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Research interests

Conversión y control electrónicos de potencia
Convertidores de potencia multinivel modulares
Transformadores de estado sólido
Generación y almacenamiento de energía distribuida y sostenible

Empleo

Docente Investigador (a)

Docente Investigador
Universidad San Sebastián
Concepción, Chile
2023 → present

Docente Investigador (a)

Docente Investigador
Facultad de Ingeniería, Arquitectura y Diseño
Chile
2023 → present

Docente Investigador (a)

Docente Investigador
Sede Santiago
Chile
2023 → present

Universidad Tecnológica de Chile INACAP

2020 → 2023

Universidad Tecnológica de Chile INACAP

2015 → 2020

Resultado de la investigación

A High-Performance Fractional Order Controller Based on Chaotic Manta-Ray Foraging and Artificial Ecosystem-Based Optimization Algorithms Applied to Dual Active Bridge Converter

Ruiz, F., Pichardo, E., Aly, M., Vazquez, E., Avalos, J. G. & Sánchez, G., 2024, En: *Fractal and Fractional*. 8, 6, 332.

Model Predictive Control of a Dual Active Bridge: Real-Time HIL Validation with FPGA Modulator

Obando, D., Young, H., Matus, C., Rojas, C., Ruiz, F., Cifuentes, C. & Rodríguez, J., 2024, *2024 IEEE International Conference on Automation/26th Congress of the Chilean Association of Automatic Control, ICA-ACCA 2024*. Institute of Electrical and Electronics Engineers Inc., (2024 IEEE International Conference on Automation/26th Congress of the Chilean Association of Automatic Control, ICA-ACCA 2024).

Assessment of Deep Reinforcement Learning Algorithms for Three-Phase Inverter Control

Menéndez, O., López-Caiza, D., Tarisciotti, L., Ruiz, F., Auat-Cheein, F. & Rodríguez, J., 2023, *COBEP 2023 - 17th Brazilian Power Electronics Conference and SPEC 2023 - 8th IEEE Southern Power Electronics Conference, Proceedings*. Institute of Electrical and Electronics Engineers Inc., (COBEP 2023 - 17th Brazilian Power Electronics Conference and SPEC 2023 - 8th IEEE Southern Power Electronics Conference, Proceedings).

Control of cross-circulating currents in a MMC with parallel connected arms in Solid State Transformers
Ruiz, F. L., Perez, M. A., Flores-Bahamonde, F. & Malinowski, M., 2021, *IECON 2021 - 47th Annual Conference of the IEEE Industrial Electronics Society*. IEEE Computer Society, (IECON Proceedings (Industrial Electronics Conference); vol. 2021-October).

Modeling of cross-circulating currents in a MMC with parallel connected submodules in Solid State Transformers
Allende, F. R., Perez, M. A., Flores-Bahamonde, F. & Malinowski, M., 2021, *Proceedings of 2021 IEEE 30th International Symposium on Industrial Electronics, ISIE 2021*. Institute of Electrical and Electronics Engineers Inc., (IEEE International Symposium on Industrial Electronics; vol. 2021-June).

Control of Solid State Transformer based on Modular Multilevel Converters with Interconnecting Dual Active Bridges
Perez, M. A., Ruiz, F., Espinoza, J. R. & Malinowski, M., 2019, *Proceedings - 2019 IEEE 28th International Symposium on Industrial Electronics, ISIE 2019*. Institute of Electrical and Electronics Engineers Inc., p. 2343-2348 6 p. 8781544. (IEEE International Symposium on Industrial Electronics; vol. 2019-June).