

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

2021	
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.
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.
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.
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.
Azketa, E., Mendialdua, 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	Clock synchronization; distributed systems; functional safety; redundancy.
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.

<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. <i>Revista Iberoamericana de Automática e Informática Industrial</i>, 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. <i>Revista Iberoamericana de Automática e Informática Industrial</i>, 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. <i>Revista Iberoamericana de Automática e Informática Industrial</i>, 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. <i>Revista Iberoamericana de Automática e Informática Industrial</i>, 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. <i>Revista Iberoamericana de Automática e Informática Industrial</i>, 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. <i>Revista Iberoamericana de Automática e Informática Industrial</i>, 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. <i>Revista Iberoamericana de Automática e Informática Industrial</i>, 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. <i>Revista Iberoamericana de Automática e Informática Industrial</i>, 18(3):218-229. https://doi.org/10.4995/riai.2021.14433</p>	<p>Teleoperation; robust control; disturbance estimation.</p>
<p>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. <i>Revista Iberoamericana de Automática e Informática Industrial</i>, 18(3):230-241. https://doi.org/10.4995/riai.2020.13560</p>	<p>Multi-UAV; Aerial swarms; Tasks; Deployment; Coverage; Search and rescue; Surveillance; Monitoring; Transport.</p>
<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. <i>Revista Iberoamericana de Automática e Informática Industrial</i>, 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>
<p>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</p>	<p>Unmanned aerial vehicle; Fault detection and isolation; Principal component analysis; Machine learning; Quadrotor.</p>
<p>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. <i>Revista Iberoamericana de Automática e</i></p>	<p>Unmanned aerial vehicle (UAV); attitude control; control education; simulator; testbed.</p>

Informática Industrial, 18(3):265-276. https://doi.org/10.4995/riai.2021.14356	
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., Hermosillo-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., Piris-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.
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	
Maestre, J. M., Chanfreut, P., García Martín, J., Masero, E., Inoue, M. y F. Camacho, E. (2022). "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. (2022) "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. (2022) "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. (2022) "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. (2022) "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. (2022) "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. (2022) "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. (2022) "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., Láñez, E., Azorín, J. M. and Patow, G. (2022) "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. (2022) "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
Diaz-Cano, I., Quintana, F. M., Galindo, P. L. and Morgado-Estevez, A. (2022) "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. (2022) "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. (2022) "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</i>	Microgrid, Voltage Source Converter, Fuzzy Control,

Iberoamericana de Automática e Informática industrial, 19(3), pp. 254–264. doi: 10.4995/riai.2022.15741.	Hierrarchical 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”, Revista Iberoamericana de Automática e Informática industrial, 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”, Revista Iberoamericana de Automática e Informática industrial, 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”, Revista Iberoamericana de Automática e Informática industrial, 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”, 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
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
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
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", <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
Rodríguez-Cortés, H. (2022) "Mexican researchers contributions to unmanned aerial vehicles control", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 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", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 442–451. doi: 10.4995/riai.2022.17020.	Electric Power Systems, Microgrids, Port-controlled Hamiltonian Systems, Passivity-based Control
2023	
Mora, J. P., Samper, J. and Carlos F. (2023) "Bayesian optimization study for energy consumption reduction of a parallel robot during pick and place tasks", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 1–12. doi: 10.4995/riai.2022.16724.	Bayesian optimization, energy expenditure, robot manipulators, optimal trajectory, robot dynamics
García, J. M., Yáñez, P. and Martínez, J. E. (2023) "Evaluation of navigability in skid-steer mobile robots with passive trailers moving on sloping terrain", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 13–24. doi: 10.4995/riai.2022.17161.	Navigability, mobile robots, tip-over stability, steerability, slide-down, tractor-trailer, inclined terrain, slope negotiation
G. Satué, M., R. Arahál, M. and R. Ramírez, D. (2023) "Rotor Current Estimation in Predictive Control of Multi-phase Drives", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 25–31. doi: 10.4995/riai.2022.17153.	Predictive control, Multi-phase systems, Rotating electric machine, Estimation
Calle Chojeda, E., Oliden Semino, J. and Ipanaqué Alama, W. (2023) "Control of a non-linear and non-minimum phase multivariable system using a neural predictive controller", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 32–43. doi: 10.4995/riai.2022.17375.	model based predictive control, artificial neural networks, MIMO systems, quadruple-tank system
Martínez-Luzuriaga, P. N. and Reynoso-Meza, G. (2023) "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", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 44–55. doi: 10.4995/riai.2022.16517.	PID tuning, Evolutionary algorithms, Hyper-parameters tuning, Optimisation
Uribe-Chavert, P., Posadas-Yagüe, J.-L., Balbastre, P. and Poza-Luján, J.-L. (2023) "Modular distributed architecture for intelligent traffic control", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 56–67. doi: 10.4995/riai.2022.17068.	Distributed systems, Intelligent control, Traffic control, Urban systems
Aguirre-Zapata, E., Garcia-Tirado, J., Morales, H., di Sciascio, F. and Amicarelli, A. N. (2023) "Methodology for modeling and parameter estimation of the growth process of <i>Lobesia botrana</i> ", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 68–79. doi: 10.4995/riai.2022.17746.	Modeling and identification of biological systems, Parameter estimation, Gray box modeling, <i>Lobesia botrana</i> , Nonlinear least-squares, Structural identifiability
Morales, H., Aguirre-Zapata, E., di Sciascio, F. and Amicarelli, A. N. (2023) "Control strategies with variable Setpoint applied to the C Crystallization process in the sugar industry", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 81–92. doi: 10.4995/riai.2022.17096.	Supersaturation, Crystallization Processes, Control strategy with variable Setpoint, Mass of Crystals

Gomez, J., Rossomando, F. ., Capraro, F. . and Soria, C. (2023) "Real-time neuro-adaptive PI control of soil moisture using a hybrid model", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 93–103. 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. (2023) "Super-Twisting control with zero crossing gain adaptation. Stability analysis and validation", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 104–114. doi: 10.4995/riai.2022.17214.	Sliding Mode Control, Gain Adaptation, Super-Twisting Adaptation, Power systems

En prensa

García, J. M., Moncada, J. N. and Rodríguez Cotrina, J. J. (2023) "Improving the navigability of a mobile robot considering the energy consumption of its arm", <i>Revista Iberoamericana de Automática e Informática industrial</i> . 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. (2023) "A low-cost open-source remote laboratory for the educational robot arm Dobot Magician", <i>Revista Iberoamericana de Automática e Informática industrial</i> . 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. (2023) "Design of an architecture for systems and applications in Industry 4.0 based on cloud computing and data analysis", <i>Revista Iberoamericana de Automática e Informática industrial</i> . 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. (2023) "Selective temperature and humidity control strategy for a chinese solar greenhouse with an event-based approach", <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2022.18119.	Selective control, PI control, Event-based control, Agriculture, Greenhouse
Castaño-Amorós, J., Páez-Ubieta, I. de L., Gil, P. and Puente, S. T. (2023) "Visual-tactile manipulation to collect household waste in outdoor", <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2022.18534.	Visual detection, Object recognition, Object location, Tactile perception, Robotic manipulation
Prados, C., Hernando, M., Gambao, E. and Brunete, A. (2023) "ROMERIN: A climbing robotic organism based on modular legs with active suction cups", <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2022.18749.	Kinematics of robot for control, Model of robots and multi-robot systems for control, Field, marine, submarine and aerial robotics

LISTADO DE ARTÍCULOS RECIENTES POR TEMÁTICAS



Revista Iberoamericana de Automática e Informática Industrial



Automática Marina

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. (2022) "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

Bioingeniería – Ingeniería/Informática Médica

2021	
Paper	Original keywords
Guzmán, J.L., Acién, F.G., Berenguel, M. 2021. Modelling and control of microalgae production in industrial photobioreactors. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 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. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 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. (2022) “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
Garelli, F., Fushimi, E., Rosales, N., Arambarri, D., Serafini, M. C., De Battista, H., Grosembacher, 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

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. (2022) "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. doi: 10.4995/riai.2022.16060.	Neural Networks, Process control, Real-time control, Adaptive control by neural networks, Water supply and 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", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 356–368. doi: 10.4995/riai.2022.16656.	Classification, Half-bridge buck, Power electronics, Soft-switching, Hard-switching
2023	
Gomez, J., Rossomando, F. ., Capraro, F. . and Soria, C. (2023) "Real-time neuro-adaptive PI control of soil moisture using a hybrid model", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 93–103. doi: 10.4995/riai.2022.17106.	Precise irrigation, soil moisture model, drip irrigation, neural PI control

Educación

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. (2023) "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

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. (2022) "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:	Control of renewable energy resources, Modeling, Tracking, Energy systems, Identification and control methods

10.4995/riai.2022.16905.	
da Cunha e Silva, L. C. and Andrade Romero, J. F. (2022) "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
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
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
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
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
2023	
Calle Chojeda, E., Oliden Semino, J. and Ipanaqué Alama, W. (2023) "Control of a non-linear and non-minimum phase multivariable system using a neural predictive controller", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 32–43. doi: 10.4995/riai.2022.17375.	model based predictive control, artificial neural networks, MIMO systems, quadruple-tank system
Martínez-Luzuriaga, P. N. and Reynoso-Meza, G. (2023) "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", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 44–55. doi: 10.4995/riai.2022.16517.	PID tuning, Evolutionary algorithms, Hyper-parameters tuning, Optimisation
En prensa	
Liu, R., Guzmán, J. L., García-Mañas, F. and Li, M. (2023) "Selective temperature and humidity control strategy for a chinese solar greenhouse with an event-based approach", <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2022.18119.	Selective control, PI control, Event-based control, Agriculture, Greenhouse

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 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.
2022	
Vázquez, U., González-Sierra, J., Fernández-Anaya, G. and Hernández-	Fractional control, Differential-

Martínez, E. G. (2022) "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.	drive robot, Tracking control, PID Control
Sánchez, R., Sierra-García, J. E. and Santos, M. (2022) "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. (2022) "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
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. (2022) "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
Diaz-Cano, I., Quintana, F. M., Galindo, P. L. and Morgado-Estevez, A. (2022) "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
Rodríguez-Cortés, H. (2022) "Mexican researchers contributions to unmanned aerial vehicles control", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 430–441. doi: 10.4995/riai.2022.16870.	Unmanned Aerial Vehicles, Energy based control, Real Time
2023	
Mora, J. P., Samper, J. and Carlos F. (2023) "Bayesian optimization study for energy consumption reduction of a parallel robot during pick and place tasks", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 1–12. doi: 10.4995/riai.2022.16724.	Bayesian optimization, energy expenditure, robot manipulators, optimal trajectory, robot dynamics
García, J. M., Yáñez, P. and Martínez, J. E. (2023) "Evaluation of navigability in skid-steer mobile robots with passive trailers moving on sloping terrain", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 13–24. doi: 10.4995/riai.2022.17161.	Navigability, mobile robots, tip-over stability, steerability, slide-down, tractor-trailer, inclined terrain, slope negotiation
En prensa	
García, J. M., Moncada, J. N. and Rodríguez Cotrina, J. J. (2023) "Improving the navigability of a mobile robot considering the energy consumption of its arm", <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2022.17806.	Energy consumption, Navigability, Skid steer robot, Slide-Down, Tip-over stability, Vehicle steerability
Castaño-Amorós, J., Páez-Ubieta, I. de L., Gil, P. and Puente, S. T. (2023) "Visual-tactile manipulation to collect household waste in outdoor", <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2022.18534.	Visual detection, Object recognition, Object location, Tactile perception, Robotic manipulation
Prados, C., Hernando, M., Gambao, E. and Brunete, A. (2023) "ROMERIN: A climbing robotic organism based on modular legs with active suction cups", <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2022.18749.	Kinematics of robot for control, Model of robots and multi-robot systems for control, Field, marine, submarine and aerial robotics

Simulación y Optimización

2021	
Paper	Original keywords
Guzmán, J.L., Ación, F.G., Berenguel, M. 2021. Modelling and control of microalgae production in industrial photobioreactors. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 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. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 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. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 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. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 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. (2022) "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
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
2023	
Martínez-Luzuriaga, P. N. and Reynoso-Meza, G. (2023) "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", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 44–55. 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. (2023) "Methodology for modeling and parameter estimation of the growth process of <i>Lobesia botrana</i> ", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 68–79. doi: 10.4995/riai.2022.17746.	Modeling and identification of biological systems, Parameter estimation, Gray box modeling, <i>Lobesia botrana</i> , Nonlinear least-squares, Structural identifiability
Morales, H., Aguirre-Zapata, E., di Sciascio, F. and Amicarelli, A. N. (2023) "Control strategies with variable Setpoint applied to the C Crystallization process in the sugar industry", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 81–92. doi: 10.4995/riai.2022.17096.	Supersaturation, Crystallization Processes, Control strategy with variable Setpoint, Mass of Crystals

Sistemas de Control en Red

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.

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 <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 18(4):336-346. https://doi.org/10.4995/riai.2020.13418	Inverter Drives; Controlling Induction Machines; efficiency Enhancement; Optimization Problems.
Troviano, M., Piris-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 <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 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 <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 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.
2022	
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
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
Espinosa-Pérez, G. (2022) "Control of electric power microgrids: a hamiltonian approach", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 442–451. doi: 10.4995/riai.2022.17020.	Electric Power Systems, Microgrids, Port-controlled Hamiltonian Systems, Passivity-based Control
2023	
G. Satué, M., R. Arahál, M. and R. Ramírez, D. (2023) "Rotor Current Estimation in Predictive Control of Multi-phase Drives", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 25–31. doi: 10.4995/riai.2022.17153.	Predictive control, Multi-phase systems, Rotating electric machine, Estimation

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. (2022). "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. (2022) "Active disturbance rejection control of temperature of thermoelectric module", Revista Iberoamericana de Automática e Informática industrial, 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. (2022) "Position control system via active disturbance rejection for laser optical systems", Revista Iberoamericana de Automática e Informática industrial, 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", 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
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

<p>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.</p>	<p>Energy control, Lyapunov stability, Robot control, Mechanical systems</p>
<p>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.</p>	<p>Passivity-based control, Lagrangian and Hamiltonian systems, differential inclusions, robust controller synthesis, controller constraints and structure</p>
<p>2023</p>	
<p>Anderson, J. L., Moré, J. J., Puleston, P. F., Roda, V. and Costa-Castelló, R. (2023) "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.</p>	<p>Sliding Mode Control, Gain Adaptation, Super-Twisting Adaptation, Power systems</p>

2021	
Paper	Original keywords
Azketa, E., Mendialdua, X., Iburguren, I., Solís, A. 2021. Synchronization method for distributed systems with functional safety. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 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. <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.
Dintén, R., López Martínez, P., Zorrilla, M. 2021. Reference architecture for the design and development of applications for Industry 4.0. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 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", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 19(4), pp. 369–379. doi: 10.4995/riai.2022.17148.	Real-time control systems, Control system scheduling, cyber physical systems, Embedded control systems
2023	
Uribe-Chavert, P., Posadas-Yagüe, J.-L., Balbastre, P. and Poza-Luján, J.-L. (2023) "Modular distributed architecture for intelligent traffic control", <i>Revista Iberoamericana de Automática e Informática industrial</i> , 20(1), pp. 56–67. doi: 10.4995/riai.2022.17068.	Distributed systems, Intelligent control, Traffic control, Urban systems
En prensa	
Belman-López, C. E., Jiménez-García, J. A., Vázquez-Lopez, J. A. and Camarillo-Gómez, K. A. (2023) "Design of an architecture for systems and applications in Industry 4.0 based on cloud computing and data analysis", <i>Revista Iberoamericana de Automática e Informática industrial</i> . doi: 10.4995/riai.2022.17791.	Industry 4.0, system architecture, cloud computing, data analysis, applications development

Visión por Computador/ Tratamiento de Señales

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. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 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. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 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. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 18(2):125-133. https://doi.org/10.4995/riai.2020.13097	Computer vision; errors correction; classification; humanoid robot.
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. <i>Revista Iberoamericana de Automática e Informática Industrial</i> , 18(3):242-253. https://doi.org/10.4995/riai.2021.14370	H-infinity robust control; optical flow; identification; UAV; dynamic uncertainty.