INFORMACIÓN PERSONAL

Fernando Castaños Luna

Av. IPN No. 2508, Col. San Pedro Zacatenco, C.P. 07360, CdMx, México

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Fecha de nacimiento 1976 | Nacionalidad(es) Mexicana

TEMAS DE INVESTIGACIÓN

Control basado en pasividad, control no lineal, sistemas Hamiltonianos, sistemas implícitos, ingeniería neuromorfa, control robusto y sistemas de estructura variable

FORMACIÓN

2006 – 2009

Doctorado: Física, Teoría de Control

Tesis: Cyclo-pasividad y control por interconexión. Asesoría de Romeo Ortega

Université Paris-Sud XI (UPS) – Laboratoire des signaux et systèmes (L2S) – SUPÉLEC, Francia

2005 – 2006

Maestría: Automatización y procesamiento de imágenes y señales

Periodo de prácticas: Participación en un proyecto dedicado a desarrollar algoritmos de control basados en la propiedad de pasividad. L2S. Asesoría de Romeo Ortega

UPS – L2S – SUPÉLEC

2003 – 2004

Maestría: Ingeniería Eléctrica, Control

Tesis: Modos deslizantes con criterio $\mathcal{H}_\infty$ y aplicación al control descentralizado. Asesoría de Leonid Fridman

Universidad Nacional Autónoma de México (UNAM)

1995 – 2002

Licenciatura: Ingeniería Eléctrica Electrónica, Procesamiento de señales

Tesis: Levantamiento y estabilización del péndulo invertido. Facultad de ingeniería, UNAM Asesoría de Rolando Carrera

Servicio social: Participación en un proyecto dedicado a la utilización de observadores con el propósito de detectar fugas. Instituto de Ingeniería, UNAM

CARGOS

2011 –

Investigador

Departamento de Control Automático (DCA)
Centro de Investigación y de Estudios Avanzados del IPN (Cinvestav). Mexico

Promoción a los niveles 3C (2017), 3B (2016) y 3A (2013)
Coordinador académico (2015 – 2017)
Investigador visitante (2011 – 2014)

2009 – 2011

Post doctorado

McGill Center for Intelligent Machines (CIM), Universidad de McGill, Canadá.

Control de locomoción de robots androides
Supervisión de Hannah Michalska y Vincent Hayward

EVALUACIONES Y PARTICIPACIONES EN COMITÉS

2019 –

Editor

International Journal of Robust and Nonlinear Control, Wiley

Comités

Member of the program committee, International Conferences on Electrical Engineering, Computing Science and Automatic Control (CCE), CdMx, México (2020, 2019, 2018, 2017, 2016, 2014)

Member of the organizing committee and member of the comittee for young author award, IFAC Conference on Modelling, Identification and Control of Nonlinear Systems (MICNON), Guadalajara, México (2018)

Member of the program committee, Congreso Nacional de Control Automático, México (2021, 2019, 2018, 2017)

Jurado

1 tesis de doctorado international, Technischen Universität Ilmenau, Alemania (2021)
Más de 30 tesis nacional de doctorado
Más de 20 tesis nacional de maestría

CURSOS DICTADOS

Cinvestav, posgrado

Sistemas No Lineales (2022, 2016, 2015, 2013)
Control por Modos Deslizantes (2021, 2017)
Control Robusto (2020, 2019, 2018)
Sistemas Homogéneos y Sistemas con Retardos (2019)
Control Óptimo (2023, 2017, 2016, 2015, 2014)
Control Digital (2013)
Teoría de Control II (2012)
Álgebra Lineal, Propedéutico (2014, 2016, 2022)

McGill University

Diseño de Proyecto I y II, licenciatura (2011)
Optimización y Control Óptimo (ECSE 507), maestría (2011)
Sistemas de Control (ECSE 404), licenciatura (2010)

ESTUDIANTES GRADUADOS

Doctorado

Gian Gómez. Modos deslizantes y representaciones geométricas: control de cuerpos rígidos, codirección con Jorge Dávila (ESIME-IPN, México) (2020)

Félix Miranda. Técnicas de control robusto empleando análisis convexo no liso (2016)

Debbie Hernández. Debbie Hernández. Control por modos deslizantes para sistemas implícitos, codirección con Alexander Poznyak (Cinvestav) (2015)

Maestría

José Alberto Padilla Chavez. Análisis de los puntos de bifurcación de un sistema climático no lineal, codirección con Marco Tulio Angulo (UNAM) (2023)

Bryan Rojas. Sintonización de un observador–predictor para sistemas no lineales con retardo en la entrada, codirección con Sabine Mondié (Cinvestav) (2021)

Carlos Tovar. Diseño de circuitos neuromorfos usando teoría de singularidades, codirección con Alessio Franci (UNAM) (2016)

Pedro Flores. Control de un cuadrirotor en ambientes no estructurados, codirección con Pedro Castillo (Heudyasic, Francia) (2015)

Cristopher Cruz. Coordinación de agentes por acondicionamiento de referencia, codirección con Jorge Dávila (2014)

Edgar Estrada. Approche passivité pour la commande de systèmes à retards, codirigé avec Sabine Mondié (2013)

Félix Miranda. Control óptimo tipo LQ para una clase de sistemas lineales con entradas constantes a trozos, codirección con Vadim Azhmyakov (Cinvestav) (2012)

ESTANCIAS CIENTÍFICAS

Dmitry Gromov. Sistemas Hamiltonianos implícitos con puerto. Saint Petersburg State University, San Petersburgo, Rusia (2018, 2015)

Emmanuel Nuño. Control basado en pasividad usando multi functiones. Universidad de Guadalajara, Guadalajara, México (2017)

Alessio Franci. Realización de comportamientos no lineales usando teoría de singularidades. Departamento de Ingeniería, University of Cambridge, Reino Unido (2014)

Cristian Kunusch. Minimización del consumo de hidrógeno en pilas de combustible. Institut de Robòtica i Informàtica Industrial. Barcelona, España (2012, 2013)

Riyanto Bambang. Control de potencia para vehículos eléctricos. Institute of Technology Bandung. Bandung, Indonesia (2009)

David Hill and Jun Zhao. Aplicaciones de la teoría de disipación de sistemas conmutados. Australian National University. Canberra, Australia (2008)

Bayu Jayawardhana, Arjan van der Schaft and Jacquelien Scherpen. Modelos de potencia en teoría de circuitos; control por intreconexión. University of Groningen. Países Bajos (2008)

Ravi Banavar and Arun Mahindrakar. Control por interconexión en el caso de dimensión infinita. Indian Institute of Technology. Mumbai y Chennai, India. (2007)

Jacquelien Scherpen and Dimitri Jeltsema. Pasividad relativa aplicada al diseño de convertidores de potencia. Delft University of Technology. Delft, Países Bajos (2006)

Arjan van der Schaft. Systemas Hamiltonianos conmutados. University of Groningen (2006)

Proyectos

Power flow control of fuel-cell powered vehicles (autor). NUSANTARA, presupuesto € 5,000 (2009)

Transient Stability of Power Systems. FAST, presupuesto € 6,800 (2008)

Control of Active Filters considering Dynamic Loads. LAFMAA, presupuesto € 13,950 (2006)

ASOCIACIONES PROFESIONALES

IEEE Institute of Electrical and Electronics Engineers, Control Systems Society, desde 2006

SIAM Society for Industrial and Applied Mathematics, desde 2007

CAPACITACIÓN Y COMPETENCIA PROFESIONAL

CURSOS

HYCON-EECI

The Behavioral Approach to Modeling and Control. Paolo Rapisarda and Jan C. Willems (2009)

Nonlinear Output Regulation. Alberto Isidori (2009)

Robotics, Geometry and Control. Ravi Banavar (2008)

Modeling Analisys and Design of Hybrid Control Systems. Joao Pedro Hespanha (2007)

Nonlinear Adaptive Control with Applications. Alessandro Astolfi (2007)

Switched Systems and Control. Daniel Liberzon (2007)

CTS-HYCON

Stability and Stabilisation of Time-Varying Systems. Antoine Chaillet (2006)

Optimality, Stabilization and Feedback in Nonlinear Control. Francis Clarke (2006)

Hybrid Control Systems. Christophe Prieur (2006)

Lengua(s) materna(s) Español

Otras lenguas

Inglés 277 / 300 TOEFL

Francés TCF 536 / 699 nivel 5 C1

RECONOCIMIENTOS

Miembro del Sistema Nacional de Investigadores (SNI), Investigador Nivel II (2022 –)

Miembro del SNI, Investigador Nivel I (2011 – 2021)

Mención honorífica en la obtención de grado de doctor y de maestro (2009, 2005)

Obtención de la beca otorgada por el Programa de Alto Rendimiento Académico de la Facultad de Ingeniería de la UNAM, cuyo objetivo es crear condiciones de alta competitividad académica, entre otros (1995 – 1997)

Tercer lugar en el concurso del Distrito Federal en la 7ª Olimpiada Nacional de Matemáticas. Otorgado por La Academia de la Investigación Científica y la Sociedad Matemática Mexicana (1993)

PUBLICACIONES

Revistas

1 IEEE TIE, 5 Automatica, 6 IEEE TAC, 2 SIAM SICON, 1 SIAM SIADS, 5 Syst. Control Ltt., 2 Int. J. Robust Nonlin., 2 Int. J. Control, 2 EJC, 1 Circuits Syst. Signal Process., 1 IMA J. Math. Control. Info., 1 Neurocomputing, 1 J. R. Soc. Interface, 1 RIAI

Félix Miranda, Fernando Castaños, and Alessio Franci. Equivalence of linear complementarity problems: Theory and application to nonsmooth bifurcations. *IEEE Trans. Autom. Control*, 2024

Fernando Castaños. Control multivaluado de sistemas hamiltonianos con puerto. *Revista Iberoamericana de Automática e Informática Industrial*, 19:419 – 429, 2022

Emanuel Rocha, Fernando Castaños, and Jaime A. Moreno. Robust finite-time stabilisation of an arbitrary-order nonholonomic system in chained form. *Automatica*, 135:109956, January 2022

Fernando Castaños and Sabine Mondié. Observer-based predictor for a susceptible-infectious-recovered model with delays: An optimal-control case study. *Int. J. Robust Nonlinear Control*, 31:5118 – 5133, July 2021

Marco Tulio Angulo, Fernando Castaños, Rodrigo Moreno-Morton, Jorge X. Velasco-Hernández, and Jaime A. Moreno. A simple criterion to design optimal non-pharmaceutical interventions for mitigating epidemic outbreaks. *J. R. Soc. Interface*, 18:20200803, 2021

Dmitry Gromov and Fernando Castaños. Sensitivity analysis of limit cycles in an alpha stirling engine: A bifurcation-theory approach. *SIAM J. Appl. Dyn. Sys.*, 19:1865 – 1883, August 2020

Félix Miranda, Fernando Castaños, and Bernard Brogliato. Continuous and discrete-time stability of a robust set-valued nested controller. *Automatica*, 107:406 – 417, September 2019. Nominated by the editor

Fernando Castaños, Edgar Estrada, Sabine Mondié, and Adrián Ramírez. Passivity-based PI control of first-order systems with I/O communication delays: a frequency domain analysis. *Int. J. Control*, 91:2549 – 2562, November 2018

Félix Miranda, Bernard Brogliato, and Fernando Castaños. Set-valued sliding-mode control of uncertain linear systems: Continuous and discrete-time analysis. *SIAM J. Control Optim.*, 56:1756 – 1793, May 2018

Félix Miranda, Bernard Brogliato, and Fernando Castaños. Multivalued robust tracking control of Lagrange systems: Continuous and discrete-time algorithms. *IEEE Trans. Autom. Control*, 62:4436 – 4450, September 2017

Fernando Castaños and Alessio Franci. Implementing robust neuromodulation in neuromorphic circuits. *Neurocomputing*, 233:3 – 13, April 2017

Félix Miranda and Fernando Castaños. Robust output regulation of strongly passive linear systems with multivalued maximally monotone controls. *IEEE Trans. Autom. Control*, 62:238 – 249, January 2017

Debbie Hernández-Zárate, Fernando Castaños, and Leonid Fridman. Zero-dynamics design and its application to the stabilization of implicit systems. *Systems and Control Lett.*, 98:74 – 78, December 2016

Andrea Aparicio Martínez, Fernando Castaños, and Leonid Fridman. Output feedback sliding-mode control with unmatched disturbances, an ISS approach. *Int. J. Robust Nonlinear Control*, 26:4056 – 4071, December 2016

Félix Miranda, Fernando Castaños, and Alexander Poznyak. Min–max piecewise constant optimal control for multi-model linear systems. *IMA J Math Control Info*, 33:1157 – 1176, December 2016

Fernando Castaños and Dmitry Gromov. Passivity-based control of implicit port-Hamiltonian systems with holonomic constraints. *Systems and Control Lett.*, 94:11 – 18, August 2016

Fernando Castaños and Cristian Kunusch. Ditherless extremum seeking for hydrogen minimization in PEM fuel cells. *IEEE Trans. Ind. Electron.*, 62:5218 – 5226, August 2015

Manuel Mera, Fernando Castaños, and Alexander Poznyak. Quantised and sampled output feedback for nonlinear systems. *Int. J. Control*, 87:2475 – 2487, December 2014

Fernando Castaños, Debbie Hernández-Zárate, and Leonid Fridman. Integral sliding-mode control for linear time-invariant implicit systems. *Automatica*, 50:971 – 975, March 2014

Fernando Castaños, Dmitry Gromov, Vincent Hayward, and Hannah Michalska. Implicit and explicit representations of continuous-time port-Hamiltonian systems. *Systems and Control Lett.*, 62:324 – 330, April 2013

Matteo Rubagotti, Antonio Estrada, Fernando Castaños, Antonella Ferrara, and Leonid Fridman. Integral sliding mode control for nonlinear systems with matched and unmatched perturbations. *IEEE Trans. Autom. Control*, 56:2699 – 2704, November 2011

Fernando Castaños and Leonid Fridman. Dynamic switching surfaces for output sliding mode control: An $\mathcal{H}_\infty$ approach. *Automatica*, 47:1957–1961, September 2011

Fernando Castaños. Discussion on: “Energy shaping of port-Hamiltonian systems by using alternate passive input-output pairs”. *European Journal of Control*, 16:678 – 679, December 2010

Fernando Castaños and Romeo Ortega. Energy-balancing passivity-based control is equivalent to dissipation and output invariance. *Systems and Control Lett.*, 58:553 – 560, August 2009

Fernando Castaños, Romeo Ortega, Arjan J. van der Schaft, and Alessandro Astolfi. Asymptotic stabilization via control by interconnection of port-Hamiltonian systems. *Automatica*, 45:1611 – 1618, July 2009

Fernando Castaños, Bayu Jayawardhana, Romeo Ortega, and Eloísa García-Canseco. Proportional plus integral control for set-point regulation of a class of nonlinear RLC circuits. *Circuits Syst. Signal Process.*, 28:609 – 623, August 2009

Romeo Ortega, Arjan J. van der Schaft, Fernando Castaños, and Alessandro Astolfi. Control by interconnection and standard passivity-based control of port-Hamiltonian systems. *IEEE Trans. Autom. Control*, 53:2527 – 2542, December 2008

Eugenii Shustin, Leonid Fridman, Emilia Fridman, and Fernando Castaños. Robust semiglobal stabilization of the second order system by relay feedback with an uncertain variable time delay. *SIAM J. Control Optim.*, 47:196 – 217, January 2008

Bayu Jayawardhana, Romeo Ortega, Eloísa García-Canseco, and Fernando Castaños. Passivity of nonlinear incremental systems: Application to PI stabilization of nonlinear RLC circuits. *Systems and Control Lett.*, 56:618 – 622, September 2007

Fernando Castaños and Leonid Fridman. Analysis and design of integral sliding manifolds for systems with unmatched perturbations. *IEEE Trans. Autom. Control*, 51:853 – 858, May 2006

Yuri Orlov, Leonid Fridman, and Fernando Castaños. Discussion on: "Dynamic sliding mode control for a class of systems with mismatched uncertainty". *European Journal of Control*, pages 11–18, 2005

Capítulos de libro

Ismael Castillo, Fernando Castaños, and Leonid Fridman. Sliding surface design for higher-order sliding modes. In Leonid Fridman, Jean-Pierre Barbot, and Franck Plestan, editors, *Recent Trends in Sliding Mode Control*, chapter 1.2, pages 29 – 57. The Institution of Engineering and Technology, Herts, United Kingdom, 2016

Fernando Castaños, Jian-Xin Xu, and Leonid Fridman. Integral sliding modes for systems with matched and unmatched uncertainties. In Christopher Edwards, Enric Fossas Colet, and Leonid Fridman, editors, *Advances in Variable Structure and Sliding Mode Control*, chapter 11, pages 227 – 246. Springer–Verlag, Berlin, 2006

Congresos

8 CDC (IEEE, internacional), 12 IFAC (internacional), 1 ACC (internacional), 1 CCE (IEEE, internacional), 1 ICUAS (internacional), 1 IFAC (regional), 4 ECC (regional), 5 VSS (IEEE-IFAC, internacional), 1 CDC-ECC (internacional), 1 SICE-ISCS (international), 6 AMCA (nacional)

Bryan Rojas-Ricca, Fernando Castaños, and Sabine Mondié. High-gain observer-based predictor for a flexible joint robot with input delay. In *Congreso Nacional de Control Automático*, Acapulco, Mexico, October 2023

Bryan Rojas-Ricca, Fernando Castaños, and Sabine Mondié. A predictor tuning by root multiplicity-induced dominance for position control of a quadrotor. In *Congreso Nacional de Control Automático*, pages 178 – 183, Tuxtla Gutiérrez, Mexico, October 2022

Bryan Rojas-Ricca, Fernando Castaños, and Sabine Mondié. Multiplicity-induced dominance in stabilization of state predictors for time-delay systems. In *Proc. IFAC Workshop on Time Delay Systems*, pages 1 – 6, Montreal, Canada, September 2022

Fernando Castaños and Dmitry Gromov. Limit cycles in locally Hamiltonian systems with dissipation. In *Proc. IFAC Workshop on Lagrangian and Hamiltonian Methods for Nonlinear Control*, pages 201 – 206, Berlin, Germany, November 2021

Fernando Castaños, Félix Miranda, and Alessio Franci. A notion of equivalence for linear complementarity problems with application to the design of non-smooth bifurcations. In *Proc. IFAC World Congress*, pages ID–1340, Berlin, July 2020

Oscar B. Cieza, Fernando Castaños, and Johann Regger. Implicit IDA-PBC for underactuated mechanical systems: An LMI-based approach. In *Proc. Conference on Decision and Control*, pages 7770 – 7775, Nice, France, December 2019

Gian Carlo Gómez-Cortés, Fernando Castaños, and Jorge Dávila. Sliding motions on SO(3), sliding subgroups. In *Proc. Conference on Decision and Control*, pages 6954 – 6958, Nice, France, December 2019

Gian Carlo Gómez-Cortés, Fernando Castaños, and Jorge Dávila. Control en la esfera S^2 usando modos deslizantes. In *Congreso Nacional de Control Automático*, pages 778 – 784, Puebla, Mexico, October 2019

Pedro Flores-Palmeros, Pedro Castillo, and Fernando Castaños. Backstepping-based controller for flight formation. In *International Conference on Unmanned Aircraft Systems*, pages 254 – 260, Atlanta, GA, June 2019

Emanuel Rocha, Jaime A. Moreno, and Fernando Castaños. Homogeneous generalisation of the Lur'e problem and the circle criterion. In *Proc. IFAC Conf. on Modelling, Identification and Control of Nonlinear Systems*, pages 514 – 519, Guadalajara, Mexico, June 2018

Dmitry Gromov, Fernando Castaños, and Alexander L. Fradkov. Projected dynamics of constrained Hamiltonian systems. In *Proc. European Control Conference*, pages 1277 – 1281, Limassol, Cyprus, June 2018

Dmitry Gromov and Fernando Castaños. Control of driftless systems using piecewise constant inputs. In *Control Systems (SICE ISCS), 2018 International Symposium on*, pages 226 – 231, Tokyo, Japan, March 2018

Emanuel Rocha, Jaime A. Moreno, and Fernando Castaños. Generalización homogénea del problema de Lur'e y del criterio del círculo. In *Congreso Anual de la AMCA*, pages 96 – 101, Monterrey, Mexico, October 2017

Félix Miranda, Fernando Castaños, and Bernard Brogliato. A set-valued nested sliding-mode controller. In *Proc. IFAC World Congress*, pages 3026 – 3031, Toulouse, France, July 2017

Félix Miranda, Bernard Brogliato, and Fernando Castaños. Set-valued discrete-time sliding-mode control of uncertain linear systems. In *Proc. IFAC World Congress*, pages 10017 – 10022, Toulouse, France, July 2017

Dmitry Gromov and Fernando Castaños. The geometric structure of interconnected thermomechanical systems. In *Proc. IFAC World Congress*, pages 584 – 589, Toulouse, France, July 2017

Félix Miranda and Fernando Castaños. Robust output regulation of linear passive systems using maximally monotone controls. In *Proc. Conference on Decision and Control*, pages 6897 – 6902, Osaka, Japan, December 2015

Fernando Castaños and Alessio Franci. The transition between tonic spiking and bursting in a six-transistor neuromorphic device. In *Proc. Int. Conf. on Electrical Eng., Computing Science and Automatic Control*, pages 1 – 6, Mexico City, Mexico, December 2015

Andrea Aparicio Martínez, Fernando Castaños, and Leonid Fridman. ISS properties of sliding-mode controllers for systems with matched and unmatched disturbances. In *Proc. European Control Conference*, pages 2870–2875, Linz, Austria, July 2015

Fernando Castaños and Dmitry Gromov. Interconnection and damping assignment for implicit port-Hamiltonian systems. In *Proc. IFAC Conf. on Modelling, Identification and Control of Nonlinear Systems*, pages 1016 – 1021, Saint Petersburg, Russia, June 2015

Andrea Aparicio Martínez, Fernando Castaños, and Leonid Fridman. ISS-Lyapunov functions for output feedback sliding modes. In *Proc. Conference on Decision and Control*, pages 5536 – 5541, Los Angeles, California, USA, December 2014

Debbie Hernández-Zárate, Fernando Castaños, and Leonid Fridman. Pole-placement in higher-order sliding-mode control. In *Proc. IFAC World Congress*, pages 1386 – 1391, Cape Town, South Africa, August 2014

Félix Miranda and Fernando Castaños. Robust output regulation of variable structure systems with multivalued controls. In *Proc. Variable Structure Systems Workshop*, Nantes, Francia, June 2014

Andrea Aparicio Martínez, Fernando Castaños, and Leonid Fridman. Dynamic surface for output feedback sliding modes, the case of relative degree two. In *Proc. Conference on Decision and Control*, pages 3578 – 3583, Florence, Italy, December 2013

Andrea Aparicio Martínez and Fernando Castaños. Control por modos deslizantes por retroalimentación de salida con grado relativo dos. In *Congreso Anual de la AMCA*, pages 544 – 549, Ensenada, Mexico, October 2013

Edgar Estrada, Fernando Castaños, and Sabine Mondié. σ-estabilidad de sistemas de control basados en pasividad con retardos en la comunicación. In *Congreso Anual de la AMCA*, pages 129 – 134, Ensenada, Mexico, October 2013

Cristian Kunusch and Fernando Castaños. On the implementation of an adaptive extremum seeking algorithm for hydrogen minimization in PEM fuel cell based systems. In *Proc. European Control Conference*, pages 2501 – 2506, Zürich, Switzerland, July 2013

Cristian Kunusch and Fernando Castaños. Extremum seeking algorithms for minimal hydrogen consumption in PEM fuel cells. In *Proc. American Control Conference*, pages 1146 – 1151, Washington, DC, USA, June 2013

Fernando Castaños, Debbie Hernández-Zárate, and Leonid Fridman. Integral sliding-mode control for linear time-invariant implicit descriptions. In *Proc. Conference on Decision and Control*, pages 6442 – 6447, Maui, Hawaii, December 2012

Matteo Rubagotti, Antonio Estrada, Fernando Castaños, Antonella Ferrara, and Leonid Fridman. Optimal disturbance rejection by integral sliding mode control for systems in regular form. In *Proc. Variable Structure Systems Workshop*, pages 78 – 82, Mexico City, Mexico, June 2010

Fernando Castaños and Romeo Ortega. Energy-balancing passivity-based control is equivalent to dissipation and output invariance. In *Proc. European Control Conference*, page WeC2.4, Budapest, Hungary, August 2009

Eugenii Shustin, Leonid Fridman, Emilia Fridman, and Fernando Castaños. Robust semiglobal stabilization of the second order system by relay feedback with an uncertain variable time delay. In *Proc. Conference on Decision and Control*, pages 2716 – 2721, Cancún, México, December 2008

Fernando Castaños, Romeo Ortega, Arjan J. van der Schaft, and Alessandro Astolfi. Asymptotic stabilization via control by interconnection of port-Hamiltonian systems. In *Congreso Latinoamericano de Control Automático*, Mérida, Venezuela, November 2008

Fernando Castaños, Bayu Jayawardhana, Romeo Ortega, and Eloísa García-Canseco. A class of nonlinear RLC circuits globally stabilizable by proportional plus integral controllers. In *Proc. IFAC World Congress*, pages 6202 – 6207, Seoul, Korea, June 2008

Romeo Ortega, Arjan J. van der Schaft, Fernando Castaños, and Alessandro Astolfi. Control by (state-modulated) interconnection of port-Hamiltonian systems. In *Proc. IFAC Symposium on Nonlinear Control Systems*, pages 47 – 54, Pretoria, South Africa, August 2007

Bayu Jayawardhana, Romeo Ortega, Eloísa García-Canseco, and Fernando Castaños. Passivity of nonlinear incremental systems: Application to PI stabilization of nonlinear RLC circuits. In *Proc. Conference on Decision and Control*, page ThIP2.17, San Diego, December 2006

Fernando Castaños and Leonid Fridman. Design of integral sliding manifolds for multi-model uncertain systems via LMI. In *Proc. Variable Structure Systems Workshop*, pages 63–67, Alghero, Italy, June 2006

Fernando Castaños and Leonid Fridman. Robust design criteria for integral sliding surfaces. In *Proc. Conference on Decision and Control, and European Control Conference*, pages 1976–1981, Seville, Spain, December 2005

Fernando Castaños and Leonid Fridman. Integral sliding surface design using an $\mathcal{H}_\infty$ criterion for decentralized control. In *Proc. IFAC World Congress*, pages Th–A09–T0/2, Prague, July 2005

Fernando Castaños and Leonid Fridman. Measurement sliding mode-$\mathcal{H}_\infty$ control with application to decentralized systems. In *Proc. Variable Structure Systems Workshop*, Vilanova i la Geltrú, Spain, September 2004

Leonid Fridman, Fernando Castaños, N. M'Sirdi, and Khraef. Decomposition and robustness properties of integral sliding mode controllers. In *Proc. Variable Structure Systems Workshop*, Vilanova i la Geltrú, Spain, September 2004

Fernando Castaños and Leonid Fridman. Control descentralizado por modos deslizantes. In *Congreso Anual de la AMCA*, pages 253–258, México, D.F., 2004

5 de febrero de 2024