



Información personal

Apellido(s) / Nombre(s)

Dirección(es)

Teléfono(s)

Correo(s) electrónico(s)

Nacionalidad(es)

Fecha de nacimiento

Castaños Luna Fernando

Av. Instituto Politécnico Nacional No. 2508, Col. San Pedro Zacatenco, C.P. 07360, México D.F., México

+52 (55) 57 47 37 35

castanos@ieee.org

Mexicana

1976

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. Asesoría de Romeo Ortega

Tesis: Cyclo-pasividad y control por interconexión

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

2005 – 2006

Maestría: Automatización y procesamiento de imágenes y señales. Asesoría de Romeo Ortega

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

UPS – L2S – SUPÉLEC

2002 – 2004

Maestría: Ingeniería Eléctrica, Control. Asesoría de Leonid Fridman

Tesis: Modos deslizantes con criterio \mathcal{H}_∞ y aplicación al control descentralizado

Universidad Nacional Autónoma de México (UNAM)

1995 – 2002

Licenciatura: Ingeniería Eléctrica Electrónica, Procesamiento de señales. Asesoría de Rolando Carrera

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

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

Experiencia laboral

Cargos

Mar. 2019 –

Editor para International Journal of Robust and Nonlinear Control, Wiley

Mar. 2014 –

Investigador nivel 3C. Departamento de Control Automático (DCA). Centro de Investigación y de Estudios Avanzados (Cinvestav) del IPN, México. Coordinador académico de abril 2015 a marzo 2017

Sep. 2011 – Feb. 2014

Investigador visitante. DCA, Cinvestav

Sep. 2009 – Ago. 2011

Post doctorado. McGill Center for Intelligent Machines, Universidad de McGill, Canadá. Control de locomoción de robots androides. Supervisión de Hannah Michalska y Vincent Hayward

2001 – 2002	Independiente. Implementación de redes de cómputo. Diseño y realización de páginas web
1998 – 2000	Consultor de la empresa SSE-Comshare. Diseño e implementación de modelos financieros en sistemas de cómputo. Realización de las interfaces para los sistemas transaccionales y de las interfaces para usuario
	<i>Estancias científicas</i>
2018, 2015	Dmitry Gromov. Sistemas Hamiltonianos implícitos con puerto. Saint Petersburg State University, San Petersburgo, Rusia. Dos semanas, una semana, respectivamente
2017	Emmanuel Nuño. Control basado en pasividad usando multi funciones. Universidad de Guadalajara, Guadalajara, México. Una semana
2014	Alessio Franci. Realización de comportamientos no lineales usando teoría de singularidades. Departamento de Ingeniería, University of Cambridge, Reino Unido. Una semana
2012, 2013	Cristian Kunusch. Minimización del consumo de hidrógeno en pilas de combustible. Institut de Robòtica i Informàtica Industrial. Barcelona, España. Dos semanas, una semana, respectivamente
2009	Riyanto Bambang. Control de potencia para vehículos eléctricos. Institute of Technology Bandung. Bandung, Indonesia. Dos semanas
2008	David Hill y Jun Zhao. Aplicaciones de la teoría de disipación de sistemas conmutados. Australian National University. Canberra, Australia. Cuatro semanas
	Bayu Jayawardhana, Arjan van der Schaft y Jacqueliën Scherpen. Modelos de potencia en teoría de circuitos; control por interconexión. University of Groningen. Países Bajos. Una semana
2007	Ravi Banavar y Arun Mahindrakar. Control por interconexión en el caso de dimensión infinita. Indian Institute of Technology. Mumbai y Chennai, India. Cuatro semanas
2006	Jacqueliën Scherpen y Dimitri Jeltsema. Pasividad relativa aplicada al diseño de convertidores de potencia. Delft University of Technology. Delft, Países Bajos. Una semana
	Arjan van der Schaft. Sistemas Hamiltonianos conmutados. University of Groningen. Una semana
	<i>Proyectos</i>
2009	Power flow control of fuel-cell powered vehicles (autor). NUSANTARA, presupuesto € 5,000
2008	Transient Stability of Power Systems. FAST, presupuesto € 6,800
2006	Control of Active Filters considering Dynamic Loads. LAFMAA, presupuesto € 13,950
	<i>Cursos dictados</i>
	<i>Cinvestav, posgrado:</i>
Ene. – Abr. 2020	Control Robusto
May. – Ago. 2019, 2018	
Sep. – Dic. 2019	Sistemas Homogéneos y Sistemas con Retardos
May. – Ago. 2017	Control por Modos Deslizantes
Ene. – Abr. 2017, 2016	Control Óptimo
2015, 2014	
May. – Ago. 2016, 2015	Sistemas No Lineales
2013	
Ene. – Abr. 2013	Control Digital
Ene. – Abr. 2012	Teoría de Control II
	<i>Universidad de McGill:</i>
Ene. – Jun. 2011	Diseño de Proyecto I y II, licenciatura
Ene. – Abr. 2011	ECSE 507 (Optimización y Control Óptimo, maestría)
Sep. – Dic. 2010	ECSE 404 (Sistemas de Control, licenciatura)
	<i>Estudiantes graduados</i>
Ago. 2021	Maestría, Bryan Rojas. Sintonización de un observador–predictor para sistemas no lineales con retardo en la entrada, codirección con Sabine Mondié (Cinvestav)

Sep. 2020	Doctorado, Gian Gómez. Modos deslizantes y representaciones geométricas: control de cuerpos rígidos, codirección con Jorge Dávila (ESIME-IPN, México)
Dec. 2016	Doctorado, Félix Miranda. Técnicas de control robusto empleando análisis convexo no liso
Ago. 2016	Maestría, Carlos Tovar. Diseño de circuitos neuromorfos usando teoría de singularidades, codirección con Alessio Franci (UNAM)
Dec. 2015	Doctorado, Debbie Hernández. Control por modos deslizantes para sistemas implícitos, codirección con Alexander Poznyak (Cinvestav)
Nov. 2015	Maestría, Pedro Flores. Control de un cuádrorotor en ambientes no estructurados, codirección con Pedro Castillo (Heudyasic, Francia)
Nov. 2014	Maestría, Christopher Cruz. Coordinación de agentes por acondicionamiento de referencia, codirección con Jorge Dávila
Nov. 2013	Maestría, Edgar Estrada. Control de sistemas con retardo basados en un enfoque de pasividad, codirección con Sabine Mondié
Nov. 2012	Maestría, Félix Miranda. Control óptimo tipo LQ para una clase de sistemas lineales con entradas constantes a trozos, codirección con Vadim Azhmyakov (Cinvestav)

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

2009	The Behavioral approach to modeling and control. Paolo Rapisarda y Jan C. Willems Nonlinear Output Regulation. Alberto Isidori
2008	Robotics, Geometry and Control. Ravi Banavar
2007	Modeling Analysis and Design of Hybrid Control Systems. Joao Pedro Hespanha Nonlinear Adaptive Control with Applications. Alessandro Astolfi Switched Systems and Control. Daniel Liberzon

CTS-HYCON

2006	Stability and stabilisation of time-varying systems. Antoine Chaillet Optimality, Stabilization and Feedback in Nonlinear Control. Francis Clarke Hybrid control systems. Christophe Prieur
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Lengua(s) materna(s)

Español

Otras lenguas

Inglés

277 / 300 TOEFL

Francés

TCF 536 / 699 nivel 5 C1

Reconocimientos

2022	Miembro del Sistema Nacional de Investigadores (SNI), Investigador Nivel II
2017, 2016, 2013	Promoción a investigador nivel 3C, 3B y 3A, respectivamente. Cinvestav
2018, 2014, 2010	Miembro del SNI, Investigador Nivel I
2009, 2005	Mención honorífica en la obtención de grado de doctor y de maestro
1995 – 1997	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

Publicaciones

Revistas

(1 IEEE TIE, 5 Automatica, 5 IEEE TAC, 2 SIAM SICON, 1 SIAM SIADS, 5 Syst. Control Lett., 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)

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.

Self-oscillations in an alpha Stirling engine: a bifurcation analysis.

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 Kunsch.
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}_∞ 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), 11 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 (internacional), 5 AMCA (nacional)

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 thermo-mechanical 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}_∞ 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}_∞ 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

18 de enero de 2022