.
Avalos Gómez, J.U., Stevens-Navarro, E., Pineda-Rico, U., Cárdenas-Juárez, M., Arce, A., González, S. 2020. Dynamic adaptation of delayed time of diffusion of emergency messages in cognitive vehicular networks. Revista Iberoamericana de Automática e Informática Industrial, 17(3):276-284. https://doi.org/10.4995/riai.2019.12067	Vehicular and transport systems, wireless technology and mobile devices, emergency messages and security, broadcast storm, spectrum sharing.
Temoltzi-Ávila, R., Ávila-Pozos, R. 2020. Attainability set of a mechanical controllable system and conditions of robust stability. Revista Iberoamericana de Automática e Informática Industrial, 17(3):285-293. https://doi.org/10.4995/riai.2020.11938	Differential equations, nonlinear systems of control, perturbations, robust stability.
Roldán-Gómez, J.J., de León Rivas, J., Garcia-Aunon, P., Barrientos, A. 2020. A review on multi-robot systems: current challenges for operators and new developments of interfaces. Revista Iberoamericana de Automática e Informática Industrial, 17(3):294-305. https://doi.org/10.4995/riai.2020.13100	Robotics, robots, operators, interfaces, man-machine interaction.
Oggier, E., Botterón, F., Oggier, G., García, G. 2020. Decoupled digital control of a three-phase four-leg inverter to feed balanced and unbalanced loads. Revista Iberoamericana de Automática e Informática Industrial, 17(3):306-317. https://doi.org/10.4995/riai.2020.13011	Three phase inverter, power electronics, internal model control, decoupling.
Schaaf, M. 2020. Hybrid model predictive control of a gravity separator with intermittent product extraction. Revista Iberoamericana de Automática e Informática Industrial, 17(3):318-328. https://doi.org/10.4995/riai.2020.11957	Process control, multivariable control, hybrid predictive control, mixed continuous-batch processes, image processing.
Gil, J.D., Roca, L., Berenguel, M. 2020. Modelling and automatic control in solar membrane distillation: Fundamentals and proposals for its technological development. Revista Iberoamericana de Automática e Informática Industrial, 17(4):329-343. https://doi.org/10.4995/riai.2020.13122	Modelling, control, membrane distillation, desalination, solar thermal energy.
Scaglia, G.J.E., Serrano, M.E., Albertos, P. 2020. Linear algebra based trajectory control. Revista Iberoamericana de Automática e Informática Industrial, 17(4):344-353. https://doi.org/10.4995/riai.2020.13584	Trajectory control, feedforward control, feedback control, disturbances, model uncertainty, model based control.
Solis, A., Hurtado, J. 2020. Software reuse in industrial robotics: A systematic mapping. Revista Iberoamericana de Automática e Informática Industrial, 17(4):354-367. https://doi.org/10.4995/riai.2020.13335	Reusability, industrial robotics, robotic manipulator, robot programming.
Sánchez-Sánchez, P., Arteaga-Pérez, M.A. 2020. Position and force control with mass estimation for cooperative systems. Revista Iberoamericana de Automática e Informática Industrial, 17(4):368-379. https://doi.org/10.4995/riai.2020.12432	Cooperative robots, adaptive control, force control, holonomic constraints, hyperbolic tangent functions.
González, G., Aligia, D., Pezzani, C., De Angelo, C. 2020. Ciclist's torque observer in electric power assisted bicycles. Revista Iberoamericana de Automática e Informática Industrial, 17(4):380-389. https://doi.org/10.4995/riai.2020.12923	Electric bicycle, electric power assistance, EPAC, Pedelec, load model, disturbance observer.
Rios, Y., García-Rodríguez, J., Sanchez, E., Alanis, A., Ruiz-Velázquez, E., Pardo, A. 2020. Neuro-fuzzy control for artificial pancreas: in silico development and validation. Revista Iberoamericana de Automática e Informática Industrial, 17(4):390-400.	Type1 Diabetes Mellitus, hardware in the loop, embedded controller, artificial pancreas.

https://doi.org/10.4995/riai.2020.13035	
Miranda-Vega, J.E., Rivas-López, M., Flores-Fuentes, W., Sergiyenko, O., Lindner, L., Rodríguez-Quinonez, J.C. 2020. Pattern recognition applying LDA and LR to optoelectronic signals of optical scanning systems. Revista Iberoamericana de Automática e Informática Industrial, 17(4):401-411. https://doi.org/10.4995/riai.2020.12385	Analysis and treatment of signals, sensors and virtual instruments, noise, modulation, 3D stereo vision.
Mendoza, E., Fuentes, P., Benítez, I., Reina, D., Núñez, J. 2020. Network of multi-hop wireless sensors for low cost and extended area home automation systems. Revista Iberoamericana de Automática e Informática Industrial, 17(4):412-423. https://doi.org/10.4995/riai.2020.12301	Sensors, networks, communications systems, communications networks, microprocessors, architectures, distributed control.
Manilla-García, A., Rivas-Camero, I., Guerrero-Rodríguez, N.F. 2020. Proposal of model of current consumption variation of an MSIP due to the effect of imbalance due to the presence of surface cracks in the rotor. Revista Iberoamericana de Automática e Informática Industrial, 17(4):424-431. https://doi.org/10.4995/riai.2020.12200	Modeling of the continuous system, parameter estimation, system simulation, imbalance in rotor, inductance variation, fissure mechanism.
Belman-Lopez, C.E., Jiménez-García, J.A., Hernández-González, S. 2020. Comprehensive analysis of design principles in the context of Industry 4.0. Revista Iberoamericana de Automática e Informática Industrial, 17(4):423-447. https://doi.org/10.4995/riai.2020.12579	Industry 4.0, flexible and intelligent manufacturing systems, fourth industrial revolution, modeling and control of manufacturing systems, automation.
Guzmán, J.L., Acién, F.G., Berenguel, M. 2021. Modelling and control of microalgae production in industrial photobioreactors. Revista Iberoamericana de Automática e Informática Industrial, 18(1):1-18. https://doi.org/10.4995/riai.2020.13604	Microalgae; modelling; control; photobioreactors; biotechnology.
Mahulea, C., González, R., Montijano, E., Silva, M. 2021. Path planning of multirobot systems using Petri net models. Results and open problems. Revista Iberoamericana de Automática e Informática Industrial, 18(1):19-31. https://doi.org/10.4995/riai.2020.13785	Path planning; multirobot systems; discrete event systems; Petri nets.
Pantano, M.N., Fernández, M.C., Rodríguez, L., Scaglia, G.J.E. 2021. Dynamic optimization based on Fourier. Application to the biodiesel process. Revista Iberoamericana de Automática e Informática Industrial, 18(1):32-38. https://doi.org/10.4995/riai.2020.12920	Optimal control; parameterization; nonlinear systems; renewable energy systems; optimal trajectory.
Soto, I., Campa, R., Sánchez-Mazuca, S. 2021. Modeling and control with friction compensation of a pendubot system. Revista Iberoamericana de Automática e Informática Industrial, 18(1):39-47. https://doi.org/10.4995/riai.2020.13083	Modelling; control; friction; compensation; mechanical systems.
Cardona, M., Serrano, F., Martín, J.A., Rausell, E., Saltarén, R., García-Cena, C.E. 2021. The exoskeleton for gait rehabilitation ALICE: dynamic analysis and control system evaluation using Hamilton quaternions. Revista Iberoamericana de Automática e Informática Industrial, 18(1):48-57. https://doi.org/10.4995/riai.2020.12558	Control; dynamics; exoskeleton; multiple sclerosis; lower limb; rehabilitation; robotics.
Gallardo-Alvarado, J., Tinajero-Campos, J.H., Sánchez-Rodríguez, Á. 2021. Kinematic of a configurable manipulator using screw theory. Revista Iberoamericana de Automática e Informática Industrial, 18(1):58-67. https://doi.org/10.4995/riai.2020.12793	Industrial robotics and robotic manipulators; multibody systems; robot kinematics; robotic systems.
Massiris, M., Fernández, J.A., Bajo, J., Delrieux, C. 2021. An automated system for monitoring the use of personal protective equipment in the construction industry. Revista Iberoamericana de Automática e Informática Industrial, 18(1):68-74. https://doi.org/10.4995/riai.2020.13243	Automation; occupational risk prevention; personal protective equipment; neural networks; computer vision.
Orellana, A., Rodríguez, R., Yanez, D., Valdés-Sosa, P. 2021. Fusion of PET/CT neuroimaging using a Wavelet-based and the Haar discrete transform scheme. Revista Iberoamericana de Automática e Informática Industrial, 18(1):75-81. https://doi.org/10.4995/riai.2020.12977	Fusion of images; bicubic Interpolation; Wavelet transform; discrete Haar transform; image treatment.

<p>Espinosa, F., Santos, C., Sierra-García, J.E. 2021. Multi-AGV transport of a load: state of art and centralized proposal. Revista Iberoamericana de Automática e Informática Industrial, 18(1):82-91. https://doi.org/10.4995/riai.2020.12846</p>	<p>AVGs, automatic guided vehicle, omnidirectional transport unit, cooperative transport, industrial control, industrial sector.</p>
<p>Muros, F.J. 2021. Coalitional control in the framework of cooperative game theory. Revista Iberoamericana de Automática e Informática Industrial, 18(2):93-108. https://doi.org/10.4995/riai.2020.13456</p>	<p>Coalitional control; control by clustering; distributed control; optimal control; linear feedbacks; cooperative game theory; Shapley value; linear matrix inequalities.</p>
<p>Azketa, E., Mendiáldua, X., Ibarguren, I., Solís, A. 2021. Synchronization method for distributed systems with functional safety. Revista Iberoamericana de Automática e Informática Industrial, 18(2):109-114. https://doi.org/10.4995/riai.2020.14022</p>	<p>Clock synchronization; distributed systems; functional safety; redundancy.</p>
<p>Hidalgo, H., Huerta, H. 2021. Sliding mode control for an electric vehicle with differential speed. Revista Iberoamericana de Automática e Informática Industrial, 18(2):115-124. https://doi.org/10.4995/riai.2020.13440</p>	<p>Vehicle dynamic systems; electric vehicles; sliding mode control; robust control; lagrangian systems.</p>
<p>Hernandez-Vicen, J., Martinez, S., Balaguer, C. 2021. Basic principles for the development of an application to bi-manipulate boxes with a humanoid robot. Revista Iberoamericana de Automática e Informática Industrial, 18(2):125-133. https://doi.org/10.4995/riai.2020.13097</p>	<p>Computer vision; errors correction; classification; humanoid robot.</p>
<p>Escaño, J.M., Sánchez, A.J., Ceballos, M., Gallego, A.J., Camacho, E.F. 2021. Neuro-fuzzy estimator, with complexity reduction, of the temperatures of a parabolic-trough solar field. Revista Iberoamericana de Automática e Informática Industrial, 18(2):134-145. https://doi.org/10.4995/riai.2020.13261</p>	<p>Neurofuzzy systems; functional principal component analysis; state space estimation; solar trough plant; complexity reduction.</p>
<p>Marchante, G., Acosta, A., González, A.I., Zamarreño, J.M., Álvarez, V. 2021. Comfort constraints evaluation in predictive controller for energy efficiency. Revista Iberoamericana de Automática e Informática Industrial, 18(2):146-159. https://doi.org/10.4995/riai.2020.13937</p>	<p>Model predictive control; thermal comfort; energy consumption; adaptive model.</p>
<p>Márquez-Vera, M.A., López-Ortega, O., Ramos-Velasco, L.E., Ortega-Mendoza, R.M., Fernández-Neri, B.J., Zúñiga-Peña, N.S. 2021. Fault diagnosis in industrial process by using LSTM and an elastic net. Revista Iberoamericana de Automática e Informática Industrial, 18(2):160-171. https://doi.org/10.4995/riai.2020.13611</p>	<p>Fault diagnosis; wavelet transform; recurrent neural networks; independent component analysis; elastic net.</p>
<p>Díaz, J.M., Costa-Castelló, R., Dormido, S. 2021. An interactive approach to control systems analysis and design by the root locus technique. Revista Iberoamericana de Automática e Informática Industrial, 18(2):172-188. https://doi.org/10.4995/riai.2020.13811</p>	<p>Control education; computer-aided control system design; root locus diagrams; interactive approaches.</p>
<p>Lerma, E., Costa-Castelló, R., Griñó, R., Sanchis, C. 2021. Tools for teaching digital control in engineering degrees. Revista Iberoamericana de Automática e Informática Industrial, 18(2):189-199. https://doi.org/10.4995/riai.2020.13756</p>	<p>Digital implementation; linear systems; curricular developments for teaching control in engineering; education in the field of control using laboratory equipment.</p>
<p>Martínez, B.V., Sanchis, J., García-Nieto, S., Martínez, M. 2021. Active disturbance rejection control: a guide for design and application. Revista Iberoamericana de Automática e Informática Industrial, 18(3):201-217. https://doi.org/10.4995/riai.2020.14058</p>	<p>Active control; disturbance rejection; linear control systems; parametrization; linear estimation.</p>
<p>Rosas Almeida, D.I., González Solis, E.V., Raya Díaz, G. 2021. Robust teleoperation of mechanical systems based on active disturbances compensation control structure. Revista Iberoamericana de Automática e</p>	<p>Teleoperation; robust control; disturbance estimation.</p>

Informática Industrial, 18(3):218-229. https://doi.org/10.4995/riai.2021.14433	
García-Aunon, P., Roldán, J.J., De León, J., Del Cerro, J., Barrientos, A. 2021. Practical applications using multi-UAV systems and aerial robotic swarms. Revista Iberoamericana de Automática e Informática Industrial, 18(3):230-241. https://doi.org/10.4995/riai.2020.13560	Multi-UAV; Aerial swarms; Tasks; Deployment; Coverage; Search and rescue; Surveillance; Monitoring; Transport.
Ghersin, A.S., Giribet, J.I., Luiso, J., Tournour, A. 2021. H-infinity robust displacement velocity control of a UAV based upon optical flow estimation. Revista Iberoamericana de Automática e Informática Industrial, 18(3):242-253. https://doi.org/10.4995/riai.2021.14370	H-infinity robust control; optical flow; identification; UAV; dynamic uncertainty.
López-Estrada, F.R., Méndez-López, A., Santos-Ruiz, I., Valencia-Palomo, G., Escobar-Gómez, E. 2021. Fault detection in unmanned aerial vehicles via orientation signals and machine learning. Revista Iberoamericana de Automática e Informática Industrial, 18(3):254-264. https://doi.org/10.4995/riai.2020.14031	Unmanned aerial vehicle; Fault detection and isolation; Principal component analysis; Machine learning; Quadrotor.
Rico-Azagra, J., Gil-Martínez, M., Rico, R., Nájera, S., Elvira, C. 2021. A benchmark for orientation control of a multicopter in a three degrees-of-freedom rotation structure. Revista Iberoamericana de Automática e Informática Industrial, 18(3):265-276. https://doi.org/10.4995/riai.2021.14356	Unmanned aerial vehicle (UAV); attitude control; control education; simulator; testbed.
Aguilar-López, J.M., García, R.A., Camacho, E.F. 2021. Shape detection algorithm applicable to solar estimation. Revista Iberoamericana de Automática e Informática Industrial, 18(3):277-287. https://doi.org/10.4995/riai.2021.14765	Estimation; Mobile robots; Two layers algorithm.
Aparicio-Santos, J., Hermsillo-Gómez, J., Benítez-Pérez, H., Álvarez-Icaza, L. 2021. Fuzzy controller to compensate communication loads in real-time. Revista Iberoamericana de Automática e Informática Industrial, 18(3):288-299. https://doi.org/10.4995/riai.2021.14544	Resource manager; constant bandwidth server; timer resources allocation; fuzzy control; real-time systems.
Dintén, R., López Martínez, P., Zorrilla, M. 2021. Reference architecture for the design and development of applications for Industry 4.0. Revista Iberoamericana de Automática e Informática Industrial, 18(3):300-311. https://doi.org/10.4995/riai.2021.14532	Data-centric architecture; metamodel; model-based development; industrial applications; industry 4.0.
Vilanova, R., Alcántara, S., Pedret, C. 2021. PID Tuning: Analytical approach based on the weighted Sensitivity problem. Revista Iberoamericana de Automática e Informática Industrial, 18(4):313-326. https://doi.org/10.4995/riai.2021.15422	PID; Process Control; Robustness Analysis; Disturbance rejection; Tracking.
Sierra-García, J.E., Santos, M. 2021. Neural networks and reinforcement learning in wind turbine control. Revista Iberoamericana de Automática e Informática Industrial, 18(4):327-335. https://doi.org/10.4995/riai.2021.16111	Wind turbines; pitch control; intelligent control; neural networks reinforcement learning.
Pacheco-Montiel, J., Badaoui, M., Rodríguez-Rivas, J.J., Alvarado-Farías, J.M., Carranza-Castillo, O., Ortega-González, R. 2021. Optimization of the efficiency in an induction machine drive by algorithm based on the interior point method. Revista Iberoamericana de Automática e Informática Industrial, 18(4):336-346. https://doi.org/10.4995/riai.2020.13418	Inverter Drives; Controlling Induction Machines; efficiency Enhancement; Optimization Problems.
Troviano, M., Piri-Botalla, L.E., Oggier, G.G. 2021. Modulation strategy to minimize the reactive power in the AC-link of isolated three-port DC-DC converters. Revista Iberoamericana de Automática e Informática Industrial, 18(4):347-359. https://doi.org/10.4995/riai.2021.14612	Triple active bridge converter (TAB); reactive power; AC-link; modulation strategy; soft-switching.
Hernández-Méndez, A., Guerrero-Castellanos, J.F., Orozco-Urbieto, T., Linares-Flores, J., Mino-Aguilar, G., Curiel, G. 2021. Distributed event-triggered communication for angular speed synchronization of networked BLDC motors. Revista Iberoamericana de Automática e Informática Industrial, 18(4):360-370. https://doi.org/10.4995/riai.2021.14989	Disturbance rejection; cooperative control; event-based control; consensus; mechatronics; control theory.

Rodríguez, F., Garrido, D., Núñez, R., Oggier, G., García, G. 2021. Dynamic and steady-state modeling of modular input-series-output-series connected dual active bridge converters <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 18(4):371-384. https://doi.org/10.4995/riai.2021.14866	Average model; small signal analysis; series-connected DC-DC converters; power electronics systems; modeling and simulation.
Paredes, L., Molina, M., Serrano, B. 2021. Improvement of dynamic voltage stability in a microgrid using a DSTATCOM <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 18(4):385-395. https://doi.org/10.4995/riai.2021.14813	Dynamic voltage stability; DSTATCOM; microgrid; dynamic loads; induction motors.
Hernández-Almudi, P., Suárez, D., Montijano, E., Merino, J. 2021. Intelligent control of temperature with dynamic voltage-frequency scaling (DVFS) in embedded processors <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 18(4):396-406. https://doi.org/10.4995/riai.2021.14200	Intelligent control of temperature; computer architecture; DVFS.
del Horno, L., Somolinos, J.A., Segura, E., Morales, R. 2021. Comparative study of control algorithms for maneuvers of first generation TECs and two degrees of freedom <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 18(4):407-418. https://doi.org/10.4995/riai.2021.14974	Marine renewable energies; dynamic modelling; multivariable control systems; OrcaFlex-Matlab integration; experimental prototype; emersion maneuvers.
Maestre, J. M., Chanfreut, P., García Martín, J., Masero, E., Inoue, M. y F. Camacho, E. (2021). "Predictive Control of Cyber-Physical Systems". <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 1–12. doi: 10.4995/riai.2021.15771.	Model predictive control, robots and multi-robot systems control, cyber-physical systems control, human-machine interaction in automatic control systems, coalitional control
Vallejo, P. M. and Vega, P. (2021) "Integration of the FMBPC strategy in a Closed-Loop Predictive Control structure. Application to the control of activated sludge", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 13–26. doi: 10.4995/riai.2021.15793.	Model-based predictive control, Fuzzy control and fuzzy systems in control, Intelligent control techniques, Control of systems with restrictions, Multivariable control, Automatic control of water treatment systems
Vacca Sisterna, C., Serrano, E., Scaglia, G. and Rossomando, F. (2021) "Mixed control for trajectory tracking in marine vessels", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 27–36. doi: 10.4995/riai.2021.15027.	Adaptive control, linear algebra, trajectory tracking, marine vessel, nonlinear control
Armesto, L. and Sala, A. (2021) "Volume-weighted Bellman error method for adaptive meshing in approximate dynamic programming", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 37–47. doi: 10.4995/riai.2021.15698.	Intelligent control, approximate dynamic programming, optimal control, neural learning
Barahona-Avalos, J. L., Juárez-Abad, J. A., Galván-Cruz, G. S. and Linares-Flores, J. (2021) "Active disturbance rejection control of temperature of thermoelectric module", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 48–60. doi: 10.4995/riai.2021.14728.	Thermoelectric module, active disturbance rejection, GPI observer
Guerrero-Castellanos, J. F. and González-Romeo, L. L. (2021) "Position control system via active disturbance rejection for laser optical systems", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 61–73. doi: 10.4995/riai.2021.14852.	Laser beam stabilization system, active disturbance rejection control, linear extended state observer, input-to-state stability (ISS)
Vázquez, U., González-Sierra, J., Fernández-Anaya, G. and Hernández-Martínez, E. G. (2021) "Performance analysis of a PID fractional order control in a differential mobile robot", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 74–83. doi: 10.4995/riai.2021.15036.	Fractional control, Differential-drive robot, Tracking control, PID Control

Sánchez, R., Sierra-García, J. E. and Santos, M. (2021) "Modelling of a hybrid differential-tricycle AGV", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 84–95. doi: 10.4995/riai.2021.14622.	Modelling and simulation, AGV, Tricycle, Differential, Dynamic model, Kinematics, Autonomous Robots
López, M. G., Artega, M. A., Gutiérrez, A. I. and Nuño, E. (2021) "Experimental results on the control of a robot bilateral teleoperation system with time varying delays", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 96–107. doi: 10.4995/riai.2021.14834.	Bilateral teleoperators, observer design, time varying delays, delayed kinematic correspondence
Llorella, F. R., Iáñez, E., Azorín, J. M. and Patow, G. (2021) "Binary visual imagery discriminator from EEG signals based on convolutional neural networks", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 108–116. doi: 10.4995/riai.2021.14987.	Brain-switch, visual imagery, convolutional neuronal network, power spectral density, EEG
Muñoz de la Peña, D., Domínguez, M., Gomez-Estern, F., Reinoso, Óscar, Torres, F. and Dormido, S. (2022) "State of the art of control education", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 117–131. doi: 10.4995/riai.2022.16989.	Control engineering curriculum, E-learning, distance learning and learning management systems, Experimental platforms, Automatic evaluation, Long-life learning, Teaching tools and laboratories, Interactive tools, virtual and remote laboratories, Teaching methodologies, Industry relations
Munoz-Ceballos, N. D. and Suarez-Rivera, G. (2022) "Performance criteria for evaluating mobile robot navigation algorithms: a review", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 132–143. doi: 10.4995/riai.2022.16427.	Mobile robot, control system, trajectory tracking, performance index, energy, navigation algorithm
Javier, Uzal, L. and Pire, T. (2021) "WGANVO: monocular visual odometry based on generative adversarial networks", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 144–153. doi: 10.4995/riai.2022.16113.	Localization, Neural networks, Mobile robots
Díaz-Cano, I., Quintana, F. M., Galindo, P. L. and Morgado-Estevez, A. (2021) "Eye-to-hand calibration of an industrial robotic arm with structured light 3D cameras", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 154–163. doi: 10.4995/riai.2021.16054.	Hand-eye calibration, Industrial robotics, Computer vision applied to robotics, Autonomous robotic systems
González Hernández, J., Rodríguez Miranda, E., Guzmán Sánchez, J. L., Ación Fernández, F. G. and Visioli, A. (2022) "Temperature optimization in microalgae raceway reactors by depth regulation", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 164–173. doi: 10.4995/riai.2022.16586.	Microalgae, Open reactors, Temperature optimization, Control
Garrido Satué, M., Castaño Castaño, F., Ortega Linares, M. G. and Rodríguez Rubio, F. (2022) "Pointing performance evaluation of control strategies for high concentration photovoltaic sun trackers", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 174–185. doi: 10.4995/riai.2022.16905.	Control of renewable energy resources, Modeling, Tracking, Energy systems, Identification and control methods
Ochoa Sosa, J. E., Rubén, Oggier, G. E., Oggier, G. G. and Guillermo (2022) "Fault-Tolerant Scheme of Load-Side Transistors Applied to Three-Phase Dual Active Bridge DC-DC Converters", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 186–198. doi: 10.4995/riai.2022.15408.	Three-Phase Dual Active Bridges Converter, power electronics systems, modeling and simulation, detection and diagnosis
Beristáin, J. A. and Pérez, J. (2022) "Bidirectional three-phase DC-AC converter with high frequency isolation: modeling using switching functions", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 199–209. doi: 10.4995/riai.2022.14936.	High-frequency-link isolation, switching functions, modelling, bidirectional power flow

da Cunha e Silva, L. C. and Andrade Romero, J. F. (2021) "Hybrid methodology for filling level estimation in ball mill", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 210–220. doi: 10.4995/riai.2021.13064.	System identification and parameter estimation, mining, hybrid systems modeling, monitoring and supervision
Hernández-Vázquez, J. O., Hernández-González, S., Hernández-Vázquez, J. I., Jiménez-García, J. A. and Hernández-Ripalda, M. D. (2021) "Multi-objective analysis of the buffer allocation problem with simulation meta-models and a hybrid metaheuristic", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(2), pp. 221–232. doi: 10.4995/riai.2021.15731.	Buffer allocation problem (BAP), meta-models, hybrid metaheuristic, optimization, production line
Ramos-Teodoro, J. and Rodríguez, F. (2022) "Distributed energy production, control and management: a review of terminology and common approaches", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 233–253. doi: 10.4995/riai.2022.16497.	Microgrids, virtual power plants, energy hubs, multi-energy systems, distributed multi-generation, economic dispatch, energy management, Model-based predictive control, control and scheduling
Castro, L., Bueno-López, M. and Juan (2022) "Strategy for the implementation of hierarchical control in microgrids", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 254–264. doi: 10.4995/riai.2022.15741.	Microgrid, Voltage Source Converter, Fuzzy Control, Hierarchical control
Yudho-Montes de Oca, E., Maya-Rodríguez, M. C., Tolentino-Eslava, R. and Lozano-Hernández, Y. (2022) "A real-time stable neuro-controller to reduce the energy consumption in a centrifugal pump under disturbances", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 265–273. doi: 10.4995/riai.2022.16060.	Neural Networks, Process control, Real-time control, Adaptive control by neural networks, Water supply and distribution systems
Hoyo Sánchez, Ángeles, Guzmán Sánchez, J. L., Moreno Úbeda, J. C. and Baños Torrico, A. (2022) "Robust control of pH in a raceway photobiorreactor", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 274–283. doi: 10.4995/riai.2022.16731.	Robust control, QFT, Raceway, Fotobioreactors, Microalge
de Prada, C., Galán-Casado, S. ., Pitarch, J. L. ., Sarabia, D. ., Galán, A. . and Gutiérrez, G. . (2022) "Digital twins for process industry", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 285–296. doi: 10.4995/riai.2022.16901.	Modelling and decision making in complex systems, Simulation, Real time optimization and control, Parameter and state estimation, Monitoring and performance assessment, Human operator support
Cevallos, D., Martín, C. A., El Mistiri, M., Rivera, D. E. and Hekler, E. (2022) "A decision framework for an adaptive behavioral intervention for physical activity using hybrid model predictive control: illustration with Just Walk", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 297–308. doi: 10.4995/riai.2022.16798.	Model predictive control of hybrid systems, control of physiological and clinical variables, system identification
Gallego Len, A. J. ., Sánchez del Pozo, A. J. . and F. Camacho, E. (2022) "Application of model predictive control to parabolic trough thermal solar plants", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 309–317. doi: 10.4995/riai.2022.16664.	Automatic Control, Solar Energy, Predictive Controller, Parabolic-trough, Optimization
Garelli, F., Fushimi, E., Rosales, N., Arambarri, D., Serafini, M. C., De Battista, H., Grosebacher, L. A. and Sánchez-Peña, R. S. (2022) "Non-hybrid glycemic control of type 1 diabetes ambulatory patients", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 318–329. doi: 10.4995/riai.2022.16652.	Artificial pancreas, clinical trials, switched control
Peccin, V. B., Lima, D. M., Flesch, R. C. C. . and Normey-Rico, J. E. (2022) "Fast constrained dynamic matrix control algorithm with online optimization", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 330–342. doi: 10.4995/riai.2022.16619.	Model Predictive Control, Optimization, Fast Processes, FPGA, Automotive systems

Castillo, A., Garcia, P. and Albertos, P. (2022) "Disturbance Observer-Based Controllers: operating principles and design strategies", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 343–355. doi: 10.4995/riai.2022.16856.	Disturbance Observer-Based Controllers, Robust Control, Uncertain Systems, MIMO Systems, Optimal Control, LQR
Fernandez-Serantes, L. A., Casteleiro-Roca, J. L. and Calvo-Rolle, J. L. (2022) "Hybrid intelligent system for detection of Soft-Switching mode and control of a boost converter", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 356–368. doi: 10.4995/riai.2022.16656.	Classification, Half-bridge buck, Power electronics, Soft-switching, Hard-switching
Balbastre, P., Aceituno, J. M., Guasque, A., Blanes, J. F., Crespo, A. and Poza, J. L. (2022) "Scheduling of hard real-time systems using non-conventional techniques", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 369–379. doi: 10.4995/riai.2022.17148.	Real-time control systems, Control system scheduling, cyber physical systems, Embedded control systems
Mondié, S. and Gomez, M.-A. (2022) "Linear time-delay systems: the complete type functionals approach", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 381–393. doi: 10.4995/riai.2022.16828.	Time-delay systems, Stability analysis, Linear systems, Controller design
Moreno, J. A. and Fridman, L. (2022) "Lyapunov-based HOSM control", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 394–406. doi: 10.4995/riai.2022.17013.	Sliding Modes, Variable Structure Control, Lyapunov Methods, Integral Control, Nonlinear Observers
Sandoval, J., Kelly, R. and Santibáñez, V. (2022) "On the energy shaping plus damping injection control of mechanical systems", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 407–418. doi: 10.4995/riai.2022.16862.	Energy control, Lyapunov stability, Robot control, Mechanical systems
Castaños, F. (2022) "Multi-valued control of port-Hamiltonian systems", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 419–429. doi: 10.4995/riai.2022.16814.	Passivity-based control, Lagrangian and Hamiltonian systems, differential inclusions, robust controller synthesis, controller constraints and structure
Rodríguez-Cortés, H. (2022) "Mexican researchers contributions to unmanned aerial vehicles control", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 430–441. doi: 10.4995/riai.2022.16870.	Unmanned Aerial Vehicles, Energy based control, Real Time
Espinosa-Pérez, G. (2022) "Control of electric power microgrids: a hamiltonian approach", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 442–451. doi: 10.4995/riai.2022.17020.	Electric Power Systems, Microgrids, Port-controlled Hamiltonian Systems, Passivity-based Control

En prensa

Morales, H., Aguirre Zapata, E., di Sciascio, F. and Amicarelli, A. (2022) "Control strategies with variable Setpoint applied to the C Crystallization process in the sugar industry", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17096.	Supersaturation, Crystallization Processes, Control strategy with variable Setpoint, Mass of Crystals
Gomez, J. A., Rossomando, F. ., Capraro, F. . and Soria, C. . (2022) "Real-time neuro-adaptive PI control of soil moisture using a hybrid model", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17106.	Precise irrigation, soil moisture model, drip irrigation, neural PI control
Anderson, J. L., Moré, J. J., Puleston, P. F., Roda, V. and Costa-Castelló, R. (2022) "Super-Twisting control with zero crossing gain adaptation. Stability analysis and validation", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17214.	Sliding Mode Control, Gain Adaptation, Super-Twisting Adaptation, Power systems
García Caicedo, J. M., Yáñez Amestica, P. A. and Martínez Delgado, J. E. (2022) "Evaluation of navigability in skid-steer mobile robots with passive trailers moving on sloping terrain", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17161.	Navigability, mobile robots, tip-over stability, steerability, slide-down, tractor-trailer, inclined terrain, slope

	negotiation
Garrido Satué, M., Ruiz Arahall, M. and Rodríguez Ramírez, D. (2022) "Rotor Current Estimation in Predictive Control of Multi-phase Drives", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17153.	Predictive control, Multi-phase systems, Rotating electric machine, Estimation
Mora, J. P., Samper, J. and Rodriguez, C. F. (2022) "Bayesian optimization study for energy consumption reduction of a parallel robot during pick and place tasks", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.16724.	Bayesian optimization, energy expenditure, robot manipulators, optimal trajectory, robot dynamics
Uribe-Chavert, P., Posadas-Yagüe, J.-L., Balbastre, P. and Poza-Luján, J.-L. (2022) "Modular distributed architecture for intelligent traffic control", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17068.	Distributed systems, Intelligent control, Traffic control, Urban systems
Martínez-Luzuriaga, P. N. and Reynoso-Meza, G. (2022) "Influence of hyper-parameters in algorithms based on Differential Evolution for the adjustment of PID-type controllers in SISO processes through mono and multi-objective optimisation", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.16517.	PID tuning, Evolutionary algorithms, Hyper-parameters tuning, Optimisation
Aguirre-Zapata, E., Garcia-Tirado, J., Morales, H., di Sciascio, F. and Amicarelli, A. N. (2022) "Methodology for modeling and parameter estimation of the growth process of Lobesia botrana", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17746.	Modeling and identification of biological systems, Parameter estimation, Gray box modeling, Lobesia botrana, Nonlinear least-squares, Structural identifiability
Calle Chojeda, E. T., Oliden Semino, J. and Ipanaqué Alama, W. (2022) "Control of a non-linear and non-minimum phase multivariable system using a neural predictive controller", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17375.	Model based predictive control, artificial neural networks, MIMO systems, quadruple-tank system
García, J. M., Moncada, J. N. and Rodríguez Cotrina, J. J. (2022) "Improving the navigability of a mobile robot considering the energy consumption of its arm", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17806.	Energy consumption, Navigability, Skid steer robot, Slide-Down, Tip-over stability, Vehicle steerability
Chacón Sombría, J., Goncalves López Medrano, D., Besada Portas, E. and López-Orozco, J. A. (2022) "A low-cost open-source remote laboratory for the educational robot arm Dobot Magician", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17477.	Robotics Education, Remote Laboratory, Robotic Arms, Robot Programming, EJS
Belman-López, C. E., Jiménez-García, J. A., Vázquez-Lopez, J. A. and Camarillo-Gómez, K. A. (2022) "Design of an architecture for systems and applications in Industry 4.0 based on cloud computing and data analysis", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17791.	Industry 4.0, system architecture, cloud computing, data analysis, applications development
Liu, R., Guzmán, J. L., García-Mañas, F. and Li, M. (2022) "Selective temperature and humidity control strategy for a chinese solar greenhouse with an event-based approach", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.18119.	Selective control, PI control, Event-based control, Agriculture, Greenhouse

LISTADO DE ARTÍCULOS RECIENTES POR TEMÁTICAS



Revista Iberoamericana de Automática e Informática Industrial



Automática Marina

2020	
Paper	Original keywords

2021	
Paper	Original keywords
del Horno, L., Somolinos, J.A., Segura, E., Morales, R. 2021. Comparative study of control algorithms for maneuvers of first generation TECs and two degrees of freedom Revista Iberoamericana de Automática e Informática Industrial, 18(4):407-418. https://doi.org/10.4995/riai.2021.14974	Marine renewable energies; dynamic modelling; multivariable control systems; OrcaFlex-Matlab integration; experimental prototype; emersion maneuvers.
2022	
Vacca Sisterna, C., Serrano, E., Scaglia, G. and Rossomando, F. (2021) "Mixed control for trajectory tracking in marine vessels", Revista Iberoamericana de Automática e Informática industrial, 19(1), pp. 27–36. doi: 10.4995/riai.2021.15027.	Adaptive control, linear algebra, trajectory tracking, marine vessel, nonlinear control

2020	
Paper	Original keywords
Manrique-Córdoba, J., Romero-Ante, J.D., Vivas, A., Vicente, J.M., Sabater-Navarro, J.M. 2020. Mathematical modeling of food intake and insulin infusion in a patient with type 1 Diabetes in closed loop. Revista Iberoamericana de Automática e Informática Industrial, 17(2):156-168. https://doi.org/10.4995/riai.2019.11161	Type 1 diabetes, mathematical model dynamic glucose insulin, insulin regulation in closed loop.
Rios, Y., García-Rodríguez, J., Sanchez, E., Alanis, A., Ruiz-Velázquez, E., Pardo, A. 2020. Neuro-fuzzy control for artificial pancreas: in silico development and validation. Revista Iberoamericana de Automática e Informática Industrial, 17(4):390-400. https://doi.org/10.4995/riai.2020.13035	Type1 Diabetes Mellitus, hardware in the loop, embedded controller, artificial pancreas.
2021	
Paper	Original keywords
Guzmán, J.L., Ación, F.G., Berenguel, M. 2021. Modelling and control of microalgae production in industrial photobioreactors. Revista Iberoamericana de Automática e Informática Industrial, 18(1):1-18. https://doi.org/10.4995/riai.2020.13604	Microalgae; modelling; control; photobioreactors; biotechnology.
Cardona, M., Serrano, F., Martín, J.A., Rausell, E., Saltarén, R., García-Cena, C.E. 2021. The exoskeleton for gait rehabilitation ALICE: dynamic analysis and control system evaluation using Hamilton quaternions. Revista Iberoamericana de Automática e Informática Industrial, 18(1):48-57. https://doi.org/10.4995/riai.2020.12558	Control; dynamics; exoskeleton; multiple sclerosis; lower limb; rehabilitation; robotics.
2022	
Llorella, F. R., Láñez, E., Azorín, J. M. and Patow, G. (2021) “Binary visual imagery discriminator from EEG signals based on convolutional neural networks”, Revista Iberoamericana de Automática e Informática industrial, 19(1), pp. 108–116. doi: 10.4995/riai.2021.14987.	Brain-switch, visual imagery, convolutional neuronal network, power spectral density, EEG
Garelli, F., Fushimi, E., Rosales, N., Arambarri, D., Serafini, M. C., De Battista, H., Grosebacher, L. A. and Sánchez-Peña, R. S. (2022) “Non-hybrid glycemic control of type 1 diabetes ambulatory patients”, Revista Iberoamericana de Automática e Informática industrial, 19(3), pp. 318–329. doi: 10.4995/riai.2022.16652.	Artificial pancreas, clinical trials, switched control

Control Inteligente

2020	
Paper	Original keywords
Hidalgo, C.E., Marcano, M., Fernández, G., Pérez, J.M. 2020. Cooperative maneuvers applied to automated vehicles in real and virtual environments. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 17(1):56-65. https://doi.org/10.4995/riai.2019.11155	Cooperative Maneuvers, Hybrid Cooperative Framework, ACC, Stop & Go, ITS, Fuzzy Logic.
Jove, E., Casteleiro-Roca, J., Quintián, H., Méndez-Pérez, J.A., Calvo-Rolle, J.L. 2020. Anomaly detection based on intelligent techniques over a bicomponent production plant used on wind generator blades manufacturing. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 17(1):84-93. https://doi.org/10.4995/riai.2019.11055	Renewable energy systems, Windmills, Fault detection, System diagnosis, Neural networks.
2021	
Paper	Original keywords
Escaño, J.M., Sánchez, A.J., Ceballos, M., Gallego, A.J., Camacho, E.F. 2021. Neuro-fuzzy estimator, with complexity reduction, of the temperatures of a parabolic-trough solar field. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 18(2):134-145. https://doi.org/10.4995/riai.2020.13261	Neurofuzzy systems; functional principal component analysis; state space estimation; solar trough plant; complexity reduction.
Márquez-Vera, M.A., López-Ortega, O., Ramos-Velasco, L.E., Ortega-Mendoza, R.M., Fernández-Neri, B.J., Zúñiga-Peña, N.S. 2021. Fault diagnosis in industrial process by using LSTM and an elastic net. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 18(2):160-171. https://doi.org/10.4995/riai.2020.13611	Fault diagnosis; wavelet transform; recurrent neural networks; independent component analysis; elastic net.
López-Estrada, F.R., Méndez-López, A., Santos-Ruiz, I., Valencia-Palomo, G., Escobar-Gómez, E. 2021. Fault detection in unmanned aerial vehicles via orientation signals and machine learning. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 18(3):254-264. https://doi.org/10.4995/riai.2020.14031	Unmanned aerial vehicle; Fault detection and isolation; Principal component analysis; Machine learning; Quadrotor.
Aguilar-López, J.M., García, R.A., Camacho, E.F. 2021. Shape detection algorithm applicable to solar estimation. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 18(3):277-287. https://doi.org/10.4995/riai.2021.14765	Estimation; Mobile robots; Two layers algorithm.
Aparicio-Santos, J., Hermosillo-Gómez, J., Benítez-Pérez, H., Álvarez-Icaza, L. 2021. Fuzzy controller to compensate communication loads in real-time. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 18(3):288-299. https://doi.org/10.4995/riai.2021.14544	Resource manager; constant bandwidth server; timer resources allocation; fuzzy control; real-time systems.
Sierra-García, J.E., Santos, M. 2021. Neural networks and reinforcement learning in wind turbine control <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 18(4):327-335. https://doi.org/10.4995/riai.2021.16111	Wind turbines; pitch control; intelligent control; neural networks reinforcement learning.
Hernández-Almudi, P., Suárez, D., Montijano, E., Merino, J. 2021. Intelligent control of temperature with dynamic voltage-frequency scaling (DVFS) in embedded processors <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 18(4):396-406. https://doi.org/10.4995/riai.2021.14200	Intelligent control of temperature; computer architecture; DVFS.
2022	
Armesto, L. and Sala, A. (2021) "Volume-weighted Bellman error method for adaptive meshing in approximate dynamic programming", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 37–47. doi: 10.4995/riai.2021.15698.	Intelligent control, approximate dynamic programming, optimal control, neural learning
Yudho-Montes de Oca, E., Maya-Rodríguez, M. C., Tolentino-Eslava, R. and Lozano-Hernández, Y. (2022) "A real-time stable neuro-controller to reduce the energy consumption in a centrifugal pump under disturbances", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(3), pp. 265–273.	Neural Networks, Process control, Real-time control, Adaptive control by neural networks, Water supply and

doi: 10.4995/riai.2022.16060.	distribution systems
Fernandez-Serantes, L. A., Casteleiro-Roca, J. L. and Calvo-Rolle, J. L. (2022) "Hybrid intelligent system for detection of Soft-Switching mode and control of a boost converter", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 356–368. doi: 10.4995/riai.2022.16656.	Classification, Half-bridge buck, Power electronics, Soft-switching, Hard-switching
En prensa	
Gomez, J. A., Rossomando, F. ., Capraro, F. . and Soria, C. . (2022) "Real-time neuro-adaptive PI control of soil moisture using a hybrid model", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17106.	Precise irrigation, soil moisture model, drip irrigation, neural PI control
Calle Chojeda, E. T., Oliden Semino, J. and Ipanaqué Alama, W. (2022) "Control of a non-linear and non-minimum phase multivariable system using a neural predictive controller", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17375.	Model based predictive control, artificial neural networks, MIMO systems, quadruple-tank system

Educación

2020	
Paper	Original keywords
Sánchez, C., Muñoz de la Peña, D., Gómez-Estern, F. 2020. Automated generation of control design benchmark problems for computer-assessed education with Doctus. Revista Iberoamericana de Automática e Informática Industrial, 17(1):1-9. https://doi.org/10.4995/riai.2019.11243	Control education, Educational aids 2, Teaching, PID Control, Linear control systems, Benchmark examples, Software tools, Automated assessment.
Arevalo, V., Vicente-del-Rey, J.M., Garcia-Morales, I., Rivas-Blanco, I. 2020. Minivideos tutorials to reinforce the learning of basic concepts for an Automatic Control course. Revista Iberoamericana de Automática e Informática Industrial, 17(2):107-115. https://doi.org/10.4995/riai.2020.12156	Control education, teaching tools, automatic control theory, linear control systems, e-learning.
Flores-Calero, M., Torres-Torriti, M., Retamales-Ortega, F., Rosas-Díaz, F. 2020. Low-cost virtual presence platform for people with severe motor disability. Revista Iberoamericana de Automática e Informática Industrial, 17(2):215-228. https://doi.org/10.4995/riai.2019.10634	Motor disability, low-cost, assistive technology, virtual presence, social interaction, children.
Madridano, Á., Campos, S., Al-Kaff, A., García, F., Martín, D., Escalera, A. 2020. Unmanned aerial vehicle for fire surveillance and monitoring. Revista Iberoamericana de Automática e Informática Industrial, 17(3):254-263. https://doi.org/10.4995/riai.2020.11806	UAVs, detection, sensors, intelligent autonomous vehicles, navigation, monitoring.
2021	
Paper	Original keywords
Díaz, J.M., Costa-Castelló, R., Dormido, S. 2021. An interactive approach to control systems analysis and design by the root locus technique. Revista Iberoamericana de Automática e Informática Industrial, 18(2):172-188. https://doi.org/10.4995/riai.2020.13811	Control education; computer-aided control system design; root locus diagrams; interactive approaches.
Lerma, E., Costa-Castelló, R., Griñó, R., Sanchis, C. 2021. Tools for teaching digital control in engineering degrees. Revista Iberoamericana de Automática e Informática Industrial, 18(2):189-199. https://doi.org/10.4995/riai.2020.13756	Digital implementation; linear systems; curricular developments for teaching control in engineering; education in the field of control using laboratory equipment.
2022	
Muñoz de la Peña, D., Domínguez, M., Gomez-Estern, F., Reinoso, Óscar, Torres, F. and Dormido, S. (2022) "State of the art of control education", Revista Iberoamericana de Automática e Informática industrial, 19(2), pp. 117–131. doi: 10.4995/riai.2022.16989.	Control engineering curriculum, E-learning, distance learning and learning management systems, Experimental platforms, Automatic evaluation, Long-life learning, Teaching tools and laboratories, Interactive tools, virtual and remote laboratories, Teaching methodologies, Industry relations
En prensa	
Chacón Sombría, J., Goncalves López Medrano, D., Besada Portas, E. and López-Orozco, J. A. (2022) "A low-cost open-source remote laboratory for the educational robot arm Dobot Magician", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17477.	Robotics Education, Remote Laboratory, Robotic Arms, Robot Programming, EJS

2020	
Paper	Original keywords
Zaragoza, S., Sánchez, J., Baños, A. 2020. Identification of first and second order systems by reset control. Revista Iberoamericana de Automática e Informática Industrial, 17(2):116-129. https://doi.org/10.4995/riai.2020.11598	Non-linear control systems, reset control, system identification and parameters estimation, closed-loop identification.
Mañas-Álvarez, F.J., Blanco-Claraco, J.L., Torres-Moreno, J.L., Giménez-Fernández, A. 2020. Modeling and multivariable control of the urban electric vehicle UAL-eCARM. Revista Iberoamericana de Automática e Informática Industrial, 17(2):144-155. https://doi.org/10.4995/riai.2019.12679	Multi-input/multi-output systems, PID control, electric and solar vehicles.
Cecilia, A., Costa-Castelló, R. 2020. High gain observer with dynamic deadzone to estimate liquid water saturation in PEM fuel cells. Revista Iberoamericana de Automática e Informática Industrial, 17(2):169-180. https://doi.org/10.4995/riai.2020.12689	State observers, measurement noise, nonlinear systems, renewable energy systems.
Torralba-Morales, L.M., Reynoso-Meza, G., Carrillo-Ahumada, J. 2020. Tuning and comparison of design concepts applying Pareto optimality. A case study of Cholette bioreactor. Revista Iberoamericana de Automática e Informática Industrial, 17(2):190-201. https://doi.org/10.4995/riai.2019.11424	PID control, design concepts, Cholette's bioreactor, optimum control, decision making.
Bordons, C., Garcia-Torres, F., Ridao, M.A. 2020. Model predictive control of interconnected microgrids and electric vehicles. Revista Iberoamericana de Automática e Informática Industrial, 17(3):239-253. https://doi.org/10.4995/riai.2020.13304	Microgrids, control of renewable energy resources, dynamic interaction of power plants, predictive control, multiagent systems, smart grids, optimal operation and control of power systems, intelligent control of power systems.
Temoltzi-Ávila, R., Ávila-Pozos, R. 2020. Attainability set of a mechanical controllable system and conditions of robust stability. Revista Iberoamericana de Automática e Informática Industrial, 17(3):285-293. https://doi.org/10.4995/riai.2020.11938	Differential equations, nonlinear systems of control, perturbations, robust stability.
Schaaf, M. 2020. Hybrid model predictive control of a gravity separator with intermittent product extraction. Revista Iberoamericana de Automática e Informática Industrial, 17(3):318-328. https://doi.org/10.4995/riai.2020.11957	Process control, multivariable control, hybrid predictive control, mixed continuous-batch processes, image processing.
Gil, J.D., Roca, L., Berenguel, M. 2020. Modelling and automatic control in solar membrane distillation: Fundamentals and proposals for its technological development. Revista Iberoamericana de Automática e Informática Industrial, 17(4):329-343. https://doi.org/10.4995/riai.2020.13122	Modelling, control, membrane distillation, desalination, solar thermal energy.
Scaglia, G.J.E., Serrano, M.E., Albertos, P. 2020. Linear algebra based trajectory control. Revista Iberoamericana de Automática e Informática Industrial, 17(4):344-353. https://doi.org/10.4995/riai.2020.13584	Trajectory control, feedforward control, feedback control, disturbances, model uncertainty, model based control.
González, G., Aligia, D., Pezzani, C., De Angelo, C. 2020. Ciclist's torque observer in electric power assisted bicycles. Revista Iberoamericana de Automática e Informática Industrial, 17(4):380-389. https://doi.org/10.4995/riai.2020.12923	Electric bicycle, electric power assistance, EPAC, Pedelec, load model, disturbance observer.
2021	
Paper	Original keywords

Guzmán, J.L., Ación, F.G., Berenguel, M. 2021. Modelling and control of microalgae production in industrial photobioreactors. Revista Iberoamericana de Automática e Informática Industrial, 18(1):1-18. https://doi.org/10.4995/riai.2020.13604	Microalgae; modelling; control; photobioreactors; biotechnology.
Pantano, M.N., Fernández, M.C., Rodríguez, L., Scaglia, G.J.E. 2021. Dynamic optimization based on Fourier. Application to the biodiesel process. Revista Iberoamericana de Automática e Informática Industrial, 18(1):32-38. https://doi.org/10.4995/riai.2020.12920	Optimal control; parameterization; nonlinear systems; renewable energy systems; optimal trajectory.
Hidalgo, H., Huerta, H. 2021. Sliding mode control for an electric vehicle with differential speed. Revista Iberoamericana de Automática e Informática Industrial, 18(2):115-124. https://doi.org/10.4995/riai.2020.13440	Vehicle dynamic systems; electric vehicles; sliding mode control; robust control; lagrangian systems.
Marchante, G., Acosta, A., González, A.I., Zamarreño, J.M., Álvarez, V. 2021. Comfort constraints evaluation in predictive controller for energy efficiency. Revista Iberoamericana de Automática e Informática Industrial, 18(2):146-159. https://doi.org/10.4995/riai.2020.13937	Model predictive control; thermal comfort; energy consumption; adaptive model.
Martínez, B.V., Sanchis, J., García-Nieto, S., Martínez, M. 2021. Active disturbance rejection control: a guide for design and application. Revista Iberoamericana de Automática e Informática Industrial, 18(3):201-217. https://doi.org/10.4995/riai.2020.14058	Active control; disturbance rejection; linear control systems; parametrization; linear estimation.
Ghersin, A.S., Giribet, J.I., Luiso, J., Tournour, A. 2021. H-infinity robust displacement velocity control of a UAV based upon optical flow estimation. Revista Iberoamericana de Automática e Informática Industrial, 18(3):242-253. https://doi.org/10.4995/riai.2021.14370	H-infinity robust control; optical flow; identification; UAV; dynamic uncertainty.
Rico-Azagra, J., Gil-Martínez, M., Rico, R., Nájera, S., Elvira, C. 2021. A benchmark for orientation control of a multicopter in a three degrees-of-freedom rotation structure. Revista Iberoamericana de Automática e Informática Industrial, 18(3):265-276. https://doi.org/10.4995/riai.2021.14356	Unmanned aerial vehicle (UAV); attitude control; control education; simulator; testbed.
Vilanova, R., Alcántara, S., Pedret, C. 2021. PID Tuning: Analytical approach based on the weighted Sensitivity problem. Revista Iberoamericana de Automática e Informática Industrial, 18(4):313-326. https://doi.org/10.4995/riai.2021.15422	PID; Process Control; Robustness Analysis; Disturbance rejection; Tracking.
2022	
Vallejo, P. M. and Vega, P. (2021) "Integration of the FMBPC strategy in a Closed-Loop Predictive Control structure. Application to the control of activated sludge", Revista Iberoamericana de Automática e Informática industrial, 19(1), pp. 13–26. doi: 10.4995/riai.2021.15793.	Model-based predictive control, Fuzzy control and fuzzy systems in control, Intelligent control techniques, Control of systems with restrictions, Multivariable control, Automatic control of water treatment systems
González Hernández, J., Rodríguez Miranda, E., Guzmán Sánchez, J. L., Ación Fernández, F. G. and Visioli, A. (2022) "Temperature optimization in microalgae raceway reactors by depth regulation", Revista Iberoamericana de Automática e Informática industrial, 19(2), pp. 164–173. doi: 10.4995/riai.2022.16586.	Microalgae, Open reactors, Temperature optimization, Control
Garrido Satué, M., Castaño Castaño, F., Ortega Linares, M. G. and Rodríguez Rubio, F. (2022) "Pointing performance evaluation of control strategies for high concentration photovoltaic sun trackers", Revista Iberoamericana de Automática e Informática industrial, 19(2), pp. 174–185. doi: 10.4995/riai.2022.16905.	Control of renewable energy resources, Modeling, Tracking, Energy systems, Identification and control methods

da Cunha e Silva, L. C. and Andrade Romero, J. F. (2021) "Hybrid methodology for filling level estimation in ball mill", Revista Iberoamericana de Automática e Informática industrial, 19(2), pp. 210–220. doi: 10.4995/riai.2021.13064.	System identification and parameter estimation, mining, hybrid systems modeling, monitoring and supervision
Ramos-Teodoro, J. and Rodríguez, F. (2022) "Distributed energy production, control and management: a review of terminology and common approaches", Revista Iberoamericana de Automática e Informática industrial, 19(3), pp. 233–253. doi: 10.4995/riai.2022.16497.	Microgrids, virtual power plants, energy hubs, multi-energy systems, distributed multi-generation, economic dispatch, energy management, Model-based predictive control, control and scheduling
Hoyo Sánchez, Ángeles, Guzmán Sánchez, J. L., Moreno Úbeda, J. C. and Baños Torrico, A. (2022) "Robust control of pH in a raceway photobiorreactor", Revista Iberoamericana de Automática e Informática industrial, 19(3), pp. 274–283. doi: 10.4995/riai.2022.16731.	Robust control, QFT, Raceway, Fotobioreactors, Microalge
Cevallos, D., Martín, C. A., El Mistiri, M., Rivera, D. E. and Hekler, E. (2022) "A decision framework for an adaptive behavioral intervention for physical activity using hybrid model predictive control: illustration with Just Walk", Revista Iberoamericana de Automática e Informática industrial, 19(3), pp. 297–308. doi: 10.4995/riai.2022.16798.	Model predictive control of hybrid systems, control of physiological and clinical variables, system identification
Gallego Len, A. J. ., Sánchez del Pozo, A. J. . and F. Camacho, E. (2022) "Application of model predictive control to parabolic trough thermal solar plants", Revista Iberoamericana de Automática e Informática industrial, 19(3), pp. 309–317. doi: 10.4995/riai.2022.16664.	Automatic Control, Solar Energy, Predictive Controller, Parabolic-trough, Optimization
Peccin, V. B., Lima, D. M., Flesch, R. C. C. . and Normey-Rico, J. E. (2022) "Fast constrained dynamic matrix control algorithm with online optimization", Revista Iberoamericana de Automática e Informática industrial, 19(3), pp. 330–342. doi: 10.4995/riai.2022.16619.	Model Predictive Control, Optimization, Fast Processes, FPGA, Automotive systems
En prensa	
Martínez-Luzuriaga, P. N. and Reynoso-Meza, G. (2022) "Influence of hyper-parameters in algorithms based on Differential Evolution for the adjustment of PID-type controllers in SISO processes through mono and multi-objective optimisation", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.16517.	PID tuning, Evolutionary algorithms, Hyper-parameters tuning, Optimisation
Liu, R., Guzmán, J. L., García-Mañas, F. and Li, M. (2022) "Selective temperature and humidity control strategy for a chinese solar greenhouse with an event-based approach", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.18119.	Selective control, PI control, Event-based control, Agriculture, Greenhouse
Calle Chojeda, E. T., Oliden Semino, J. and Ipanaqué Alama, W. (2022) "Control of a non-linear and non-minimum phase multivariable system using a neural predictive controller", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17375.	Model based predictive control, artificial neural networks, MIMO systems, quadruple-tank system

2020	
Paper	Original keywords
Suárez, R. Palomo-Avellaneda, L., Martínez, J., Clos, D., García, N. 2020. Dual-arm dexterous mobile manipulator with new omnidirectional wheels. Revista Iberoamericana de Automática e Informática Industrial, 17(1):10-21. https://doi.org/10.4995/riai.2019.11422	Robotics and robotic systems, Industrial Robotics and robotic manipulators, Robot manipulators, Dexterous manipulators.
Roman, J. Marquez-Viloria, D., Velásquez, R.A., Botero-Valencia, J. 2020. Indoor Positioning System Using FM Radio Stations Signals and Deep Learning. Revista Iberoamericana de Automática e Informática Industrial, 17(1):34-43. https://doi.org/10.4995/riai.2019.10894	Frequency Modulation, Indoor, Position Estimation, Positioning Systems, Radio Signals.
Velasco, E., Zapata-Impata, B.S., Gil, P., Torres, F. 2020. Object classification using bimodal perception data extracted from single-touch robotic grasps. Revista Iberoamericana de Automática e Informática Industrial, 17(1):44-55. https://doi.org/10.4995/riai.2019.10923	Robotic manipulators, Proprioceptive-tactile perception, Propioceptive-tactile learning, Objects classification, Objects recognition.
Hidalgo, C.E., Marcano, M., Fernández, G., Pérez, J.M. 2020. Cooperative maneuvers applied to automated vehicles in real and virtual environments. Revista Iberoamericana de Automática e Informática Industrial, 17(1):56-65. https://doi.org/10.4995/riai.2019.11155	Cooperative Maneuvers, Hybrid Cooperative Framework, ACC, Stop & Go, ITS, Fuzzy Logic.
Lattarulo, R., Matute, J.A., Pérez, J., Gomez Garay, V. 2020. Dual-modular architecture for developing and validation of decision and control modules for automated vehicles. Revista Iberoamericana de Automática e Informática Industrial, 17(1):66-75. https://doi.org/10.4995/riai.2019.9542	Automotive, Intelligent and automated vehicles, Guidance, Control architecture, Planning and trajectory tracking, Multibody systems.
García, J.M., Valero, A., Bohórquez, A. 2020. Suspension effect in tip-over stability and steerability of robots moving on terrain discontinuities. Revista Iberoamericana de Automática e Informática Industrial, 17(2):202-214. https://doi.org/10.4995/riai.2020.12308	Passive suspension, skid steer robot, tip-over stability, vehicle steerability, computer simulation.
Toriz Palacios, A., Sánchez López, A. 2020. On the expected improvement of odometry estimation in integrated exploration. Revista Iberoamericana de Automática e Informática Industrial, 17(2):229-238. https://doi.org/10.4995/riai.2019.11828	Autonomous mobile robot, path planning, motion estimation, position errors, error rates.
Madridano, Á., Campos, S., Al-Kaff, A., García, F., Martín, D., Escalera, A. 2020. Unmanned aerial vehicle for fire surveillance and monitoring. Revista Iberoamericana de Automática e Informática Industrial, 17(3):254-263. https://doi.org/10.4995/riai.2020.11806	UAVs, detection, sensors, intelligent autonomous vehicles, navigation, monitoring.
Sanchez-Fontes, E., Avila Vilchis, J.C., Vilchis-González, A.H., Saldivar, B., Jacinto-Villegas, J.M., Martínez-Mendez, R. 2020. New stable by construction autonomous aerial vehicle: configuration and dynamic model. Revista Iberoamericana de Automática e Informática Industrial, 17(3):244-275. https://doi.org/10.4995/riai.2020.11603	Stability,unmanned aerial vehicle (UAV), dynamic model, actuators.
Roldán-Gómez, J.J., de León Rivas, J., Garcia-Aunon, P., Barrientos, A. 2020. A review on multi-robot systems: current challenges for operators and new developments of interfaces. Revista Iberoamericana de Automática e Informática Industrial, 17(3):294-305. https://doi.org/10.4995/riai.2020.13100	Robotics, robots, operators, interfaces, man-machine interaction.
Scaglia, G.J.E., Serrano, M.E., Albertos, P. 2020. Linear algebra based trajectory control. Revista Iberoamericana de Automática e Informática Industrial, 17(4):344-353. https://doi.org/10.4995/riai.2020.13584	Trajectory control, feedforward control, feedback control, disturbances, model uncertainty, model based control.

Solis, A., Hurtado, J. 2020. Software reuse in industrial robotics: A systematic mapping. Revista Iberoamericana de Automática e Informática Industrial, 17(4):354-367. https://doi.org/10.4995/riai.2020.13335	Reusability, industrial robotics, robotic manipulator, robot programming.
Sánchez-Sánchez, P., Arteaga-Pérez, M.A. 2020. Position and force control with mass estimation for cooperative systems. Revista Iberoamericana de Automática e Informática Industrial, 17(4):368-379. https://doi.org/10.4995/riai.2020.12432	Cooperative robots, adaptive control, force control, holonomic constraints, hyperbolic tangent functions.
2021	
Paper	Original keywords
Mahulea, C., González, R., Montijano, E., Silva, M. 2021. Path planning of multirobot systems using Petri net models. Results and open problems. Revista Iberoamericana de Automática e Informática Industrial, 18(1):19-31. https://doi.org/10.4995/riai.2020.13785	Path planning; multirobot systems; discrete event systems; Petri nets.
Cardona, M., Serrano, F., Martín, J.A., Rausell, E., Saltarén, R., García-Cena, C.E. 2021. The exoskeleton for gait rehabilitation ALICE: dynamic analysis and control system evaluation using Hamilton quaternions. Revista Iberoamericana de Automática e Informática Industrial, 18(1):48-57. https://doi.org/10.4995/riai.2020.12558	Control; dynamics; exoskeleton; multiple sclerosis; lower limb; rehabilitation; robotics.
Gallardo-Alvarado, J., Tinajero-Campos, J.H., Sánchez-Rodríguez, Á. 2021. Kinematic of a configurable manipulator using screw theory. Revista Iberoamericana de Automática e Informática Industrial, 18(1):58-67. https://doi.org/10.4995/riai.2020.12793	Industrial robotics and robotic manipulators; multibody systems; robot kinematics; robotic systems.
Espinosa, F., Santos, C., Sierra-García, J.E. 2021. Multi-AGV transport of a load: state of art and centralized proposal. Revista Iberoamericana de Automática e Informática Industrial, 18(1):82-91. https://doi.org/10.4995/riai.2020.12846	AVGs, automatic guided vehicle, omnidirectional transport unit, cooperative transport, industrial control, industrial sector.
Hidalgo, H., Huerta, H. 2021. Sliding mode control for an electric vehicle with differential speed. Revista Iberoamericana de Automática e Informática Industrial, 18(2):115-124. https://doi.org/10.4995/riai.2020.13440	Vehicle dynamic systems; electric vehicles; sliding mode control; robust control; lagrangian systems.
Hernandez-Vicen, J., Martinez, S., Balaguer, C. 2021. Basic principles for the development of an application to bi-manipulate boxes with a humanoid robot. Revista Iberoamericana de Automática e Informática Industrial, 18(2):125-133. https://doi.org/10.4995/riai.2020.13097	Computer vision; errors correction; classification; humanoid robot.
García-Aunon, P., Roldán, J.J., De León, J., Del Cerro, J., Barrientos, A. 2021. Practical applications using multi-UAV systems and aerial robotic swarms. Revista Iberoamericana de Automática e Informática Industrial, 18(3):230-241. https://doi.org/10.4995/riai.2020.13560	Multi-UAV; Aerial swarms; Tasks; Deployment; Coverage; Search and rescue; Surveillance; Monitoring; Transport.
Ghersin, A.S., Giribet, J.I., Luiso, J., Tournour, A. 2021. H-infinity robust displacement velocity control of a UAV based upon optical flow estimation. Revista Iberoamericana de Automática e Informática Industrial, 18(3):242-253. https://doi.org/10.4995/riai.2021.14370	H-infinity robust control; optical flow; identification; UAV; dynamic uncertainty.
López-Estrada, F.R., Méndez-López, A., Santos-Ruiz, I., Valencia-Palomo, G., Escobar-Gómez, E. 2021. Fault detection in unmanned aerial vehicles via orientation signals and machine learning. Revista Iberoamericana de Automática e Informática Industrial, 18(3):254-264. https://doi.org/10.4995/riai.2020.14031	Unmanned aerial vehicle; Fault detection and isolation; Principal component analysis; Machine learning; Quadrotor.
Rico-Azagra, J., Gil-Martínez, M., Rico, R., Nájera, S., Elvira, C. 2021. A benchmark for orientation control of a multicopter in a three degrees-of-freedom rotation structure. Revista Iberoamericana de Automática e Informática Industrial, 18(3):265-276. https://doi.org/10.4995/riai.2021.14356	Unmanned aerial vehicle (UAV); attitude control; control education; simulator; testbed.
Aguilar-López, J.M., García, R.A., Camacho, E.F. 2021. Shape detection	Estimation; Mobile robots; Two

algorithm applicable to solar estimation. Revista Iberoamericana de Automática e Informática Industrial, 18(3):277-287. https://doi.org/10.4995/riai.2021.14765	layers algorithm.
2022	
Vázquez, U., González-Sierra, J., Fernández-Anaya, G. and Hernández-Martínez, E. G. (2021) "Performance analysis of a PID fractional order control in a differential mobile robot", Revista Iberoamericana de Automática e Informática industrial, 19(1), pp. 74–83. doi: 10.4995/riai.2021.15036.	Fractional control, Dfferential-drive robot, Tracking control, PID Control
Sánchez, R., Sierra-García, J. E. and Santos, M. (2021) "Modelling of a hybrid differential-tricycle AGV", Revista Iberoamericana de Automática e Informática industrial, 19(1), pp. 84–95. doi: 10.4995/riai.2021.14622.	Modelling and simulation, AGV, Tricycle, Differential, Dynamic model, Kinematics, Autonomous Robots
López, M. G., Artega, M. A., Gutiérrez, A. I. and Nuño, E. (2021) "Experimental results on the control of a robot bilateral teleoperation system with time varying delays", Revista Iberoamericana de Automática e Informática industrial, 19(1), pp. 96–107. doi: 10.4995/riai.2021.14834.	Bilateral teleoperators, observer design, time varying delays, delayed kinematic correspondence
Munoz-Ceballos, N. D. and Suarez-Rivera, G. (2022) "Performance criteria for evaluating mobile robot navigation algorithms: a review", Revista Iberoamericana de Automática e Informática industrial, 19(2), pp. 132–143. doi: 10.4995/riai.2022.16427.	Mobile robot, control system, trajectory tracking, performance index, energy, navigation algorithm
Javier, Uzal, L. and Pire, T. (2021) "WGANVO: monocular visual odometry based on generative adversarial networks", Revista Iberoamericana de Automática e Informática industrial, 19(2), pp. 144–153. doi: 10.4995/riai.2022.16113.	Localization, Neural networks, Mobile robots
Díaz-Cano, I., Quintana, F. M., Galindo, P. L. and Morgado-Estevez, A. (2021) "Eye-to-hand calibration of an industrial robotic arm with structured light 3D cameras", Revista Iberoamericana de Automática e Informática industrial, 19(2), pp. 154–163. doi: 10.4995/riai.2021.16054.	Hand-eye calibration, Industrial robotics, Computer vision applied to robotics, Autonomous robotic systems
Rodríguez-Cortés, H. (2022) "Mexican researchers contributions to unmanned aerial vehicles control", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 430–441. doi: 10.4995/riai.2022.16870.	Unmanned Aerial Vehicles, Energy based control, Real Time
En prensa	
García Caicedo, J. M., Yánez Amestica, P. A. and Martínez Delgado, J. E. (2022) "Evaluation of navigability in skid-steer mobile robots with passive trailers moving on sloping terrain", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17161.	Navigability, mobile robots, tip-over stability, steerability, slide-down, tractor-trailer, inclined terrain, slope negotiation
Mora, J. P., Samper, J. and Rodriguez, C. F. (2022) "Bayesian optimization study for energy consumption reduction of a parallel robot during pick and place tasks", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.16724.	Bayesian optimization, energy expenditure, robot manipulators, optimal trajectory, robot dynamics
García, J. M., Moncada, J. N. and Rodríguez Cotrina, J. J. (2022) "Improving the navigability of a mobile robot considering the energy consumption of its arm", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17806.	Energy consumption, Navigability, Skid steer robot, Slide-Down, Tip-over stability, Vehicle steerability

Simulación y Optimización

2020	
Paper	Original keywords
Torralba-Morales, L.M., Reynoso-Meza, G., Carrillo-Ahumada, J. 2020. Tuning and comparison of design concepts applying Pareto optimality. A case study of Cholette bioreactor. Revista Iberoamericana de Automática e Informática Industrial, 17(2):190-201. https://doi.org/10.4995/riai.2019.11424	PID control, design concepts, Cholette's bioreactor, optimum control, decision making.
Bordons, C., Garcia-Torres, F., Ridaó, M.A. 2020. Model predictive control of interconnected microgrids and electric vehicles. Revista Iberoamericana de Automática e Informática Industrial, 17(3):239-253. https://doi.org/10.4995/riai.2020.13304	Microgrids, control of renewable energy resources, dynamic interaction of power plants, predictive control, multiagent systems, smart grids, optimal operation and control of power systems, intelligent control of power systems.
Schaaf, M. 2020. Hybrid model predictive control of a gravity separator with intermittent product extraction. Revista Iberoamericana de Automática e Informática Industrial, 17(3):318-328. https://doi.org/10.4995/riai.2020.11957	Process control, multivariable control, hybrid predictive control, mixed continuous-batch processes, image processing.
Belman-Lopez, C.E., Jiménez-García, J.A., Hernández-González, S. 2020. Comprehensive analysis of design principles in the context of Industry 4.0. Revista Iberoamericana de Automática e Informática Industrial, 17(4):423-447. https://doi.org/10.4995/riai.2020.12579	Industry 4.0, flexible and intelligent manufacturing systems, fourth industrial revolution, modeling and control of manufacturing systems, automation.
2021	
Paper	Original keywords
Guzmán, J.L., Acién, F.G., Berenguel, M. 2021. Modelling and control of microalgae production in industrial photobioreactors. Revista Iberoamericana de Automática e Informática Industrial, 18(1):1-18. https://doi.org/10.4995/riai.2020.13604	Microalgae; modelling; control; photobioreactors; biotechnology.
Mahulea, C., González, R., Montijano, E., Silva, M. 2021. Path planning of multirobot systems using Petri net models. Results and open problems. Revista Iberoamericana de Automática e Informática Industrial, 18(1):19-31. https://doi.org/10.4995/riai.2020.13785	Path planning; multirobot systems; discrete event systems; Petri nets.
Pantano, M.N., Fernández, M.C., Rodríguez, L., Scaglia, G.J.E. 2021. Dynamic optimization based on Fourier. Application to the biodiesel process. Revista Iberoamericana de Automática e Informática Industrial, 18(1):32-38. https://doi.org/10.4995/riai.2020.12920	Optimal control; parameterization; nonlinear systems; renewable energy systems; optimal trajectory.
Espinosa, F., Santos, C., Sierra-García, J.E. 2021. Multi-AGV transport of a load: state of art and centralized proposal. Revista Iberoamericana de Automática e Informática Industrial, 18(1):82-91. https://doi.org/10.4995/riai.2020.12846	AVGs, automatic guided vehicle, omnidirectional transport unit, cooperative transport, industrial control, industrial sector.
2022	
Hernández-Vázquez, J. O., Hernández-González, S., Hernández-Vázquez, J. I., Jiménez-García, J. A. and Hernández-Ripalda, M. D. (2021) "Multi-objective analysis of the buffer allocation problem with simulation meta-models and a hybrid metaheuristic", Revista Iberoamericana de Automática e Informática industrial, 19(2), pp. 221–232. doi: 10.4995/riai.2021.15731.	Buffer allocation problem (BAP), meta-models, hybrid metaheuristic, optimization, production line
de Prada, C., Galán-Casado, S. , Pitarch, J. L. , Sarabia, D. , Galán, A. . and Gutiérrez, G. . (2022) "Digital twins for process industry", Revista	Modelling and decision making in complex systems,

<p>Iberoamericana de Automática e Informática industrial, 19(3), pp. 285–296. doi: 10.4995/riai.2022.16901.</p>	<p>Simulation, Real time optimization and control, Parameter and state estimation, Monitoring and performance assessment, Human operator support</p>
<p>En prensa</p>	
<p>Morales, H., Aguirre Zapata, E., di Sciascio, F. and Amicarelli, A. (2022) “Control strategies with variable Setpoint applied to the C Crystallization process in the sugar industry”, Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17096.</p>	<p>Supersaturation, Crystallization Processes, Control strategy with variable Setpoint, Mass of Crystals</p>
<p>Aguirre-Zapata, E., Garcia-Tirado, J., Morales, H., di Sciascio, F. and Amicarelli, A. N. (2022) “Methodology for modeling and parameter estimation of the growth process of Lobesia botrana”, Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17746.</p>	<p>Modeling and identification of biological systems, Parameter estimation, Gray box modeling, Lobesia botrana, Nonlinear least-squares, Structural identifiability</p>
<p>Martínez-Luzuriaga, P. N. and Reynoso-Meza, G. (2022) “Influence of hyper-parameters in algorithms based on Differential Evolution for the adjustment of PID-type controllers in SISO processes through mono and multi-objective optimisation”, Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.16517.</p>	<p>PID tuning, Evolutionary algorithms, Hyper-parameters tuning, Optimisation</p>

Sistemas de Control en Red

2020	
Paper	Original keywords
Avalos Gómez, J.U., Stevens-Navarro, E., Pineda-Rico, U., Cárdenas-Juárez, M., Arce, A., González, S. 2020. Dynamic adaptation of delayed time of diffusion of emergency messages in cognitive vehicular networks. Revista Iberoamericana de Automática e Informática Industrial, 17(3):276-284. https://doi.org/10.4995/riai.2019.12067	Vehicular and transport systems, wireless technology and mobile devices, emergency messages and security, broadcast storm, spectrum sharing.
Mendoza, E., Fuentes, P., Benítez, I., Reina, D., Núñez, J. 2020. Network of multi-hop wireless sensors for low cost and extended area home automation systems. Revista Iberoamericana de Automática e Informática Industrial, 17(4):412-423. https://doi.org/10.4995/riai.2020.12301	Sensors, networks, communications systems, communications networks, microprocessors, architectures, distributed control.
Belman-Lopez, C.E., Jiménez-García, J.A., Hernández-González, S. 2020. Comprehensive analysis of design principles in the context of Industry 4.0. Revista Iberoamericana de Automática e Informática Industrial, 17(4):423-447. https://doi.org/10.4995/riai.2020.12579	Industry 4.0, flexible and intelligent manufacturing systems, fourth industrial revolution, modeling and control of manufacturing systems, automation.
2021	
Paper	Original keywords
Hernández-Méndez, A., Guerrero-Castellanos, J.F., Orozco-Urbieta, T., Linares-Flores, J., Mino-Aguilar, G., Curiel, G. 2021. Distributed event-triggered communication for angular speed synchronization of networked BLDC motors Revista Iberoamericana de Automática e Informática Industrial, 18(4):360-370. https://doi.org/10.4995/riai.2021.14989	Disturbance rejection; cooperative control; event-based control; consensus; mechatronics; control theory.

2020	
Paper	Original keywords
Núñez A., J.R., Benítez P., I.F., Proenza Y., R., Vázquez S., L., Díaz M., D. Methodology of fault diagnosis for grid-connected photovoltaic systems of network connection. 2020. Revista Iberoamericana de Automática e Informática Industrial, 17(1):94-105. https://doi.org/10.4995/riai.2019.11449	Detection, isolation, diagnosis, identification, estimation and accommodation of faults, photovoltaic systems, monitoring and supervision.
Terán, R., Pérez, J., Beristáin, J., Cárdenas, V. 2020. PI-STA cascade controller tuning for active power filter applications. Revista Iberoamericana de Automática e Informática Industrial, 17(2):130-143. https://doi.org/10.4995/riai.2020.12403	Active power filters, inverters, power electronics, cascade control, sliding-mode control, PI controller, power quality.
Cecilia, A., Costa-Castelló, R. 2020. High gain observer with dynamic deadzone to estimate liquid water saturation in PEM fuel cells. Revista Iberoamericana de Automática e Informática Industrial, 17(2):169-180. https://doi.org/10.4995/riai.2020.12689	State observers, measurement noise, nonlinear systems, renewable energy systems.
Bordons, C., Garcia-Torres, F., Ridaó, M.A. 2020. Model predictive control of interconnected microgrids and electric vehicles. Revista Iberoamericana de Automática e Informática Industrial, 17(3):239-253. https://doi.org/10.4995/riai.2020.13304	Microgrids, control of renewable energy resources, dynamic interaction of power plants, predictive control, multiagent systems, smart grids, optimal operation and control of power systems, intelligent control of power systems.
Oggier, E., Botterón, F., Oggier, G., García, G. 2020. Decoupled digital control of a three-phase four-leg inverter to feed balanced and unbalanced loads. Revista Iberoamericana de Automática e Informática Industrial, 17(3):306-317. https://doi.org/10.4995/riai.2020.13011	Three phase inverter, power electronics, internal model control, decoupling.
González, G., Aligia, D., Pezzani, C., De Angelo, C. 2020. Ciclist's torque observer in electric power assisted bicycles. Revista Iberoamericana de Automática e Informática Industrial, 17(4):380-389. https://doi.org/10.4995/riai.2020.12923	Electric bicycle, electric power assistance, EPAC, Pedelec, load model, disturbance observer.
Manilla-García, A., Rivas-Camero, I., Guerrero-Rodríguez, N.F. 2020. Proposal of model of current consumption variation of an MSIP due to the effect of imbalance due to the presence of surface cracks in the rotor. Revista Iberoamericana de Automática e Informática Industrial, 17(4):424-431. https://doi.org/10.4995/riai.2020.12200	Modeling of the continuous system, parameter estimation, system simulation, imbalance in rotor, inductance variation, fissure mechanism.
2021	
Paper	Original keywords
Pacheco-Montiel, J., Badaoui, M., Rodríguez-Rivas, J.J., Alvarado-Farías, J.M., Carranza-Castillo, O., Ortega-González, R. 2021. Optimization of the efficiency in an induction machine drive by algorithm based on the interior point method Revista Iberoamericana de Automática e Informática Industrial, 18(4):336-346. https://doi.org/10.4995/riai.2020.13418	Inverter Drives; Controlling Induction Machines; efficiency Enhancement; Optimization Problems.
Troviano, M., Piri-Botalla, L.E., Oggier, G.G. 2021. Modulation strategy to minimize the reactive power in the AC-link of isolated three-port DC-DC converters Revista Iberoamericana de Automática e Informática Industrial, 18(4):347-359. https://doi.org/10.4995/riai.2021.14612	Triple active bridge converter (TAB); reactive power; AC-link; modulation strategy; soft-switching.
Hernández-Méndez, A., Guerrero-Castellanos, J.F., Orozco-Urbieto, T., Linares-Flores, J., Mino-Aguilar, G., Curiel, G. 2021. Distributed event-triggered communication for angular speed synchronization of networked BLDC motors Revista Iberoamericana de Automática e Informática Industrial, 18(4):360-370. https://doi.org/10.4995/riai.2021.14989	Disturbance rejection; cooperative control; event-based control; consensus; mechatronics; control theory.

Rodríguez, F., Garrido, D., Núñez, R., Oggier, G., García, G. 2021. Dynamic and steady-state modeling of modular input-series-output-series connected dual active bridge converters Revista Iberoamericana de Automática e Informática Industrial, 18(4):371-384. https://doi.org/10.4995/riai.2021.14866	Average model; small signal analysis; series-connected DC-DC converters; power electronics systems; modeling and simulation.
Paredes, L., Molina, M., Serrano, B. 2021. Improvement of dynamic voltage stability in a microgrid using a DSTATCOM Revista Iberoamericana de Automática e Informática Industrial, 18(4):385-395. https://doi.org/10.4995/riai.2021.14813	Dynamic voltage stability; DSTATCOM; microgrid; dynamic loads; induction motors.
Hernández-Almudi, P., Suárez, D., Montijano, E., Merino, J. 2021. Intelligent control of temperature with dynamic voltage-frequency scaling (DVFS) in embedded processors Revista Iberoamericana de Automática e Informática Industrial, 18(4):396-406. https://doi.org/10.4995/riai.2021.14200	Intelligent control of temperature; computer architecture; DVFS.
Ochoa Sosa, J. E., Rubén, Oggier, G. E., Oggier, G. G. and Guillermo (2022) "Fault-Tolerant Scheme of Load-Side Transistors Applied to Three-Phase Dual Active Bridge DC-DC Converters", Revista Iberoamericana de Automática e Informática industrial, 19(2), pp. 186–198. doi: 10.4995/riai.2022.15408.	Three-Phase Dual Active Bridges Converter, power electronics systems, modeling and simulation, detection and diagnosis
Beristáin, J. A. and Pérez, J. (2022) "Bidirectional three-phase DC-AC converter with high frequency isolation: modeling using switching functions", Revista Iberoamericana de Automática e Informática industrial, 19(2), pp. 199–209. doi: 10.4995/riai.2022.14936.	High-frequency-link isolation, switching functions, modelling, bidirectional power flow
Castro, L., Bueno-López, M. and Juan (2022) "Strategy for the implementation of hierarchical control in microgrids", Revista Iberoamericana de Automática e Informática industrial, 19(3), pp. 254–264. doi: 10.4995/riai.2022.15741.	Microgrid, Voltage Source Converter, Fuzzy Control, Hierarchical control
Espinosa-Pérez, G. (2022) "Control of electric power microgrids: a hamiltonian approach", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 442–451. doi: 10.4995/riai.2022.17020.	Electric Power Systems, Microgrids, Port-controlled Hamiltonian Systems, Passivity-based Control
En prensa	
Garrido Satué, M., Ruiz Arahál, M. and Rodríguez Ramírez, D. (2022) "Rotor Current Estimation in Predictive Control of Multi-phase Drives", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17153.	Predictive control, Multi-phase systems, Rotating electric machine, Estimation

2020	
Paper	Original keywords
Zaragoza, S., Sánchez, J., Baños, A. 2020. Identification of first and second order systems by reset control. Revista Iberoamericana de Automática e Informática Industrial, 17(2):116-129. https://doi.org/10.4995/riai.2020.11598	Non-linear control systems, reset control, system identification and parameters estimation, closed-loop identification.
Torralba-Morales, L.M., Reynoso-Meza, G., Carrillo-Ahumada, J. 2020. Tuning and comparison of design concepts applying Pareto optimality. A case study of Cholette bioreactor. Revista Iberoamericana de Automática e Informática Industrial, 17(2):190-201. https://doi.org/10.4995/riai.2019.11424	PID control, design concepts, Cholette's bioreactor, optimum control, decision making.
Temoltzi-Ávila, R., Ávila-Pozos, R. 2020. Attainability set of a mechanical controllable system and conditions of robust stability. Revista Iberoamericana de Automática e Informática Industrial, 17(3):285-293. https://doi.org/10.4995/riai.2020.11938	Differential equations, nonlinear systems of control, perturbations, robust stability.
Scaglia, G.J.E., Serrano, M.E., Albertos, P. 2020. Linear algebra based trajectory control. Revista Iberoamericana de Automática e Informática Industrial, 17(4):344-353. https://doi.org/10.4995/riai.2020.13584	Trajectory control, feedforward control, feedback control, disturbances, model uncertainty, model based control.
2021	
Paper	Original keywords
Soto, I., Campa, R. Sánchez-Mazuca, S. 2021. Modeling and control with friction compensation of a pendubot system. Revista Iberoamericana de Automática e Informática Industrial, 18(1):39-47. https://doi.org/10.4995/riai.2020.13083	Modelling; control; friction; compensation; mechanical systems.
Muros, F.J. 2021. Coalitional control in the framework of cooperative game theory. Revista Iberoamericana de Automática e Informática Industrial, 18(2):93-108. https://doi.org/10.4995/riai.2020.13456	Coalitional control; control by clustering; distributed control; optimal control; linear feedbacks; cooperative game theory; Shapley value; linear matrix inequalities.
Hidalgo, H., Huerta, H. 2021. Sliding mode control for an electric vehicle with differential speed. Revista Iberoamericana de Automática e Informática Industrial, 18(2):115-124. https://doi.org/10.4995/riai.2020.13440	Vehicle dynamic systems; electric vehicles; sliding mode control; robust control; lagrangian systems.
Martínez, B.V., Sanchis, J., García-Nieto, S., Martínez, M. 2021. Active disturbance rejection control: a guide for design and application. Revista Iberoamericana de Automática e Informática Industrial, 18(3):201-217. https://doi.org/10.4995/riai.2020.14058	Active control; disturbance rejection; linear control systems; parametrization; linear estimation.
Rosas Almeida, D.I., González Solis, E.V., Raya Díaz, G. 2021. Robust teleoperation of mechanical systems based on active disturbances compensation control structure. Revista Iberoamericana de Automática e Informática Industrial, 18(3):218-229. https://doi.org/10.4995/riai.2021.14433	Teleoperation; robust control; disturbance estimation.
2022	
Maestre, J. M., Chanfreut, P., García Martín, J., Masero, E., Inoue, M. y F. Camacho, E. (2021). "Predictive Control of Cyber-Physical Systems". Revista Iberoamericana de Automática e Informática industrial, 19(1), pp. 1–12. doi: 10.4995/riai.2021.15771.	Model predictive control, robots and multi-robot systems control, cyber-physical systems control, human-machine interaction in automatic control systems, coalitional control

Barahona-Avalos, J. L., Juárez-Abad, J. A., Galván-Cruz, G. S. and Linares-Flores, J. (2021) "Active disturbance rejection control of temperature of thermoelectric module", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 48–60. doi: 10.4995/riai.2021.14728.	Thermoelectric module, active disturbance rejection, GPI observer
Guerrero-Castellanos, J. F. and González-Romeo, L. L. (2021) "Position control system via active disturbance rejection for laser optical systems", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(1), pp. 61–73. doi: 10.4995/riai.2021.14852.	Laser beam stabilization system, active disturbance rejection control, linear extended state observer, input-to-state stability (ISS)
Castillo, A., Garcia, P. and Albertos, P. (2022) "Disturbance Observer-Based Controllers: operating principles and design strategies", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 343–355. doi: 10.4995/riai.2022.16856.	Disturbance Observer-Based Controllers, Robust Control, Uncertain Systems, MIMO Systems, Optimal Control, LQR
Mondié, S. and Gomez, M.-A. (2022) "Linear time-delay systems: the complete type functionals approach", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 381–393. doi: 10.4995/riai.2022.16828.	Time-delay systems, Stability analysis, Linear systems, Controller design
Moreno, J. A. and Fridman, L. (2022) "Lyapunov-based HOSM control", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 394–406. doi: 10.4995/riai.2022.17013.	Sliding Modes, Variable Structure Control, Lyapunov Methods, Integral Control, Nonlinear Observers
Sandoval, J., Kelly, R. and Santibáñez, V. (2022) "On the energy shaping plus damping injection control of mechanical systems", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 407–418. doi: 10.4995/riai.2022.16862.	Energy control, Lyapunov stability, Robot control, Mechanical systems
Castaños, F. (2022) "Multi-valued control of port-Hamiltonian systems", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 419–429. doi: 10.4995/riai.2022.16814.	Passivity-based control, Lagrangian and Hamiltonian systems, differential inclusions, robust controller synthesis, controller constraints and structure
En prensa	
Anderson, J. L., Moré, J. J., Puleston, P. F., Roda, V. and Costa-Castelló, R. (2022) "Super-Twisting control with zero crossing gain adaptation. Stability analysis and validation", <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2022.17214.	Sliding Mode Control, Gain Adaptation, Super-Twisting Adaptation, Power systems

2020	
Paper	Original keywords
Belman-Lopez, C.E., Jiménez-García, J.A., Hernández-González, S. 2020. Comprehensive analysis of design principles in the context of Industry 4.0. Revista Iberoamericana de Automática e Informática Industrial, 17(4):423-447. https://doi.org/10.4995/riai.2020.12579	Industry 4.0, flexible and intelligent manufacturing systems, fourth industrial revolution, modeling and control of manufacturing systems, automation.
2021	
Paper	Original keywords
Azketa, E., Mendiádua, X., Iburguren, I., Solís, A. 2021. Synchronization method for distributed systems with functional safety. Revista Iberoamericana de Automática e Informática Industrial, 18(2):109-114. https://doi.org/10.4995/riai.2020.14022	Clock synchronization; distributed systems; functional safety; redundancy.
Aparicio-Santos, J., Hermsillo-Gómez, J., Benítez-Pérez, H., Álvarez-Icaza, L. 2021. Fuzzy controller to compensate communication loads in real-time. Revista Iberoamericana de Automática e Informática Industrial, 18(3):288-299. https://doi.org/10.4995/riai.2021.14544	Resource manager; constant bandwidth server; timer resources allocation; fuzzy control; real-time systems.
Dintén, R., López Martínez, P., Zorrilla, M. 2021. Reference architecture for the design and development of applications for Industry 4.0. Revista Iberoamericana de Automática e Informática Industrial, 18(3):300-311. https://doi.org/10.4995/riai.2021.14532	Data-centric architecture; metamodel; model-based development; industrial applications; industry 4.0.
2022	
Balbastre, P., Aceituno, J. M., Guasque, A., Blanes, J. F., Crespo, A. and Poza, J. L. (2022) "Scheduling of hard real-time systems using non-conventional techniques", Revista Iberoamericana de Automática e Informática industrial, 19(4), pp. 369–379. doi: 10.4995/riai.2022.17148.	Real-time control systems, Control system scheduling, cyber physical systems, Embedded control systems
En prensa	
Uribe-Chavert, P., Posadas-Yagüe, J.-L., Balbastre, P. and Poza-Luján, J.-L. (2022) "Modular distributed architecture for intelligent traffic control", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17068.	Distributed systems, Intelligent control, Traffic control, Urban systems
Belman-López, C. E., Jiménez-García, J. A., Vázquez-Lopez, J. A. and Camarillo-Gómez, K. A. (2022) "Design of an architecture for systems and applications in Industry 4.0 based on cloud computing and data analysis", Revista Iberoamericana de Automática e Informática industrial. doi: 10.4995/riai.2022.17791.	Industry 4.0, system architecture, cloud computing, data analysis, applications development

Visión por Computador/ Tratamiento de Señales

2020	
Paper	Original keywords
García-Moreno, A., González-Barbosa, J. 2020. Virtual 3D reconstruction of complex urban environments. Revista Iberoamericana de Automática e Informática Industrial, 17(1):22-33. https://doi.org/10.4995/riai.2019.11203	3D reconstruction, texturing, Meshing, LIDAR.
Roman, J. Marquez-Viloria, D., Velásquez, R.A., Botero-Valencia, J. 2020. Indoor positioning system using FM radio stations signals and deep learning. Revista Iberoamericana de Automática e Informática Industrial, 17(1):34-43. https://doi.org/10.4995/riai.2019.10894	Frequency Modulation, Indoor, Position Estimation, Positioning Systems, Radio Signals.
Velasco, E., Zapata-Impata, B.S., Gil, P., Torres, F. 2020. Object classification using bimodal perception data extracted from single-touch robotic grasps. Revista Iberoamericana de Automática e Informática Industrial, 17(1):44-55. https://doi.org/10.4995/riai.2019.10923	Robotic manipulators, Proprioceptive-tactile perception, Proprioceptive-tactile learning, Objects classification, Objects recognition.
Hidalgo, C.E., Marcano, M., Fernández, G., Pérez, J.M. 2020. Cooperative maneuvers applied to automated vehicles in real and virtual environments. Revista Iberoamericana de Automática e Informática Industrial, 17(1):56-65. https://doi.org/10.4995/riai.2019.11155	Cooperative Maneuvers, Hybrid Cooperative Framework, ACC, Stop & Go, ITS, Fuzzy Logic.
Blanco, J., García, A., Cañas, V. 2020. Analysis and characterization of the backscatter-link frequency in passive UHF-RFID systems. Revista Iberoamericana de Automática e Informática Industrial, 17(1):76-83. https://doi.org/10.4995/riai.2019.11115	Radio-frequency identification, passive tag, Backscatter-Link Frequency, frequency dispersion, protocol communication, pseudorandom sequences.
Villanueva, J., Bueno, M., Simón, J., Molinas, M., Flores, J., Méndez, P.E. 2020. Application of Hilbert-Huang transform in the analysis of satellite-communication signals. Revista Iberoamericana de Automática e Informática Industrial, 17(2):181-189. https://doi.org/10.4995/riai.2019.10878	Satellite-communication signals, empirical-mode-decomposition, instant-frequency, Hilbert Huang transform.
Madridano, Á., Campos, S., Al-Kaff, A., García, F., Martín, D., Escalera, A. 2020. Unmanned aerial vehicle for fire surveillance and monitoring. Revista Iberoamericana de Automática e Informática Industrial, 17(3):254-263. https://doi.org/10.4995/riai.2020.11806	UAVs, detection, sensors, intelligent autonomous vehicles, navigation, monitoring.
Miranda-Vega, J.E., Rivas-López, M., Flores-Fuentes, W., Sergiyenko, O., Lindner, L., Rodríguez-Quñonez, J.C. 2020. Pattern recognition applying LDA and LR to optoelectronic signals of optical scanning systems. Revista Iberoamericana de Automática e Informática Industrial, 17(4):401-411. https://doi.org/10.4995/riai.2020.12385	Analysis and treatment of signals, sensors and virtual instruments, noise, modulation, 3D stereo vision.
2021	
Paper	Original keywords
Massiris, M., Fernández, J.A., Bajo, J., Delrieux, C. 2021. An automated system for monitoring the use of personal protective equipment in the construction industry. Revista Iberoamericana de Automática e Informática Industrial, 18(1):68-74. https://doi.org/10.4995/riai.2020.13243	Automation; occupational risk prevention; personal protective equipment; neural networks; computer vision.
Orellana, A., Rodríguez, R., Yanez, D., Valdés-Sosa, P. 2021. Fusion of PET/CT neuroimaging using a Wavelet-based and the Haar discrete transform scheme. Revista Iberoamericana de Automática e Informática Industrial, 18(1):75-81. https://doi.org/10.4995/riai.2020.12977	Fusion of images; bicubic Interpolation; Wavelet transform; discrete Haar transform; image treatment.
Hernandez-Vicen, J., Martinez, S., Balaguer, C. 2021. Basic principles for the development of an application to bi-manipulate boxes with a humanoid robot. Revista Iberoamericana de Automática e Informática Industrial, 18(2):125-133. https://doi.org/10.4995/riai.2020.13097	Computer vision; errors correction; classification; humanoid robot.

<p>Ghersin, A.S., Giribet, J.I., Luiso, J., Tournour, A. 2021. H-infinity robust displacement velocity control of a UAV based upon optical flow estimation. Revista Iberoamericana de Automática e Informática Industrial, 18(3):242-253. https://doi.org/10.4995/riai.2021.14370</p>	<p>H-infinity robust control; optical flow; identification; UAV; dynamic uncertainty.</p>
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