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Posición actual

CATEDRÁTICO DE UNIVERSIDAD, Departamento de Ingeniería Mecánica y Fabricación, Escuela Técnica Superior de Ingeniería, Universidad de Sevilla.

Áreas de especialización

Flexible Multibody System; Absolute Nodal Coordinate Formulation; Optimal Design and Control of Multibody Systems; Nonlinear Dynamics.

Complementos de productividad reconocidos

- 2016 Primer sexenio de transferencia reconocido por la CNEAI
- 2019 Tercer sexenio de investigación reconocido por la CNEAI
- 2023 Cuarto quinquenio de docencia reconocido por la Universidad de Sevilla

Puestos ocupados

- 2001-2005 Beca de investigación en el Departamento de Ingeniería Mecánica y de Fabricación de la Universidad de Sevilla
- 2005-2009 Profesor Contratado Doctor en el Departamento de Ingeniería Mecánica y de Fabricación de la Universidad de Sevilla
- 2009-2010 Postdoc at Institute of Engineering and Computational Mechanics, University of Stuttgart, Germany
- 2011-2016 Profesor Contratado Doctor en el Departamento de Ingeniería Mecánica y de Fabricación de la Universidad de Sevilla
- 2015-2019 Subdirector de Estudiantes e Innovación Docente, Escuela Técnica Superior de Ingeniería, Universidad de Sevilla
- 2016-2022 Profesor Titular de Universidad en el Departamento de Ingeniería Mecánica y de Fabricación de la Universidad de Sevilla
- 2022-2024 Catedrático de Universidad en el Departamento de Ingeniería Mecánica y de Fabricación de la Universidad de Sevilla

Educación

- 2001 INGENIERO INDUSTRIAL, Universidad de Málaga
2006 DOCTOR EN INGENIERÍA MECÁNICA, Universidad de Sevilla

Becas y premios

- 2009 Beca posdoctoral, Ministerio de Educación y Ciencia
2006 Premio extraordinario de doctorado de la Universidad de Sevilla
2001-2005 Beca de Formación de Investigadores, Ministerio de Ciencia y Tecnología

Conferencias por invitación

- 2006 *Formulation of Rigid-Flexible Multibody Systems by using Absolute Coordinates*, 1 hour, Mechanical Colloquium of the Laboratory for Engineering Mechanics at Delft University, Delft, Holland, August 25, 2006
Formulation of Rigid-Flexible Multibody Systems by using Absolute Coordinates, 1 hour, Department of Mechanical Engineering, Institute of Mechatronics and Virtual Engineering, Lappeenranta, Finland, August 18, 2006
- 2011 *Advanced Mechanics: Dynamics of Multibody Systems*, 8 hours, Escuela Técnica Superior de Ingeniería Industrial, Universidad de Málaga, Málaga, Spain, April, 2011
Introduction to the flexible multibody dynamics: Methods and applications, 6 hours, Department of Mechanical Engineering, Institute of Mechatronics and Virtual Engineering, Lappeenranta University of Technology, Lappeenranta, Finland, November, 2011
- 2012 *Advanced Mechanics: Dynamics of Multibody Systems*, 14 hours, Escuela Técnica Superior de Ingeniería Industrial, Universidad de Málaga, Málaga, Spain, April–May, 2012
- 2023 *Dynamics of an electric solar wind sail based on a high-fidelity flexible multibody model*, 30 min, The 2nd International Conference on Mechanical System Dynamics, Peking University, Beijing (China), Sept. 1-5, 2023

Docencia impartida

- 2003-2024 Teoría de Máquinas y Mecanismos, Grado en Ingeniería de las Tecnologías Industriales
Vibraciones mecánicas, Grado en Ingeniería de las Tecnologías Industriales
Vibraciones mecánicas avanzadas, Máster en Diseño Avanzado en Ingeniería Mecánica

Tesis doctorales dirigidas

- 2014 *Design of a variable stiffness actuator for service robots and dynamical analysis of its interaction with humans*, Javier López Martínez, University of Almería, Spain.
- 2017 *Nonlinear vibrations produced by unbalanced motors*, Javier González Carbajal, University of Seville, Spain.
- 2021 *Fast-Ion Transport and Acceleration Induced by Edge Localized Modes in MAST Upgrade and ASDEX Upgrade*, Juan Francisco Rivero Rodríguez, University of Seville, Spain.
- 2023 *Modelling and Linear Stability Analysis of Highly Mobile Nonholonomic Multibody Systems*, Alfonso García-Agúndez Blanco, University of Seville, Spain.

Otros servicios a la profesión

- 2010 Session chair of *Flexible Multibody Systems 2, 3 and 6* at The First Joint International Conference on Multibody System Dynamics - IMSD 2010, Lappeenranta, Finland, 2010.
- 2014 Session chair of *Biomechanics and Applied Dynamics I and II* at the 11th World Congress on Computational Mechanics, Barcelona, July 2014.
- 2015 Session organizer of *Control and Optimization at Thematic Conference on Multibody Dynamics ECCOMAS 2015*, Barcelona, June, 2015.
- 2015 Expert evaluator for CleanSky 2, European Commission.
- 2018 Session organizer of MSNDC-2 Flexible Multibody Dynamics and MSNDC-II Dynamics And Control Of Robotic and Mechatronic Systems at the 14th International Conference on Multibody Systems, Nonlinear Dynamics and Control (MSNDC), Quebec, Canadá, August 26-29, 2018.
- 2024 Session chair of *Multibody Dynamics* at The Mechanism and Machine Theory Symposium ‘Celebrating 60 years since the journal’s foundation’, Guimarães, Portugal.
- 2003-2024 Reviewer for international journals: *Nonlinear Dynamics*, *ASME Journal of Mechanical Design*, *Multibody System Dynamics*, *ASME Journal of Computational And Nonlinear Dynamics*, *Mechanism and Machine Theory*, *Journal of Sound And Vibrations*...

Publicaciones y presentaciones

PUBLICACIONES EN REVISTAS O EN ACTAS INDEXADAS

- 2024 C. Castillo, J. López-Martínez, D. García-Vallejo, and J.L. Blanco-Claraco. Synthesis of 1-dof mechanisms for exact regular polygonal path generation based on non-circular gear transmissions. *Mechanism and Machine Theory*, 198, 2024
- A.G. Agúndez, D. García-Vallejo, and E. Freire. Analysis of the influence of tyre cross-sectional parameters on the stability of a nonlinear bicycle model with elliptic toroidal wheels. *Springer Proceedings in Mathematics and Statistics*, 453:27–43, 2024
- S. Sánchez-Salinas, J. López-Martínez, J. Martínez-Lao, D. García-Vallejo, and J.M. Muyor. Development and experimental evaluation of an instrumented constant-force bodybuilding machine. application to the bench press exercise. *Mechanics Based Design of Structures and Machines*, 2024
- A.G. Agúndez, D. García-Vallejo, and E. Freire. An electric kick scooter multibody model: equations of motion and linear stability analysis. *Multibody System Dynamics*, 2024

A.G. Agúndez, D. García-Vallejo, E. Freire, and A. Mikkola. The dependent coordinates in the linearization of constrained multibody systems: Handling and elimination. *International Journal of Mechanical Sciences*, 268, 2024

A. G. Agúndez, D. García-Vallejo, and E. Freire. Analytical and numerical stability analysis of a toroidal wheel with nonholonomic constraints. *Nonlinear Dynamics*, 112(4):2453–2476, 2024

2023

G. Pacheco-Ramos, D. Garcia-Vallejo, and R. Vazquez. Formulation of a high-fidelity multibody dynamical model for an electric solar wind sail. *International Journal of Mechanical Sciences*, 256, 2023

J. López-Martínez, D. García-Vallejo, A. Alcayde, S. Sánchez-Salinas, and F.G. Montoya. A comprehensive methodology to obtain electrical analogues of linear mechanical systems. *Mechanical Systems and Signal Processing*, 200, 2023

J. González-Carbajal, D. García-Vallejo, and J. Domínguez. Sommerfeld effect in a vibrocompaction process. *International Journal of Mechanical Sciences*, 254, 2023

J.F. Rivero-Rodríguez, J. Galdon-Quiroga, J. Domínguez-Palacios, M. García-Muñoz, D. Garcia-Vallejo, J. Gonzalez-Martin, K.G. McClements, L. Sanchís, K. Särkimäki, A. Snicker, Y. Todo, L. Velarde, E. Viezzer, and the ASDEX Upgrade Team. Transport and acceleration mechanism of fast ions during edge localized modes in asdex upgrade. *Nuclear Fusion*, 63(8), 2023

A.G. Agúndez, D. García-Vallejo, E. Freire, L. Pyrhönen, and A. Mikkola. An efficient and accurate linearization approach for hydraulically actuated multibody systems with holonomic and nonholonomic constraints. *Nonlinear Dynamics*, 111(11):10331–10356, 2023

L. Pyrhönen, S. Jaiswal, A. Garcia-Agundez, D. García Vallejo, and A. Mikkola. Linearization-based state-transition model for the discrete extended kalman filter applied to multibody simulations. *Multibody System Dynamics*, 57(1):55–72, 2023

2022

A. Rincón-Casado, J.M. Juliá-Lerma, D. García-Vallejo, and J. Domínguez. Experimental estimation of the residual fatigue life of in-service wind turbine bolts. *Engineering Failure Analysis*, 141, 2022

J. González-Carbajal, D. García-Vallejo, and J. Domínguez. Stability of a nonideally excited duffing oscillator. *Nonlinear Dynamics*, 2022

A. G. Agúndez, D. García-Vallejo, E. Freire, and A. Mikkola. A reduced and linearized high fidelity waveboard multibody model for stability analysis. *Journal of Computational and Nonlinear Dynamics*, 17(5), 03 2022. 051010

T.Z. Htun, H. Suzuki, and D. García-Vallejo. On the theory and application of absolute coordinates-based multibody modelling of the rigid–flexible coupled dynamics of a deep-sea rov-tms (tether management system) integrated model. *Ocean Engineering*, 258, 2022

S. Sánchez-Salinas, A. García-Agúndez, J. López-Martínez, and D. García-Vallejo. Experimental validation of a constant-force mechanism and analysis of its performance with a calibrated multibody model. *Mechanism and Machine Theory*, 173, 2022

J. González-Carbajal, D. García-Vallejo, and J. Domínguez. On the stability and long-term be-

haviour of structural systems excited by nonideal power sources. *Mechanisms and Machine Science*, 116:191–237, 2022

J. González-Carbajal, A. Rincón-Casado, D. García-Vallejo, and J. Domínguez. Nonlinear solutions for the steady state oscillations of a clamped–free rotating beam. *European Journal of Mechanics, A/Solids*, 91, 2022

2021

J.F. Rivero-Rodriguez, M. Garcia-Muñoz, J. Galdon-Quiroga, A. Snicker, J. Dominguez-Palacios, H. Chen, S.J. Doyle, D. Garcia-Vallejo, J. Gonzalez-Martin, L. Sanchis, K. Sarkimaki, Y. Todo, E. Viezzer, ASDEX Upgrade Team, and EUROfusion MST1 Team. Kinetic modelling of elm-induced fast-ion transport and acceleration in the asdex upgrade tokamak. In *47th EPS Conference on Plasma Physics, EPS 2021*, volume 2021-June, pages 37–40, 2021

T.Z. Htun, H. Suzuki, D. García-Vallejo, A. Yamazoe, and Y. Aoki. On singularity-free multi-body modeling of rigid-flexible coupled dynamics of an underwater tethered system. In *Proceedings of the International Offshore and Polar Engineering Conference*, pages 242–249, 2021

J. Lopez-Martinez, J.C. Martinez, D. Garcia-Vallejo, A. Alcayde, and F.G. Montoya. A new electromechanical analogy approach based on electrostatic coupling for vertical dynamic analysis of planar vehicle models. *IEEE Access*, 9:119492–119502, 2021

A.G. Agúndez, D. García-Vallejo, E. Freire, and A.M. Mikkola. Stability analysis of a waveboard multibody model with toroidal wheels. *Multibody System Dynamics*, 53(2):173–203, 2021

J. Ayllon-Guerola, C. Cobacho-Rodriguez, J. Segado-Fernandez, J. Hidalgo-Salaverri, A. Mancini, J. Nunez-Portillo, D. Garcia-Vallejo, M. Garcia-Munoz, S. Davis, V. Tomarchio, N. Hajnal, C. Piccinni, M. Verrecchia, G. Phillips, M. Vallar, E. Perelli Cippo, M. Nocente, O. Putignano, C. Sozzi, and M. Wanner. Thermo-mechanical assessment of the jt-60sa fast-ion loss detector. *Fusion Engineering and Design*, 167, 2021

A.G. Agúndez, D. García-Vallejo, and E. Freire. Linear stability analysis of nonholonomic multi-body systems. *International Journal of Mechanical Sciences*, 198, 2021

A. García-Agúndez, D. García-Vallejo, and E. Freire. Linearization approaches for general multi-body systems validated through stability analysis of a benchmark bicycle model. *Nonlinear Dynamics*, 103(1):557–580, 2021

A.G. Agúndez, D. García-Vallejo, E. Freire, and A.M. Mikkola. Linear stability analysis of a waveboard multibody model with a minimal set of equations. In *Proceedings of the ASME Design Engineering Technical Conference*, volume 9, 2021

A. Rincón-Casado, J. González-Carbajal, D. García-Vallejo, and J. Domínguez. Analytical and numerical study of the influence of different support types in the nonlinear vibrations of beams. *European Journal of Mechanics, A/Solids*, 85, 2021

S. Sánchez-Salinas, D. García-Vallejo, J. López-Martínez, and J.M. Muyor. Design of trajectories and torques by parameter optimization for the bench press exercise on a smith machine. *Mechanism and Machine Theory*, 155, 2021

2020

A. Tapia Córdoba, D. García Vallejo, P. Millán Gata, and J.D. Abascal. Using simple estimates for the flexural stiffness of thick fdm beams based on sandwich beam models. *Rapid Prototyping*

Journal, 27(1):120–130, 2020

T.Z. Htun, H. Suzuki, and D. García-Vallejo. Dynamic modeling of a radially multilayered tether cable for a remotely-operated underwater vehicle (rov) based on the absolute nodal coordinate formulation (anfc). *Mechanism and Machine Theory*, 153, 2020

A. García-Agúndez, D. García-Vallejo, and E. Freire. Study of the forward locomotion of a three-dimensional multibody model of a waveboard by inverse dynamics. *Mechanism and Machine Theory*, 149, 2020

D. García-Vallejo, W. Schiehlen, and A. García-Agúndez. Dynamics, control and stability of motion of electric scooters. *Lecture Notes in Mechanical Engineering*, pages 1199–1209, 2020

2019

D. García-Vallejo, A. Alcayde, J. López-Martínez, and F.G. Montoya. Detection of communities within the multibody system dynamics network and analysis of their relations. *Symmetry*, 11(12), 2019

S. Sánchez-Salinas, C. Núñez-Torres, J. López-Martínez, D. García-Vallejo, and J.M. Muyor. Design and analysis of a constant-force bench press. *Mechanism and Machine Theory*, 142, 2019

J.F. Rivero-Rodriguez, M. Garcia-Munoz, J. Galdon-Quiroga, J. Gonzalez-Martin, J. Ayllon-Guerola, D. Garcia-Vallejo, R. Martin, K.G. McClements, L. Sanchis, S. Zoletnik, ASDEX upgrade team, MAST upgrade team, and MSTi team. A fast model to resolve the velocity-space of fast-ion losses detected in asdex upgrade and mast upgrade. *Journal of Instrumentation*, 14(9), 2019

R. Chamorro, D. García-Vallejo, J. Martínez-Reina, and E. Reina-Romo. Automatic grading of student-specific exercises in large groups of the subject theory of machines and mechanisms. *Mechanisms and Machine Science*, 64:157–164, 2019

2018

J.F. Rivero-Rodriguez, M. Garcia-Munoz, R. Martin, J. Galdon-Quiroga, J. Ayllon-Guerola, R.J. Akers, J. Buchanan, D. Croft, D. Garcia-Vallejo, J. Gonzalez-Martin, D. Harvey, K.G. McClements, M. Rodriguez-Ramos, and L. Sanchis. A rotary and reciprocating scintillator based fast-ion loss detector for the mast-u tokamak. *Review of Scientific Instruments*, 89(10), 2018

D. Dopico, F. González, A. Luaces, M. Saura, and D. García-Vallejo. Direct sensitivity analysis of multibody systems with holonomic and nonholonomic constraints via an index-3 augmented lagrangian formulation with projections. *Nonlinear Dynamics*, 93(4):2039–2056, 2018

J. López-Martínez, D. García-Vallejo, F.M. Arrabal-Campos, and J.M. Garcia-Manrique. Design of three new cam-based constant-force mechanisms. *Journal of Mechanical Design, Transactions of the ASME*, 140(8), 2018

J. González-Carbajal, D. García-Vallejo, and J. Domínguez. Nonlinear modelling and simulation of vibrocompaction processes. *International Journal of Non-Linear Mechanics*, 102:101–111, 2018

J.F. Rivero-Rodriguez, M. Garcia-Munoz, L. Sanchis, R. Martin, K.G. McClements, R.J. Akers, A. Snicker, J. Ayllon-Guerola, J. Buchanan, P. Cano-Megias, J. Galdon-Quiroga, D. Garcia-Vallejo, and J. Gonzalez-Martin. Development and installation of a scintillator based detector for fast-ion losses in the mast-u tokamak. In Berndt J., Coda S., Lapenta G., Michaut C., Weber S., Mantsinen M., editor, *45th EPS Conference on Plasma Physics, EPS 2018*, volume 2018-July, pages 233–236. European Physical Society (EPS), 2018

- 2017 J.F. Aceituno, R. Chamorro, D. García-Vallejo, and J.L. Escalona. On the design of a scaled railroad vehicle for the validation of computational models. *Mechanism and Machine Theory*, 115:60–76, 2017
- J. González-Carbajal, D. García-Vallejo, and J. Domínguez. Study of the contribution of nonlinear normal modes (nnms) in large amplitude oscillations of simply supported beams. In Vestroni F. Romeo F., Gattulli V., editor, *Procedia Engineering*, volume 199, pages 625–630. Elsevier Ltd, 2017
- D. Dopico, F. Gonzalez, A. Luaces, M. Saura, and D. Garcia-Vallejo. Forward sensitivity analysis of the index-3 augmented lagrangian formulation with projections. In Polach P., Zavrel J., Valasek M., Hajzman M., Neusser Z., Sika Z., Vampola T., Benes P., editor, *Proceedings of the 8th ECCOMAS Thematic Conference on MULTIBODY DYNAMICS 2017, MBD 2017*, volume 2017-January, pages 485–494. National Technical University of Athens, 2017
- 2016 J. Ayllon-Guerola, J. Gonzalez-Martin, M. Garcia-Munoz, J. Rivero-Rodriguez, A. Herrmann, S. Vorbrugg, P. Leitenstern, S. Zoletnik, J. Galdon, J. Garcia Lopez, M. Rodriguez-Ramos, L. Sanchis-Sanchez, A.D. Dominguez, M. Kocan, J.P. Gunn, D. Garcia-Vallejo, and J. Dominguez. A fast feedback controlled magnetic drive for the asdex upgrade fast-ion loss detectors. *Review of Scientific Instruments*, 87(11), 2016
- D. García-Vallejo, J.M. Font-Llagunes, and W. Schiehlen. Dynamical analysis and design of active orthoses for spinal cord injured subjects by aesthetic and energetic optimization. *Nonlinear Dynamics*, 84(2):559–581, 2016
- 2015 J. López-Martínez, J.L. Blanco-Claraco, D. García-Vallejo, and A. Giménez-Fernández. Design and analysis of a flexible linkage for robot safe operation in collaborative scenarios. *Mechanism and Machine Theory*, 92:1–16, 2015
- J.F. Aceituno, J.L. Escalona, and D. García-Vallejo. Partially-linearized multibody equations of railroad vehicles on arbitrary tracks for on-board applications. In Font-Llagunes J.M., editor, *Proceedings of the ECCOMAS Thematic Conference on Multibody Dynamics 2015, Multibody Dynamics 2015*, pages 1212–1220. International Center for Numerical Methods in Engineering, 2015
- 2014 J. López-Martínez, D. García-Vallejo, A. Giménez-Fernández, and J.L. Torres-Moreno. Flexible multibody model of a safety robot arm for experimental validation and analysis of design parameters. *Journal of Computational and Nonlinear Dynamics*, 9(1), 2014
- J. López Martínez, J.L. Blanco, D. García Vallejo, J.L. Torres, and A. Giménez Fernández. Avastt: A new variable stiffness actuator with torque threshold. *Advances in Intelligent Systems and Computing*, 252:573–583, 2014
- 2013 J. López-Martínez, D. García-Vallejo, J.L. Torres, A. Giménez, and J.A. López. Role of link flexibility and variable stiffness actuator on collision safety for service robots. In *Mechanisms and Machine Science*, volume 7, pages 499–507. Kluwer Academic Publishers, 2013

2012

- C. Liu, Q. Tian, H. Hu, and D. García-Vallejo. Simple formulations of imposing moments and evaluating joint reaction forces for rigid-flexible multibody systems. *Nonlinear Dynamics*, 69(1-2):127–147, 2012
- D. García-Vallejo and W. Schiehlen. 3d-simulation of human walking by parameter optimization. *Archive of Applied Mechanics*, 82(4):533–556, 2012
- 2011 W. Schiehlen and D. García-Vallejo. Walking dynamics from mechanism models to parameter optimization. In *Procedia IUTAM*, volume 2, pages 199–211. Elsevier B.V., 2011
- 2010 D.G. Vallejo and J.S.V. García. Stability and bifurcation analysis of a rotating beam substructured model. In *Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference 2009, DETC2009*, volume 4, pages 1371–1380, 2010
- 2009 J. Valverde and D. García-Vallejo. Stability analysis of a substructured model of the rotating beam. *Nonlinear Dynamics*, 55(4):355–372, 2009
- 2008 D. García-Vallejo, J. Mayo, J.L. Escalona, and J. Domínguez. Three-dimensional formulation of rigid-flexible multibody systems with flexible beam elements. *Multibody System Dynamics*, 20(1):1–28, 2008
- D. García-Vallejo, J.L. Escalona, J.M. Mayo, and J. Domínguez. Formulation of three-dimensional rigid-flexible multibody systems. In *2007 Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, DETC2007*, volume 5 PART B, pages 1091–1104, 2008
- 2007 D. García-Vallejo, A.M. Mikkola, and J.L. Escalona. A new locking-free shear deformable finite element based on absolute nodal coordinates. *Nonlinear Dynamics*, 50(1-2):249–264, 2007
- 2006 K.S. Kerkkänen, D. García-Vallejo, and A.M. Mikkola. Modeling of belt-drives using a large deformation finite element formulation. *Nonlinear Dynamics*, 43(3):239–256, 2006
- 2005 D. García-Vallejo, H. Sugiyama, and A.A. Shabana. Finite element analysis of the geometric stiffening effect. part 2: Non-linear elasticity. *Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics*, 219(2):203–211, 2005
- D. García-Vallejo, H. Sugiyama, and A.A. Shabana. Finite element analysis of the geometric stiffening effect. part 1: A correction in the floating frame of reference formulation. *Proceedings of the Institution of Mechanical Engineers, Part K: Journal of Multi-body Dynamics*, 219(2):187–202, 2005
- D. García-Vallejo, A.M. Mikkola, and K.S. Kerkkänen. Nonlinear dynamic analysis of a belt-drive using the absolute nodal coordinate formulation. In *Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Confer-*

ence - *DETC2005*, volume 6 C, pages 1681–1690. American Society of Mechanical Engineers, 2005

D. García-Vallejo, H. Sugiyama, and A.A. Shabana. Finite element analysis of the geometric stiffening effect using the absolute nodal coordinate formulation. In *Proceedings of the ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conference - DETC2005*, volume 6 B, pages 1187–1200. American Society of Mechanical Engineers, 2005

D. García-Vallejo, J. Valverde, and J. Domínguez. An internal damping model for the absolute nodal coordinate formulation. *Nonlinear Dynamics*, 42(4):347–369, 2005

A. González-Herrera, D. García-Vallejo, B. Moreno, and J. Zapatero. Numerical problems in the fatigue crack closure determination using finite element analysis [problemas numéricos en la determinación de la tensión de cierre en fatiga mediante elementos finitos]. *Informacion Tecnológica*, 16(3):15–20, 2005

2004 D. García-Vallejo, J. Mayo, J.L. Escalona, and J. Domínguez. A new algorithm for the evaluation of the elastic forces in the absolute nodal coordinate formulation. In *ECCOMAS 2004 - European Congress on Computational Methods in Applied Sciences and Engineering*, 2004

J.M. Mayo, D. García-Vallejo, and J. Domínguez. Study of the geometric stiffening effect: Comparison of different formulations. *Multibody System Dynamics*, 11(4):321–341, 2004

D. García-Vallejo, J. Mayo, J.L. Escalona, and J. Domínguez. Efficient evaluation of the elastic forces and the jacobian in the absolute nodal coordinate formulation. *Nonlinear Dynamics*, 35(4):313–329, 2004

2003 D. García-Vallejo, J.L. Escalona, J. Mayo, and J. Domínguez. Describing rigid-flexible multibody systems using absolute coordinates. *Nonlinear Dynamics*, 34(1-2):75–94, 2003

D. García-Vallejo, J.L. Escalona, J. Mayo, J. Domínguez, and A. Álvarez. Describing rigid-flexible multibody systems using natural and absolute nodal coordinates. In *Proceedings of the ASME Design Engineering Technical Conference*, volume 5 A, pages 241–250. American Society of Mechanical Engineers, 2003