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Ingeniero en Mecatrónica por la Universidad de Guadalajara (2005-2009). Maestro en Ciencias en Ingeniería Eléctrica, especialidad Control Automático por el CINVESTAV Unidad Guadalajara (2010-2012). Doctor en Ciencias, especialidad Control Automático por la Universidad de Valenciennes y de Hainaut-Cambrésis, Francia (2012-2015). Posdoctorante CONACYT adjunto al programa de posgrado PNPC de Maestría en Ciencias de la Ingeniería del Instituto Tecnológico de Sonora, México (2016-2018). Miembro del Sistema Nacional de Investigadores con nivel Candidato desde 2017. A partir de octubre de 2018, es profesor investigador adscrito a la dirección

de Ingeniería Mecatrónica de la Universidad Politécnica de Pachuca. Áreas interés: Análisis y síntesis de sistemas no lineales por medio de modelos convexos y desigualdades matriciales lineales.

Principal producción académica:

Artículos en revista indexada

- D. Quintana, V. Estrada-Manzo, M. Bernal (2019). Fault Detection and Isolation via a Novel Convex Optimization Scheme. IEEE Latin America Transactions.
- C. Armenta, T. Laurain, V. Estrada Manzo, M. Bernal (2019). A Novel Identification-Based Convex Control Scheme via Recurrent High-Order Neural Networks: an Application to the Internal Combustion Engine. Neural Processing Letters.
- V. Estrada-Manzo, Zs. Lendek, T.M. Guerra (2019). An alternative LMI static output feedback control design for nonlinear systems represented by Takagi-Sugeno models. ISA Transactions, vol 84, pp 104-110.
- J.C. Arceo, M. Sánchez, V. Estrada-Manzo, M. Bernal (2018). Convex stability analysis of nonlinear singular systems via linear matrix inequalities. IEEE Transactions on Automatic Control.
- J.C. Arceo, R. Márquez, V. Estrada-Manzo, M. Bernal (2018). Stabilization of nonlinear singular systems via exact convex models and robust differentiators. International Journal of Fuzzy Systems, Vol. 20 (5), pp. 1451-1459.
- M. Blandeau, V. Estrada-Manzo, T.M. Guerra, P. Pudlo, F. Gabrielli (2018). Fuzzy unknown input observer for understanding sitting control of persons living with spinal cord injury. Engineering Applications of Artificial Intelligence, vol. 67, pp. 381-389.
- González, V. Estrada-Manzo, T.M. Guerra (2017). Gain-scheduled H_∞ admissibilisation of LPV discrete-time systems with LPV singular descriptor. International Journal of Systems Science, vol. 48 (15), pp. 3215-3224.
- V. Estrada-Manzo, Zs. Lendek, T. M. Guerra (2016). Generalized LMI observer design for discrete-time nonlinear descriptor models. Neurocomputing, vol. 182, pp 210-220.

- T. M. Guerra, V. Estrada-Manzo, Zs. Lendek. (2015). Observer design for nonlinear descriptor systems: an LMI approach. *Automatica* (52), pp. 154-159.
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- D. Quintana, V. Estrada-Manzo, M. Bernal (2018). A methodology for real-time implementation of nonlinear observers via convex optimization. In proceedings of the 2018 IEEE International Conference on Electrical Engineering, Computing Science and Automatic Control (CCE). Pp. 1-5, Mexico City, Mexico.
- J.C. Arceo, R. Villafuerte, V. Estrada-Manzo, M. Bernal. (2018). LMI-based exponential estimates for time-delay nonlinear descriptor systems. In proceedings of the 3rd IFAC International Conference on Embedded Systems, Computational Intelligence and Telematics in Control (CESCIT). Vol. 51(10), Pp. 139-144. Faro, Portugal.
- J.C. Arceo, R. Villafuerte, V. Estrada-Manzo, M. Bernal. (2018). LMI-based controller design for time-delay nonlinear descriptor systems with guaranteed exponential estimates. In proceedings of the 2nd IFAC Conference on Modelling, Identification and Control of Nonlinear systems (MICNON). Vol. 51 (13), pp. 585-590. Guadalajara, México.
- M. Sánchez, J.C. Arceo, V. Estrada-Manzo, M. Bernal. (2018) Stability analysis of nonlinear singular systems via polytopic models of the characteristic equation. 9th Vienna International Conference on Mathematical Modeling, pp. 17-18. Viena, Austria.
- Coronado, O. Peñaloza-Mejía, V. Estrada-Manzo, M. Bernal (2017). A Comparison of Fuzzy Schemes for Trajectory Tracking on the Furuta Pendulum. In proceedings of the 2017 Congreso Nacional de Control Automático. Pp. 499-503. Monterrey, México.
- D. Quintana, V. Estrada-Manzo, M. Bernal (2017). Real-time parallel distributed compensation of an inverted pendulum via exact Takagi-Sugeno models. In proceedings of the 2017 IEEE International Conference on Electrical Engineering, Computing Science and Automatic Control (CCE). Pp. 1-5, Mexico City, Mexico.
- F.R. López-Estrada, H.R. Hernández, V. Estrada-Manzo, M. Bernal (2017). LMI-based fault detection and isolation of nonlinear descriptor systems. In proceedings of the 2017 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE), Naples, Italy.
- M. Blandeau, T.M. Guerra, P. Pudlo, F. Gabrielli, V. Estrada-Manzo (2016). Modélisation du Maintien de la Posture Assise chez la Personne avec Lésions Médullaires Complètes. Observation à Entrées Inconnues de Systèmes non linéaires sous forme Takagi-Sugeno. In proceedings of the Handicap 2016, Paris, IFRATH, Prix du Meilleur papier.
- J.C. Arceo, D. Vázquez, V. Estrada-Manzo, R. Márquez, M. Bernal (2016). Nonlinear convex control of the Furuta pendulum based on its descriptor model. In proceedings of the 13th IEEE Int. Conf. on Electrical Eng. Science and Automatic Control (CCE), pp. 1-6. Mexico.
- D. Vázquez, J. C. Arceo, R. Márquez, V. Estrada-Manzo, M. Bernal (2016). LMI-based nonlinear control of the Futura pendulum. In proceedings of the 2016 Congreso Nacional de Control Automático (AMCA), pp. 1.-6. Querétaro, Mexico.
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- M. Blandeau, V. Estrada-Manzo, T.M. Guerra, P. Pudlo, F. Gabrielli (2016). How a person with spinal cord injury control a sitting situation. Unknown input observer and delayed feedback control with time-varying input delay. In proceedings of the 2016 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE). Vancouver, Canada.
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- V. Estrada-Manzo, Zs. Lendek, T. M. Guerra. (2014). Output feedback control for T-S discrete-time nonlinear descriptor models. In proceedings of the 53rd IEEE Conference on Decision and Control (IEEE CDC), Los Angeles, USA. Pp. 860-865.
- V. Estrada-Manzo, Zs. Lendek, T. M. Guerra. (2014). H infinity control for discrete-time Takagi-Sugeno descriptor models: a delayed approach. In proc. of the Rencontres francophones sur la logique flue et ses applications, Càrsege, France. pp 175-182.
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- V. Estrada-Manzo, T. M. Guerra, Zs. Lendek, P. Pudlo. (2014) Discrete-time Takagi-Sugeno descriptor models: controller design. In proc. of the 2014 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE). Beijing, China, pp. 2277-2281.

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- V. Estrada-Manzo, Zs. Lendek, T. M. Guerra. (2016). Observer design for robotic systems via Takagi-Sugeno models and linear matrix inequalities. Book chapter in Handling Uncertainty and Networked Structure in Robot Control. Ed. Springer, vol. 42, pages. 103-128.
- M. Bernal, V. Estrada-Manzo, R. Márquez (2018). Diseño e implementación de sistemas de control basados en estructuras convexas y desigualdades matriciales lineales; Editorial Pearson Educación México. Pp. 144. ISBN: 978-607-32-4332-2.