

## Publicaciones derivadas de cada una de las tesis defendidas en el programa de doctorado

### 1. CONTRIBUTIONS TO ECR PLASMA SOURCE DYNAMICS: DIAGNOSTICS DEVELOPMENT AND EXPERIMENTAL RESULTS

Doctorando: MEGIA MACIAS, ANA MARIA

Director/es: Osvaldo Daniel CORTÁZAR PÉREZ

Fecha de defensa: 10/07/2014

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)

Universidad: Universidad de Castilla-La Mancha

#### PUBLICACIONES DERIVADAS:

PLASMA DISTRIBUTIONS OBSERVED IN A 2.45 GHz HYDROGEN DISCHARGE. O. D. Cortázar, A. Megía-Macías, O. Tarvainen, A. Vizcaíno-de-Julián and H. Koivisto. Plasma Sources Sci. and Technol. 23 065028 (2014). IF: 3.69

IMAGES OF A PLASMA FOCUS CURRENT SHEATH WITH A CONTINUOUS CYLINDRICAL OUTER ELECTRODE. M. Milanese, O.D. Cortázar, M.O. Barbaglia and R.L. Moroso. IEEE Transactions on Plasma Science. Vol. 42 No. 10 (2014). IF: 1.10

NOVEL PLASMA DISTRIBUTIONS IN 2.45 GHz HYDROGEN DISCHARGE. O. D. Cortázar, A. Megía-Macías, O. Tarvainen, A. Vizcaíno-de-Julián and H. Koivisto. Invited LabTalk at Plasma Sources Sci. and Technol.

BREAKDOWN TRANSIENT STUDY OF PLASMA DISTRIBUTIONS IN A 2.45 GHz HYDROGEN DISCHARGE. O. D. Cortázar, A. Megía-Macías, O. Tarvainen, and H. Koivisto. Nucl. Instrum. and Methods in Phys. Research A. 781 (2) Feb. (2015).

THE RELATIONSHIP BETWEEN VISIBLE EMISSION AND ION SPECIES FRACTION OF THE HYDROGEN ION BEAMS EXTRACTED FROM 2.45 GHz MICROWAVE DISCHARGE. O.D. Cortázar, A. Megía-Macías, O. Tarvainen, T. Kalvas and H. Koivisto. Rev. Sc. Instrum. 86, 083309 (2015).

EXPERIMENTAL EVIDENCE OF  $E \times B$  PLASMA ROTATION IN A 2.45 GHz HYDROGEN DISCHARGE. O.D. Cortázar, A. Megía-Macías, O. Tarvainen and H. Koivisto. Physics of Plasmas. 22. 12. 123511 (2015).

CORRELATIONS BETWEEN DENSITY DISTRIBUTIONS, OPTICAL SPECTRA AND ION SPECIES IN A HYDROGEN PLASMA (Invited). O.D. Cortázar, A. Megía-Macías, O. Tarvainen, T. Kalvas and H. Koivisto. Rev. Sc. Instrum. 87, 02A704. (2016).

TIME EVOLUTION OF THE ELECTRON ENERGY DISTRIBUTION FUNCTION IN PULSED MICROWAVE MAGNETOPLASMA IN H<sub>2</sub>. Jean-louis Jauberteau, Isabelle Jauberteau, O. D. Cortázar, and A. Megía-Macías. Phys. Plasmas 23, 033513 (2016).

STRONGLY ECCENTRIC ROTATIONAL PLASMA LAMINA OBSERVED IN A 2.45 GHz HYDROGEN DISCHARGE. O.D. Cortázar and A. Megía-Macías. IEEE Trans on Plasma Sc. 44. 5 (2016).

ELECTRON ENERGY DISTRIBUTION FUNCTION IN A PULSED 2.45 GHz HYDROGEN MAGNETOPLASMA: STUDY OF THE DECAY. Jean-louis Jauberteau, Isabelle Jauberteau, O. D. Cortázar, and A. Megía-Macías. AIP Advances 7 (12), 125107 (2017).

REVIEW OF SPATIAL DISTRIBUTION MODES IN A 2.45 GHz HYDROGEN PLASMA. A. Megía-Macías and O.D. Cortázar. IEEE Transactions on Plasma Science. In press. (2018).

## 2. NOVEL APPROACHES FOR MAINTENANCE MANAGEMENT ON WIND TURBINES

Doctorando: RUIZ DE LA HERMOSA GONZALEZ CARRATO, RAUL

Director/es: Fausto Pedro GARCÍA MÁRQUEZ

Fecha de defensa: 15/07/2014

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

### PUBLICACIONES DERIVADAS:

Ruiz de la Hermosa, R.; García, F. P.; Dimlaye, V.; Ruiz-Hernández, D., 2014. "Pattern recognition by wavelet transforms using macro fibre composites transducers". *Mechanical Systems and Signal Processing*. Vol. 48. Issues 1-2. pp. 339350. [IF: 1.913, 16/125, Engineering, Mechanical].

Gómez, C. Q.; Ruiz de la Hermosa, R.; Trapero, J. R.; García, F. P., 2014. "A novel approach to fault detection and diagnosis on wind turbines". *Global NEST Journal (In Press)* [IF: 0.698, 177/210, Environmental Sciences].

García, F. P.; Pinar, J. M.; Papaelias, M.; Ruiz de la Hermosa, R., 2012. "Wind turbines maintenance management based on FTA and BDD". *Renewable Energy & Power Quality Journal*. Vol. 10. ISSN 2172-038X.

Ruiz de la Hermosa, R.; García, F. P.; Dimlaye, V., "Maintenance management of wind turbines structures via MFCs and wavelet transforms". *Renewable & Sustainable Energy Reviews (In review)* [IF: 5.627, 5/81, Energy & Fuels].

García, F. P.; Ruiz de la Hermosa, R.; Pinar, J. M.; Zaman, N., 2012. "Maintenance management based on digital filters and signal processing". *Intech*. ISBN 980-953-307-645-9.

## 3. ESTUDIO EXPERIMENTAL SOBRE EL EMPLEO DE GAS DE GASIFICACIÓN DE BIOMASA EN QUEMADORES Y MOTORES DIESEL

Doctorando: BARBA SALVADOR, JAVIER

Director/es: Juan José Hernández Adrover

Fecha de defensa: 24/07/2014

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)

Universidad: Universidad de Castilla-La Mancha

### PUBLICACIONES DERIVADAS:

Hernández, J.J.; Lapuerta, M.; Barba, J. Effect of partial replacement of diesel or biodiesel with gas from biomass gasification in a diesel engine. *Energy*. Vol. 89, pp.148-157. 2015.

Hernández, J.J.; Lapuerta, M.; Barba, J. Separate effect of H<sub>2</sub>, CH<sub>4</sub> and CO on diesel engine performance and emissions under partial diesel fuel replacement. *Fuel*. Vol.165, pp. 173-184. 2016.

Hernández, J.J.; Lapuerta, M.; Barba, J. Flame stability and OH and CH radical emissions from mixtures of natural gas with biomass gasification gas. *Applied Thermal Engineering*. Vol. 55, pp. 133-139. 2013.

Hernández, J.J.; Aranda, G.; Barba, J. Combustion characterisation of producer gas from biomass gasification. *Global NEST Journal*. Vol. 14(2), pp. 125-132. 2012.

Hernández, J.J.; Ballesteros, R.; Barba, J.; Guillén-Flores, J. Effect of the Addition of Biomass Gasification Gas on the PM Emission of a Diesel engine. *SAE Int. J. Engines*, Vol. 8(1), pp.14-19. 2015.

## 4. PRICE-BASED MARKET CLEARING IN POOL-BASED ELECTRICITY MARKETS

Doctorando: FERNÁNDEZ BLANCO CARRAMOLINO, RICARDO  
Director/es: José Manuel Arroyo Sanchez; Natalia Alguacil Conde  
Fecha de defensa: 10/10/2014  
Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)  
Universidad: Universidad de Castilla-La Mancha

**PUBLICACIONES DERIVADAS:**

R. Fernández-Blanco, J. M. Arroyo, N. Alguacil. "A unified bilevel programming framework for price-based market clearing under marginal pricing". IEEE Transactions on Power Systems, vol. 27, no. 1, pp. 517–525, February 2012.

R. Fernández-Blanco, J. M. Arroyo, N. Alguacil. "Consumer payment minimization under uniform pricing: A mixed-integer linear programming approach". Applied Energy, vol. 114, pp. 676–686, February 2014.

R. Fernández-Blanco, J. M. Arroyo, N. Alguacil. "Network-constrained day-ahead auction for consumer payment minimization". IEEE Transactions on Power Systems, vol. 29, no. 2, pp. 526–536, March 2014.

R. Fernández-Blanco, J. M. Arroyo, N. Alguacil. "Bilevel programming for price-based electricity auctions: A revenue-constrained case". EURO Journal on Computational Optimization, vol. 3, no. 3, pp. 163–195, September 2015.

R. Fernández-Blanco, J. M. Arroyo, N. Alguacil, X. Guan. "Incorporating price-responsive demand in energy scheduling based on consumer payment minimization". IEEE Transactions on Smart Grid, vol. 7, no. 2, pp. 817–826, March 2016.

R. Fernández-Blanco, J. M. Arroyo, N. Alguacil. "On the solution of revenue- and network-constrained day-ahead market clearing under marginal pricing—Part I: An exact bilevel programming approach". IEEE Transactions on Power Systems, vol. 32, no. 1, pp. 208–219, January 2017.

R. Fernández-Blanco, J. M. Arroyo, N. Alguacil., "On the solution of revenue- and network-constrained day-ahead market clearing under marginal pricing—Part II: Case studies". IEEE Transactions on Power Systems, vol. 32, no. 1, pp. 220–227, January 2017.

**5. COMPUTER AIDED BREAST CANCER DETECTION AND DIAGNOSIS SYSTEM BASED ON HISTOPATHOLOGICAL IMAGE ANALYSIS OF TMAS**

Doctorando: FERNANDEZ CARROBLES, MARIA DEL MILAGRO  
Director/es: Dra. D<sup>a</sup> M<sup>a</sup> Gloria Bueno García; Dr. D. Óscar Déniz Suárez  
Fecha de defensa: 25/05/2015  
Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)  
Universidad: Universidad de Castilla-La Mancha

**PUBLICACIONES DERIVADAS**

M. Milagro Fernández-Carrobles, Gloria Bueno, Oscar Déniz, Jesús Salido, Marcial García-Rojo, "Automatic Handling of Tissue Microarray Cores in High-Dimensional Microscopy Images", IEEE Journal of Biomedical and Health Informatics (title change: IEEE Transactions on Information Technology in Biomedicine), vol. 18(3), pp. 999-1007, May 2014.

M. Milagro Fernández-Carrobles, Gloria Bueno, Oscar Déniz, Jesús Salido, Marcial García-Rojo, Lucía González-López, "Frequentia versus Spatial Colour Textons for Breast TMA Classification", In press on CMIG-Computerized Medical Imaging and graphics, Elsevier, 2014, doi: /10.1016/j.compmedimag.2014.11.009.

M. Milagro Fernández-Carrobles, Irene Tadeo, Rosa Noguera, Marcial García-Rojo, Oscar Déniz, Jesús Salido, Gloria Bueno, "TMA vessel segmentation based on color and morphological features. Application to angiogenesis research", *The Scientific World Journal*, vol. 2013, article ID 263190, 11 pages, 2013, doi:10.1155/2013/263190.

## 6. DENSITY AND VISCOSITY SENSORS BASED ON PIEZOELECTRIC MICRORESONATORS

Doctorando: MANZANEQUE GARCIA, TOMAS

Director/es: Dr. D. Jose Luis Sánchez de Rojas Aldavero

Fecha de defensa: 28/05/2015

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

### PUBLICACIONES DERIVADAS:

T. Manzaneque, J. Hernando, L. Rodríguez-Aragón, A. Ababneh, H. Seidel, U. Schmid & J. L. Sánchez-Rojas. Analysis of the quality factor of AlN-actuated micro-resonators in air and liquid. 2010 *Microsystem Technologies* 16(5):837-845. <http://doi.org/10.1007/s00542-009-1003-2>

J. L. Sánchez-Rojas, J. Hernando, A. Donoso, J. C. Bellido, T. Manzaneque, A. Ababneh, H. Seidel & U. Schmid. Modal optimization and filtering in piezoelectric microplate resonators. 2010 *Journal of Micromechanics and Microengineering* 20(5):055027. <http://doi.org/10.1088/0960-1317/20/5/055027>

M. Domínguez, J. Ricart, J. Pons, E. Blokhina, S. Gorreta, J. Hernando, T. Manzaneque, J. L. Sánchez Rojas & O. Feely. Control of MEMS vibration modes with pulsed digital Oscillators. Part II: simulation and experimental results. 2010 *IEEE Transactions on Circuits and Systems I: Regular Papers* 57(8):1879-1890. <http://doi.org/10.1109/TCSI.2009.2038543>

T. Manzaneque, J. Hernando-García, A. Ababneh, P. Schwarz, H. Seidel, U. Schmid & J. L. Sánchez-Rojas. Quality-factor amplification in piezoelectric MEMS resonators applying an all-electrical feedback loop. 2011 *Journal of Micromechanics and Microengineering* 21(2):025007. <http://doi.org/10.1088/0960-1317/21/2/025007>

M. Gil, T. Manzaneque, J. Hernando-García, A. Ababneh, H. Seidel & J. L. Sánchez-Rojas. Selective modal excitation in coupled piezoelectric microcantilevers. 2012 *Microsystem Technologies* 18(7-8):917-924. <http://doi.org/10.1007/s00542-011-1411-y>

A. Ababneh, M. Alsumady, H. Seidel, T. Manzaneque, J. Hernando-García, J.L. Sánchez-Rojas, A. Bittner & U. Schmid. c-axis orientation and piezoelectric coefficients of AlN thin films sputter-deposited on titanium bottom electrodes. 2012 *Applied Surface Science* 259:59-65. <http://doi.org/10.1016/j.apsusc.2012.06.086>

T. Manzaneque, V. Ruiz, J. Hernando-García, A. Ababneh, H. Seidel & J. L. Sánchez-Rojas. Characterization and simulation of the first extensional mode of rectangular micro-plates in liquid media. 2012 *Applied Physics Letters* 101(15):151904. <http://doi.org/10.1063/1.4758470>

A. Ababneh, A. N. Al-Omari, A. M. K. Dagamseh, H. C. Qiu, D. Feili, V. Ruiz-Díez, T. Manzaneque, J. Hernando, J. L. Sánchez-Rojas, A. Bittner, U. Schmid & H. Seidel. Electrical characterization of micromachined AlN resonators at various back pressures. 2013 *Microsystem Technologies* 20(4-5):663-670. <http://doi.org/10.1007/s00542-013-2003-9>

T. Manzaneque, V. Ruiz-Díez, J. Hernando-García, A. Ababneh, A. N. Al-Omari, M. Kucera, A. Bittner, U. Schmid, H. Seidel & J. L. Sánchez-Rojas. Piezoelectric in-plane microplate resonators based on contour and flexure-actuated modes. 2013 *Microsystem Technologies* 20(4-5):691-699. <http://doi.org/10.1007/s00542-013-2008-4>

- M. Kucera, T. Manzaneque, J. L. Sánchez-Rojas, A. Bittner & U. Schmid. Q-factor enhancement for self-actuated self-sensing piezoelectric MEMS resonators applying a lock-in driven feedback loop. 2013 *Journal of Micromechanics and Microengineering* 23(8):085009. <http://doi.org/10.1088/0960-1317/23/8/085009>
- V. Ruiz-Díez, T. Manzaneque, J. Hernando-García, A. Ababneh, M. Kucera, U. Schmid, H. Seidel & J. L. Sánchez-Rojas. Design and characterization of AlN-based in-plane microplate resonators. 2013 *Journal of Micromechanics and Microengineering* 23(7):074003. <http://doi.org/10.1088/0960-1317/23/7/074003>
- M. Gil, T. Manzaneque, J. Hernando-García, A. Ababneh, H. Seidel & J. L. Sánchez-Rojas. Multimodal characterisation of high-Q piezoelectric micro-tuning forks. 2013 *IET Circuits Devices & Systems* 7(6):361-367. <http://doi.org/10.1049/iet-cds.2012.0325>
- M. Kucera, F. Hofbauer, E. Wistrela, T. Manzaneque, V. Ruiz-Díez, J. L. Sánchez-Rojas, A. Bittner & U. Schmid. Lock-in amplifier powered analogue Q-control circuit for self-actuated self-sensing piezoelectric MEMS resonators. 2014 *Microsystem Technologies* 20(4-5):615-625. <http://doi.org/10.1007/s00542-013-1997-3>
- J. Toledo, T. Manzaneque, J. Hernando-García, J. Vázquez, A. Ababneh, H. Seidel, M. Lapuerta & J. L. Sánchez-Rojas. Application of quartz tuning forks and extensional microresonators for viscosity and density measurements in oil/fuel mixtures. 2014 *Microsystem Technologies* 20(4-5):945-953. <http://doi.org/10.1007/s00542-014-2095-x>
- M. Kucera, E. Wistrela, G. Pfusterschmied, V. Ruiz-Díez, T. Manzaneque, J. L. Sánchez-Rojas, J. Schalko, A. Bittner & U. Schmid. Characterization of a roof tile-shaped out-of-plane vibrational mode in aluminum-nitride-actuated self-sensing micro-resonators for liquid monitoring purposes. 2014 *Applied Physics Letters* 104:233501. <http://doi.org/10.1063/1.4882177>
- M. Kucera, E. Wistrela, G. Pfusterschmied, V. Ruiz-Díez, T. Manzaneque, J. Hernando-García, J. L. Sánchez-Rojas, A. Jachimowicz, J. Schalko, A. Bittner & U. Schmid. Design-dependent performance of self-actuated and self-sensing piezoelectric-AlN cantilevers in liquid media oscillating in the fundamental in-plane bending mode. 2014 *Sensors and Actuators B Chemical* 200:235-244. <http://doi.org/10.1016/j.snb.2014.04.048>
- T. Manzaneque, V. Ruiz-Díez, J. Hernando-García, E. Wistrela, M. Kucera, U. Schmid & J. L. Sánchez-Rojas. Piezoelectric MEMS resonator based oscillator for density and viscosity sensing. 2014 *Sensors and Actuators A Physical* 220(1):305-315. <http://doi.org/10.1016/j.sna.2014.10.002>

## 7. FALSE POSITIVE REDUCTION IN DETECTION PROBLEMS

Doctorando: VALLEZ ENANO, NOELIA

Director/es: Dr. D. Óscar Déniz Suárez; Dra. D<sup>a</sup> Gloria Bueno García

Fecha de defensa: 06/07/2015

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

### PUBLICACIONES DERIVADAS

N. Váñez, G. Bueno, O. Déniz, M. M. Fernández, C. Pastor, M. A. Rienda, P. Esteve, and M. Arias, "CADE system integrated within the electronic health record", *BioMed Research International*, vol. 2013, Article ID 219407, 14 pages, 2013.

G. Bueno, N. Vázquez, O. Déniz, P. Esteve, M. A. Rienda, M. Arias, and C. Pastor, "Automatic breast parenchymal density classification integrated into a CADE system", *International journal of computer assisted radiology and surgery* 6 (3), 309-318, 2011.

N. Vázquez, G. Bueno, O. Déniz, J. Dorado, J.A. Seoane, A. Pazos, and C. Pastor, "Breast density classification to reduce false positives in CADE systems", *Computer methods and programs in biomedicine* 113 (2), 569-584, 2014.

N. Vázquez, O. Déniz, and G. Bueno, "Sample Selection for Training Cascade Detectors", *PLoS ONE* 10(7): e0133059, 2015.

## **8. ESPECIACIÓN DE HIDROCARBUROS EN UN MOTOR DIESEL EMPLEANDO DISTINTOS COMBUSTIBLES Y MODOS DE OPERACIÓN**

Doctorando: GUILLEN FLORES, JOSE

Director/es: ROSARIO BALLESTEROS YAÑEZ

Fecha de defensa: 22/01/2016

Calificación: Sobresaliente (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

### **PUBLICACIONES DERIVADAS**

Ballesteros, R.; Guillen-Flores, J.; Barba, J. Environmental and health impact assessment from a heavy-duty diesel engine under different injection strategies fueled with a bioethanol-diesel blend. *FUEL*, Volumen: 157 Páginas: 191-201 Fecha de publicación: OCT 1 2015

Ballesteros, R.; Guillen-Flores, J.; Martinez, J. D. Carbonyl emission and toxicity profile of diesel blends with an animal-fat biodiesel and a tire pyrolysis liquid fuel. *CHEMOSPHERE*, Volumen: 96 Páginas: 155-166 Fecha de publicación: FEB 2014

Ballesteros, R.; Hernandez, J. J.; Guillen-Flores, J. Speciation of particulate-associated PAH emissions in a diesel single-cylinder engine using a HPLC-UVD method. Conferencia: 13th International Conference on Environmental Science and Technology (CEST) Ubicación: Athens, GREECE Fecha: SEP 05-07, 2013 Patrocinador(es): Univ Aegean; Global Network Environm Sci & Technol PROCEEDINGS OF THE 13TH INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SCIENCE AND TECHNOLOGY, Colección: Proceedings of the International Conference on Environmental Science and Technology, Fecha de publicación: 2013

Ballesteros, R.; Hernandez, J. J.; Guillen-Flores, J. Carbonyls speciation in a typical European automotive diesel engine using bioethanol/butanol-diesel blends. *FUEL* Volumen: 95 Número: 1 Páginas: 136-145 Fecha de publicación: MAY 2012

Ballesteros, R.; Monedero, E.; Guillen-Flores, J. Determination of aldehydes and ketones with high atmospheric reactivity on diesel exhaust using a biofuel from animal fats. *ATMOSPHERIC ENVIRONMENT*, Volumen: 45 Número: 16 Páginas: 2690-2698 Fecha de publicación: MAY 2011

## **9. RAYLEIGH TAYLOR INSTABILITY IN ACCELERATED HIGH ENERGY DENSITY MATTER**

Doctorando: SUN, YUANBO

Director/es: Antonio Roberto Píriz

Fecha de defensa: 18/04/2016

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

### **PUBLICACIONES DERIVADAS:**

Piriz, A. R.; Sun, Y. B.; Tahir, N. A. Rayleigh-Taylor instability in accelerated solid media, EUROPEAN JOURNAL OF PHYSICS, Volumen: 38 Número: 1 Número de artículo: 015003 Fecha de publicación: JAN 2017

Piriz, A. R.; Sun, Y. B.; Tahir, N. A. Entropy shaping by shock decay, PHYSICS OF PLASMAS, Volumen: 23 Número: 11 Número de artículo: 112704 Fecha de publicación: NOV 2016

Piriz, A. R.; Sun, Y. B.; Tahir, N. A. Hydrodynamic growth and decay of planar shock waves, PHYSICS OF PLASMAS, Volumen: 23, Número: 3, Número de artículo: 032704 Fecha de publicación: MAR 2016

Piriz, A. R.; Sun, Y. B.; Tahir, N. A. Analytic model for the dynamic Z-pinch. PHYSICS OF PLASMAS, Volumen: 22 Número: 6 Número de artículo: 062704 Fecha de publicación: JUN 2015

Piriz, A. R.; Sun, Y. B.; Tahir, N. A. Hydrodynamic instability of elastic-plastic solid plates at the early stage of acceleration. PHYSICAL REVIEW E, Volumen: 91 Número: 3 Número de artículo: 033007 Fecha de publicación: MAR 9 2015

Sun, Y. B.; Piriz, A. R. Magneto-Rayleigh-Taylor instability in solid media. PHYSICS OF PLASMAS, Volumen: 21 Número: 7 Número de artículo: 072708 Fecha de publicación: JUL 2014

Piriz, A. R.; Sun, Y. B.; Tahir, N. A. Rayleigh-Taylor linear growth at an interface between an elastoplastic solid and a viscous liquid. PHYSICAL REVIEW E, Volumen: 89 Número: 6 Número de artículo: 063022 Fecha de publicación: JUN 30 2014

## **10. EMISIONES CONTAMINANTES DIÉSEL EN CONDICIONES TRANSITORIAS DE MOTORES Y VEHÍCULOS EMPLEANDO COMBUSTIBLES ALTERNATIVOS**

Doctorando: RAMOS DIEZMA, ANGEL

Director/es: Octavio Armas Vergel

Fecha de defensa: 29/04/2016

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

### **PUBLICACIONES DERIVADAS**

Armas, O., García-Contreras, R., Ramos, Á. Impact of alternative fuels on performance and pollutant emissions of a light duty engine tested under the new European driving cycle. Applied Energy, Vol: 107, 183-190, 2013.

Armas, O., Arantzazu Gómez, Ramos, Á. Comparative study of pollutant emissions from engine starting with animal fat biodiesel and GTL fuels. Fuel, Vol.: 113, 560-570, 2013.

Armas, O., García-Contreras, R., Ramos, Á., López, A.F. Impact of animal fat biodiesel, GTL, and HVO fuels on combustion, performance, and pollutant emissions of a light-duty diesel vehicle tested under the NEDC. Journal of Energy Engineering, Vol.: 141, Special Issue: C4014009, 2014

Armas, O., García-Contreras, R., Ramos, Á. On-line thermodynamic diagnosis of diesel combustion process with paraffinic fuels in a vehicle tested under NEDC. Journal of Cleaner Production, Vol.: available online. 2015.

Ramos, Á., García-Contreras, R., Armas, O. Performance, combustion timing and emissions from a light duty vehicle at different altitudes fueled with animal fat biodiesel, GTL and diesel fuels. Applied Energy, Vol.: 182, 507-517. 2016

Ramos, A., Muñoz, J., Andrés, F., Armas, O. NOx emissions from diesel light duty vehicle tested under NEDC and real-world driving conditions. *Transportation Research Part D: Transport and Environment*, Vol.: 63, 37-48, 2018.

Armas, O., García-Contreras, R., Ramos, A. Emissions of Light Duty Vehicle Tested under Urban and Extraurban Real-World Driving Conditions with Diesel, Animal Fat Biodiesel and GTL fuel. *SAE International (2013-24-0176)*, 2013.

## **11. ESTADOS DE TENSIÓN Y DE DEFORMACIÓN EN MATERIALES COMPUESTOS REFORZADOS CON FIBRA ANTE DIFERENTES CASOS DE CARGA**

Doctorando: MARTINEZ VICENTE, JUAN LUIS

Director/es: M<sup>a</sup> del Carmen Serna Moreno; Miguel Ángel Caminero Torija

Fecha de defensa: 02/06/2016

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)

Universidad: Universidad de Castilla-La Mancha

### **PUBLICACIONES DERIVADAS:**

M.C. Serna Moreno, A. Romero Gutiérrez, J.L. Martínez Vicente Flexural testing on carbon fibre laminates taking into account their different behaviour under tension and compression. *Materials Science and Engineering. A-Structural Materials Properties Microstructure and Processing (ISSN: 0921-5093)*, 139 (1), 62-68 (2016)

M.C. Serna Moreno, A. Romero Gutiérrez, J.L. Martínez Vicente First flexural and interlaminar shear failure in symmetric cross-ply carbon-fibre laminates with different response under tension and compression. *Composite Structures*, 146, 62-68 (2016)

M.C. Serna Moreno, J.L. Martínez Vicente Corrigendum to: "In-plane shear failure properties of a chopped glass-reinforced polyester by means of traction-compression biaxial testing", *Composite Structures*, 142, 346 (2016)

M.C. Serna Moreno, A. Romero Gutiérrez, J.L. Martínez Vicente. Different response under tension and compression of unidirectional carbon fibre laminates in a three-point bending test. *Composite Structures*, 136, 706-711 (2016)

M.C. Serna Moreno, J.J. López Cela, J.L. Martínez Vicente, J.A. González Vecino. Adhesively bonded joints as a dissipative energy mechanism under impact loading. *Applied Mathematical Modelling*, 39(12), 3496-3505 (2015)

M.C. Serna Moreno, J.L. Martínez Vicente In-plane shear failure properties of a chopped glass reinforced polyester by means of traction-compression biaxial testing. *Composite Structures*, 122, 440-444 (2015)

M.C. Serna Moreno, J.L. Curiel Sosa, J. Navarro Zafra, J.L. Martínez Vicente, J.J. López Cela Crack propagation in a chopped glass-reinforced composite under biaxial testing by means of XFEM. *Composite Structures*, 119, 264-271 (2015)

M.C. Serna Moreno, J.L. Martínez Vicente, J.J. López Cela. Failure strain and stress fields of a chopped glass-reinforced polyester under biaxial loading. *Composite Structures*, 103, 27-33 (2013)

J.L. Martínez Vicente. Estudio del comportamiento de materiales compuestos reforzados con fibra utilizados para el revestimiento de vehículos ferroviarios. *Vía Libre Técnica - Investigación Ferroviaria*, 6, 7-21 (2013)

## **12. ANÁLISIS, PLANIFICACIÓN Y GESTIÓN ÓPTIMA DE SISTEMAS ELÉCTRICOS AISLADOS**

Doctorando: ASENSIO BERMEJO, JOSE MIGUEL  
Director/es: JAVIER CONTRERAS SANZ  
Fecha de defensa: 08/07/2016  
Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)  
Universidad: Universidad de Castilla-La Mancha

**PUBLICACIONES DERIVADAS:**

Miguel Asensio and Javier Contreras, Stochastic unit commitment in isolated systems with renewable penetration under CVaR assessment, IEEE Transactions on Smart Grid, volume: 7(3), pp. 1356-1367, Mayo 2016

Miguel Asensio, Javier Contreras, Risk-constrained optimal bidding strategy for pairing of wind and demand response resources, IEEE Transactions on Smart Grid, volume 8(1), pp. 200-208, Enero 2017  
Miguel Asensio, Gregorio Muñoz-Delgado and Javier Contreras, Bi-level approach to distribution network and renewable energy expansion planning considering demand response, IEEE Transactions on Power Systems, volume 32, no. 6, pp. 4298-4309, Noviembre 2017

Miguel Asensio, Pilar Meneses de Quevedo, Gregorio Muñoz-Delgado and Javier Contreras, Joint distribution network and renewable energy expansion planning considering demand response and energy storage—Part I: Stochastic programming model, IEEE Transactions on Smart Grid, volume 9(2), pp. 655-666, Marzo 2018

Miguel Asensio, Pilar Meneses de Quevedo, Gregorio Muñoz-Delgado and Javier Contreras, Joint distribution network and renewable energy expansion planning considering demand response and energy storage—Part II: Numerical results, IEEE Transactions on Smart Grid, volume 9(2), pp. 667-675, Marzo 2018

Miguel Asensio, Pilar Meneses de Quevedo, Javier Contreras, Cláudio Monteiro, Radu Porumb, Ion Triștiu and George Seritan, Electric Price Signals, Economic Operation and Risk Analysis, in Smart and Sustainable Power Systems: Operations, Planning and Economics of Insular Energy Grids, João P. S. Catalão, ed., pp. 285-343, CRC Press, ISBN 9781498712125 - CAT# K25101, Boca Raton, FL, USA, Junio 2015

Javier Contreras, Miguel Asensio, Pilar Meneses de Quevedo, Gregorio Muñoz-Delgado and Sergio Montoya-Bueno, Joint RES and Distribution Network Expansion Planning under a Demand Response Framework, Academic Press, ISBN 978-0128053225, Mayo 2016

**13. NEW APPROACHES ON FAULT DETECTION AND DIAGNOSIS FOR STRUCTURES MAINTENANCE MANAGEMENT**

Doctorando: GOMEZ MUÑOZ, CARLOS QUITERIO  
Director/es: Fausto Pedro García Márquez  
Fecha de defensa: 15/07/2016  
Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)  
Universidad: Universidad de Castilla-La Mancha

**PUBLICACIONES DERIVADAS:**

Gómez Muñoz, C. Q., & García Márquez, F. P. (2016). A New Fault Location Approach for Acoustic Emission Techniques in Wind Turbines. *Energies*, 9(1), 40. doi:10.3390/en9010040. [IF: 2.072, 43/89, Energy & Fuels].

Gomez Muñoz, C. Q., De la Hermosa Gonzalez-Carrato, R., Trapero Arenas, J. R., & Garcia Márquez, F. P. (2014). A novel approach to fault detection and diagnosis on wind turbines. *Global Nest Journal*, 16(6), 1029-1037. [IF: 0.698, 177/210, Environmental Sciences].(The contribution of the author to this paper has been: Design of experiments; Performance of experimental procedure and discussion of results.)

Papaelias, M.; Cheng, L.; Kogia, M.; Mohimi, A.; Kappatos, V.; Selcuk, C.; Constantinou, L.; Gómez Muñoz, C.Q.; MarquezMarquez, F.P.G. & Gan, T.-H. (2015). Inspection and structural health monitoring techniques for concentrated solar power plants. *Renewable Energy*, 85, 1178-1191. [IF: 3.476, 20/88, Energy & Fuels].

Gómez Muñoz, C.Q.; García Márquez, F.P.; Sánchez Tomás, J.M. Ice detection using thermal infrared radiometry on wind turbine blades. (2016). *Measurement*. [IF: 1.742, 22/85, Engineering, Multidisciplinary].

#### **14. APPROACHES FOR QUALITATIVE AND QUANTITATIVE ANALYSIS OF COMPLEX SYSTEMS: ALGORITHMS AND CASE STUDIES**

Doctorando: PLIEGO MARUGAN, ALBERTO

Director/es: Fausto Pedro García Márquez

Fecha de defensa: 15/07/2016

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

##### **PUBLICACIONES DERIVADAS:**

Alberto Pliego; F. P. García; J.M. Pinar. Optimal Maintenance Management on Offshore Wind Farms. *Energies*. 9(1), 46, 2016. [IF 2.072. 43/89 Energy & Fuels]. doi:10.3390/en9010046

F. P. García; J.M. Pinar; Alberto Pliego; M. Papaelias. The identification of critical components of wind turbines using FTA over the time. *Renewable Energy*. Elsevier. [IF 3.361. 23/89 Energy & Fuels]. doi:10.1016/j.renene.2015.09.038

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Alberto Pliego; F. P. García; J. Lorente, Decision making process via Binary decision diagram. 2014. *International Journal of Management Science and Engineering Management*. Online [C, Journal Rankings for ARC] <http://dx.doi.org/10.1080/17509653.2014.946977>.

Alberto Pliego; F. P. García; J. Lorente. Decision Making via Binary Decision Diagrams: A Real Case Study. *Lecture Notes in Electrical Engineering (Springer)*, Vol. 180 pp. 215-222. 2014 DOI: 10.1007/978-3-642-55182-6\_19. [SCImago 0.11; Source Normalized Impact per Paper 0.122]

F.P. García; Alberto Pliego; J. Lorente; J.R. Trapero. New Ranking Method Approach for Decision Making in Maintenance Management *Lecture Notes in Electrical Engineering*. Vol. 241, Springer, 2013, pp 23-39. [SCImago 0.11; Source Normalized Impact per Paper 0.122]

#### **15. ESTUDIO DE TÉCNICAS PREDICTIVAS APLICADAS A LA MONITORIZACIÓN DEL ACABADO SUPERFICIAL EN PROCESOS DE TORNEADO AUTOMATIZADO**

Doctorando: GARCIA PLAZA, EUSTAQUIO

Director/es: Pedro José Núñez López

Fecha de defensa: 15/09/2016

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)

Universidad: Universidad de Castilla-La Mancha

##### **PUBLICACIONES DERIVADAS:**

E. García Plaza, P.J. Núñez López, Analysis of cutting force signals by wavelet packet transform for surface roughness monitoring in CNC turning, *Mechanical Systems and Signal Processing* 98 (1), 634–651 (2018)

E. García Plaza, P.J. Núñez López, Application of the wavelet packet transform to vibration signals for surface roughness monitoring in CNC turning operations, *Mechanical Systems and Signal Processing* 98 (1) 902–919 (2018)

E. García Plaza, P.J. Núñez López, Surface roughness monitoring by singular spectrum analysis of vibration signals, *Mechanical Systems and Signal Processing* 84 (A) 516–530 (2017)

## 16. CONTRIBUTIONS TO THE PROBLEM OF FIGHT DETECTION IN VIDEO

Doctorando: SERRANO GRACIA, ISMAEL

Director/es: Oscar Deniz Suarez; María Gloria Bueno García

Fecha de defensa: 21/10/2016

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

### PUBLICACIONES DERIVADAS

I. Serrano, O. Déniz, G. Bueno, T-K. Kim. Fast fight detection. *PLoS ONE*, Vol.: 10(4), 1-19, 2015.

I. Serrano, O. Deniz, G. Bueno, G. García-Hernando, T-K. Kim. Spatio-Temporal Elastic Cuboid Trajectories for Efficient Fight Recognition using Hough Forests. *Machine Vision and Applications*. Vol.: 29(2), 207-217, 2018.

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## 17. DISEÑO ANÁLISIS REOLÓGICO Y PROCESADO DE MEZCLAS INYECTABLES PARA LA FABRICACIÓN MEDIANTE TECNOLOGÍA MIM DE DIFERENTES COMPONENTES METÁLICOS

Doctorando: ROMERO GUTIERREZ, ANA

Director/es: Gemma Herranz Sánchez-Cosgalla

Fecha de defensa: 13/12/2016

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)

Universidad: Universidad de Castilla-La Mancha

### PUBLICACIONES DERIVADAS

G. Herranz, A. Romero, V. de Castro, G. P. Rodríguez, “DEVELOPMENT OF HIGH SPEED STEEL SINTERED USING CONCENTRATED SOLAR ENERGY”. *JOURNAL OF MATERIALS PROCESSING TECHNOLOGY*, Vol.: 213 2065-2073, 2013.

G. Herranz, A. Romero, V. de Castro, G. P. Rodríguez. “PROCESSING OF AISI M2 HIGH SPEED STEEL REINFORCED WITH VC BY SOLAR SINTERING” *MATERIALS & DESIGN*, Vol.: 54, 934-946, 2014.

Ana Romero, Gemma Herranz, Ángel L. Morales. “Study of magnetoelastic properties of pure nickel parts produced by metal injection moulding” *MATERIALS AND DESIGN*, Vol.: 88, 438-445, 2015.

C. García, A. Romero, G. Herranz, Y. Blanco, F. Martín. “Effect of vanadium carbide on dry sliding wear behavior of powder metallurgy AISI M2 high speed steel processed by concentrated solar energy”. *MATERIALS CHARACTERIZATION*, Vol.: 121, 175 -186, 2016

A. Romero, G. Herranz. “DEVELOPMENT OF FEEDSTOCKS BASED ON STEEL MATRIX COMPOSITES FOR METAL INJECTION MOULDING”. *POWDER TECHNOLOGY*. Vol.: 308, 472-478, 2017.

G. Herranz, G. Matula, A. Romero. "EFFECTS OF CHROMIUM CARBIDE ON THE MICROSTRUCTURES AND WEAR RESISTANCE OF HIGH SPEED STEEL OBTAINED BY POWDER INJECTION MOULDING ROUTE". POWDER METALLURGY. Vol.: 60, 1-11, 2017.

C. García, F. Martín, G. Herranz, C. Berges, A. Romero. "Effect of adding carbides on dry sliding wear behaviour of steel matrix composites processed by metal injection moulding". WEAR, Vol.: 414-415, 182-193, 2018.

## **18. DESARROLLO DE SENSORES PARA LA MONITORIZACIÓN EN TIEMPO REAL DE LA FERMENTACIÓN DEL VINO**

Doctorando: JIMENEZ MARQUEZ, FRANCISCO

Director/es: Francisco Javier Vázquez del Real; José Luis Sánchez de Rojas Aldavero

Fecha de defensa: 26/05/2017

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)

Universidad: Universidad de Castilla-La Mancha

### **PUBLICACIONES DERIVADAS:**

Jiménez-Márquez F, Vázquez J, Úbeda J, Sánchez-Rojas JL (2016) Optoelectronic sensor for measuring ethanol content during grape must fermentation using NIR spectroscopy. *Microsyst Technol* 22:1799-1809.

Jiménez-Márquez F, Vázquez J, Úbeda J, Sánchez-Rojas JL (2016) Temperature dependence of grape must refractive index and its application to winemaking monitoring. *Sensors Actuators, B Chem* 225:121-127.

Jiménez-Márquez F, Vázquez J, Sánchez-Rojas JL (2015) Optoelectronic sensor device for monitoring the maceration of red wine: Design issues and validation. *Measurements* 63:128-136.

Jiménez-Márquez F, Vázquez J, Úbeda J, Sánchez-Rojas JL (2014) High-resolution low-cost optoelectronic instrument for supervising grape must fermentation. *Microsyst Technol* 20:769-782.

Jiménez-Márquez F, Vázquez J, Úbeda J, Sánchez-Rojas JL (2013) Low-cost and portable refractive optoelectronic device for measuring wine fermentation kinetics. *Sensors Actuators, B Chem* 178:316-323.

## **19. TÉCNICAS AVANZADAS DE CONTROL PARA LA MEJORA DE LA PRECISIÓN Y VELOCIDAD EN LAS PLATAFORMAS DE NANOPOSICIONAMIENTO**

Doctorando: SAN MILLAN RODRIGUEZ, ANDRES

Director/es: Vicente Feliu Batlle

Fecha de defensa: 18/07/2017

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

### **PUBLICACIONES DERIVADAS**

A. San-Millán, S. Aphale and V. Feliu, "A Fast Algebraic Estimator for System Parameter Estimation and Online Controller Tuning - A Nanopositioning Application", *IEEE Transactions on Industrial Electronics*. Electronically available.

San-Millán, V. Feliu and S. Aphale, "Fractional order Implementation of Integral Resonant Control – A Nanopositioning Application", *ISA Transactions*, October 2017.

D. Feliu, A. San-Millán and V. Feliu, "Fractional-Order Integral Resonant Control of Collocated Smart Structures", *Control Engineering Practice*, vol. 56, pp: 210-223, November 2016.

J.C. Cambera, A. San-Millán and V. Feliu, "Payload Mass Identification of a Single-Link Flexible Arm moving under Gravity: an Algebraic Identification Approach", *Shock and Vibration*, vol. 2015, 13 pp, doi.org/10.1155/2015/294157, June 2015.

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F. Castillo, A. San Millán, V. Feliu and L. Sánchez-Rodríguez, "Fractional-Order PI Control of First Order Plants with Guaranteed Time Specifications", *Journal of Applied Mathematics*, 10 pp, doi.org/10.1155/2013/197186, 2013.

D. Russell, A. San-Millán, V. Feliu and S.S. Aphale, "Butterworth Pattern-based Simultaneous Damping and Tracking Controller Designs for Nanopositioning Systems", *Frontiers in Mechanical Engineering*, vol. 2, 10 pp, dx.doi.org/10.3389/fmech.2016.00002, March 2016.

## **20. MULTISTAGE DISTRIBUTION SYSTEM EXPANSION PLANNING CONSIDERING DISTRIBUTED GENERATION AND RELIABILITY**

Doctorando: MUÑOZ DELGADO, GREGORIO

Director/es: José Manuel Arroyo Sánchez; Javier Contreras Sanz

Fecha de defensa: 17/11/2017

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)

Universidad: Universidad de Castilla-La Mancha

### **PUBLICACIONES DERIVADAS:**

Gregorio Muñoz-Delgado, Javier Contreras and José M. Arroyo, Joint expansion planning of distributed generation and distribution networks, *IEEE Transactions on Power Systems*, volume: 30(5), pp. 2579-2590, Septiembre 2015

Gregorio Muñoz-Delgado, Javier Contreras and José M. Arroyo, Multistage generation and network expansion planning in distribution systems considering uncertainty and reliability, *IEEE Transactions on Power Systems*, volume: 31(5), pp. 3715-3728, Septiembre 2016

Gregorio Muñoz-Delgado, Javier Contreras and José M. Arroyo, Distribution network expansion planning with an explicit formulation for reliability assessment, *IEEE Transactions on Power Systems*, volume 33(3), pp. 2583-2596, Mayo 2018

Gregorio Muñoz-Delgado, Javier Contreras and José M. Arroyo, Reliability assessment for distribution optimization models: A non-simulation-based linear programming approach, *IEEE Transactions on Smart Grid*, volume 9(4), pp. 3048-3059, Julio 2018

Gregorio Muñoz-Delgado, Sergio Montoya-Bueno, Miguel Asensio, Javier Contreras, José I. Muñoz and José M. Arroyo, Renewable Generation and Distribution Grid Expansion Planning, in *Smart and Sustainable Power Systems: Operations, Planning and Economics of Insular Energy Grids*, João P. S. Catalão, ed., pp. 345-403, CRC Press, ISBN 9781498712125 - CAT# K25101, Boca Raton, FL, USA, Junio 2015

Gregorio Muñoz-Delgado, Javier Contreras and José M. Arroyo, Distribution System Expansion Planning, in Electric Distribution Network Planning, Farhad Shania, Ali Arefi and Gerard Ledwich, eds., Springer Singapore, ISBN 9789811070563, Abril 2018

## **21. OPERATION AND PLANNING MODELS IN FUTURE DISTRIBUTION NETWORKS WITH RENEWABLE ENERGY, ENERGY STORAGE AND ELECTRIC VEHICLES**

Doctorando: MENESES DE QUEVEDO, PILAR

Director/es: Javier Contreras Sanz

Fecha de defensa: 19/01/2018

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

### **PUBLICACIONES DERIVADAS:**

Pilar Meneses de Quevedo, Javier Contreras, Marcos J. Rider and Javad Allahdadian, Contingency assessment and network reconfiguration in distribution grids including wind power and energy storage, IEEE Transactions on Sustainable Energy, volume: 6(4), pp. 1524-1533, Octubre 2015

Pilar Meneses de Quevedo, Javad Allahdadian, Javier Contreras and Gianfranco Chicco, Islanding in distribution systems considering wind power and storage, Sustainable Energy, Grids and Networks, volume: 5, pp. 156-166, Marzo 2016

Pilar Meneses de Quevedo and Javier Contreras, Optimal placement of energy storage and wind power under uncertainty, Energies, volume 9(7), pp. 1-18, Julio 2016

Pilar Meneses de Quevedo, Javier Contreras, Andrea Mazza, Gianfranco Chicco and Radu Porumb, Reliability assessment of microgrids with local and mobile generation, time-dependent profiles, and intra-day reconfiguration, IEEE Transactions on Industry Applications, volume 54(1), pp. 61-72, Enero/Febrero 2018

## **22. ESTUDIO EXPERIMENTAL DE PELETIZADO EN PLANTA PILOTO Y DE COMBUSTIÓN EN CALDERA DE BIOMASA A BAJA POTENCIA**

Doctorando: PORTERO GONZALEZ, HENAR MARIA

Director/es: Magín Lapuerta Amigo; María Esperanza Monedero Villalba

Fecha de defensa: 07/03/2018

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)

Universidad: Universidad de Castilla-La Mancha

### **PUBLICACIONES DERIVADAS:**

Serrano, C.; Monedero, E.; Lapuerta, M.; Portero, H. Effect of moisture content, particle size, and pine addition on quality of barley straw pellets. Fuel Processing Technology (Elsevier Science), Vol. 92, Págs: 699-706, 2011.

Serrano, C.; Portero, H.; Monedero, E. Pine chips combustion in a 50 kW domestic biomass boiler. Fuel (Elsevier Science), Vol. 111, Págs: 564-573. 2013.

Monedero, E.; Portero, H.; Lapuerta, M. Pellet blends of poplar and pine sawdust: effects of material composition, additive, moisture content and compression die on pellet quality. Fuel Processing Technology (Elsevier Science). Vol. 132, Págs: 15-23. 2015.

Monedero, E., Portero, H., Lapuerta, M. Combustion of poplar and pine pellet blends in a 50 kW domestic boiler: emissions and combustion efficiency. Energies. Vol. 11, No. 1580. Págs: 1-17. 2018.

### **23. CARACTERIZACIÓN DE HOLLÍN E IMPLICACIONES EN LA REACTIVIDAD EN FILTROS DE PARTICULAS DIÉSEL**

Doctorando: SANCHEZ-VALDEPEÑAS GARCIA-MORENO, JESUS

Director/es: José Rodríguez Fernández

Fecha de defensa: 06/07/2018

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)

Universidad: Universidad de Castilla-La Mancha

#### **PUBLICACIONES DERIVADAS:**

Tapia, A.; Salgado, M.S.; Martín, M.P.; Sánchez-Valdepeñas, J.; Rossi, M.J.; Cabañas, B. The use of heterogeneous chemistry for the characterization of functional groups at the gas/particle interface of soot from a diesel engine at a particular running condition. *Environmental Science and Pollution Research* 22(7), 2015, 4863-4872.

Lapuerta, M.; Rodríguez-Fernández, J.; Sánchez-Valdepeñas, J.; Salgado, M.S. Multi-technique analysis of soot reactivity from conventional and paraffinic diesel fuels. *Flow, Turbulence and Combustion* 96(2), 2016, 327-341.

Rodríguez-Fernández, J.; Hernández, J.J.; Sánchez-Valdepeñas, J. Effect of oxygenated and paraffinic alternative diesel fuels on soot reactivity and implications on DPF regeneration. *Fuel* 185, 2016, 460-467.

Rodríguez-Fernández, J.; Lapuerta, M.; Sánchez-Valdepeñas, J. Regeneration of diesel particulate filters: Effect of renewable fuels. *Renewable Energy* 104, 2017, 30-39.

Abián, M.; Martín, C.; Nogueras, P.; Sánchez-Valdepeñas, J.; Rodríguez-Fernández, J.; Lapuerta, M.; Alzueta, M.U. Interaction of diesel engine soot with NO<sub>2</sub> and O<sub>2</sub> at diesel exhaust conditions. Effect of fuel and engine operation mode. *Fuel* 212, 2018, 455-461.

### **24. TIME SERIES ANALYSIS FOR BUSINESS ANALYTICS**

Doctorando: VILLEGAS GARCIA, MARCO ANTONIO

Director/es: Diego José Pedregal Tercero

Fecha de defensa: 12/07/2018

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

#### **PUBLICACIONES DERIVADAS:**

Villegas, M.A., Pedregal, D.J. (2018), Supply chain decision support systems based on a novel hierarchical forecasting approach, *Decision Support Systems*, 114, 29-36.

Villegas, M.A., Pedregal, D.J., Trapero, J.R. (2018), A support vector machine for model selection in demand forecasting applications, *Computers & Industrial Engineering*, 121, 1-7.

Villegas, M.A., Pedregal, D.J. (2018), Automatic selection of Unobserved Components models for supply chain forecasting, *International Journal of Forecasting*, in press.

Villegas, M.A., Pedregal, D.J. (2018), SSpace: A toolbox for State Space modelling, *Journal of Statistical Software*, in press.

### **25. ADVANCED ANALYTICS IN MAINTENANCE MANAGEMENT BASED ON ULTRASONIC GUIDED WAVES**

Doctorando: ARCOS JIMENEZ, ALFREDO

Director/es: Fausto Pedro García Márququez; Carlos Quiterio Gómez Muñoz

Fecha de defensa: 20/07/2018

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

#### **PUBLICACIONES DERIVADAS:**

Arcos Jiménez A.; Gómez Muñoz C.Q.; García Márquez, F.P. (2018). Dirt and Mud Detection and Diagnosis on a Wind Turbine Blade employing Guided Waves and Supervised Learning Classifiers. *Reliability Engineering & System Safety*. <https://doi.org/10.1016/j.res.2018.02.013> [IF 3.153, 5/44, *Industrial Engineering*, Q1].

Arcos Jiménez A.; Gómez Muñoz C.Q.; García Márquez, F.P. (2018). Machine Learning for Wind Turbine Blades Maintenance Management, *Energies* [IF 2.262, 45/92, *Energy & Fuels*, Q2].

Gómez Muñoz C.Q.; Arcos Jiménez A.; García Márquez, F.P. (2018). Wavelet Transforms and Pattern Recognition on Ultrasonic Guided Waves for Frozen Surface State Diagnosis. *Renewable Energy*. <https://doi.org/10.1016/j.renene.2017.03.052> [IF 4.357, 19/92, *Energy & Fuels*, Q1].

Gómez Muñoz C.Q.; Arcos Jiménez A.; García Márquez, F.P.; Kogia M, Cheng L.; Mohimi A.; Papaalias M. (2017). Cracks and Welds Detection Approach in Solar Receiver Tubes Employing EMATs, *Structural Health Monitoring*, Forthcoming [IF 3.536, 7/85, *Engineering Multidisciplinary*, Q1].

Gómez Muñoz C.Q.; García Márquez, F.P.; Lev B.; Arcos Jiménez A. (2017). New Pipe Notch Detection and Location Method for Short Distances employing Ultrasonic Guided Waves, *Acta Acustica United with Acustica*, vol. 103(5) pp. 772-781, 2017. DOI: <https://doi.org/10.3813/AAA.919106> [IF 1.119, 19/31, *Acoustic*, Q3].

Gómez Muñoz C.Q.; García Márquez, F.P.; Arcos Jiménez A.; Cheng L; Kogia M; Mohimi A; Papaalias M. (2017). A heuristic method for detecting and locating faults employing electromagnetic acoustic transducers. *Eksplotacja i Niezawodność – Maintenance and Reliability 2017*; 17 (4): 493–500 [IF 1.145, 40/85, *Engineering, Multidisciplinary*, Q2].

Gómez Muñoz C.Q.; García Márquez, F.P.; Arcos Jiménez A.; L. Cheng; M. Kogia; M. Papaalias. (2017). Calculus of the defect severity with EMATs by analysing the attenuation curves of the guided waves, *Smart Structures and Systems*,19(2), 195-102, 2017. <https://doi.org/10.12989/sss.2017.19.2.195> [IF 1.138, 62/125, *Engineering, Civil*, Q2].

Arcos Jiménez A.; Gómez Muñoz C.Q.; García Márquez, F.P. Machine Learning and Neural Network for Maintenance Management (2017). *Lecture Notes on Multidisciplinary Industrial Engineering*. pp. 1377 - 1388. Springer, 2017. ISSN 2522-5022 DOI: [https://doi.org/10.1007/978-3-319-59280-0\\_115](https://doi.org/10.1007/978-3-319-59280-0_115).

Arcos Jiménez A.; Gómez Muñoz C.Q.; García Márquez, F.P.; Long, Z. Artificial Intelligence for Concentrated Solar Plant Maintenance Management (2017). *Advances in Intelligent Systems and Computing*. 502 - 5, pp. 967 - 972. Springer, 2017. ISSN 2194-5357 DOI: [https://doi.org/10.1007/978-981-10-1837-4\\_11](https://doi.org/10.1007/978-981-10-1837-4_11)

## **26. CONTRIBUCIÓN AL ESTUDIO DEL EFECTO DE COMBUSTIBLES DE DIFERENTES ORÍGENES SOBRE LA INYECCIÓN, LA COMBUSTIÓN Y LAS EMISIONES CONTAMINANTES DIÉSEL**

Doctorando: SORIANO GARCIA, JOSE ANTONIO

Director/es: Octavio Armas Vergel; María Reyes García Contreras

Fecha de defensa: 27/07/2018

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

**PUBLICACIONES DERIVADAS:**

Gómez, A., Soriano, J.A., Armas, O. Evaluation of sooting tendency of different oxygenated and paraffinic fuels blended with diesel fuel. *Fuel*, Vol. 184, 536-543, 2016.

Soriano J.A., García-Contreras R., Leiva-Candia D., Soto F. Influence on Performance and Emissions of an Automotive Diesel Engine Fueled with Biodiesel and Paraffinic Fuels: GTL and Biojet Fuel Farnesane. *Energy & Fuels*, Vol. 32, 5125–5133, 2018.

Soriano, J.A., Mata, C., Armas, O., Ávila, C. A zero-dimensional model to simulate injection rate from first generation common rail diesel injectors under thermodynamic diagnosis. *Energy*, Vol. 158, 845 – 858, 2018.

Soriano, J.A, Agudelo, J.R. López A.F., Armas, O. Oxidation reactivity and nanostructural characterization of the soot coming from farnesane - A novel diesel fuel derived from sugar cane. *Carbon* 125, 516-529, 2017.

**27. DISEÑO DE ESTRATEGIAS DE CONTROL ENERGÉTICAMENTE EFICIENTES PARA EL CONTROL DE LA ESTABILIDAD LATERAL DE UNA BICICLETA AUTÓNOMA**

Doctorando: RODRIGUEZ ROSA, DAVID

Director/es: Ismael Payo Gutiérrez; Antonio González Rodríguez; Fernando José Castillo García

Fecha de defensa: 30/07/2018

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)

Universidad: Universidad de Castilla-La Mancha

**PUBLICACIONES DERIVADAS:**

David Rodríguez Rosa; Iván González Luchena; Antonio Gonzalez Rodríguez; Ismael Payo Gutiérrez; Fernando, J. Castillo García; Ángel G. González Rodríguez. Controlador PI adaptativo para el ahorro energético en bicicletas autónomas. *DYNA-BILBAO*. 89 - 5, pp. 1 - 9. Bilbao, País Vasco(España): DYNA, 11/2014.

David Rodríguez Rosa; Ismael Payo Gutiérrez; Fernando J. Castillo García; Antonio González Rodríguez; Sergio Juárez Pérez. Improving Energy Efficiency of an Autonomous Bicycle with Adaptive Controller Design. *Sustainability*. 9 - 5, MDPI, 20/05/2017.

**28. THERMAL ENERGY RECOVERY IN AUTOMOTIVE EXHAUST SYSTEMS: A POTENTIAL ANALYSIS OF THERMOELECTRIC GENERATORS. MODELLING AND EXPERIMENTAL ASSESSMENT**

Doctorando: FERNANDEZ-YAÑEZ LUJAN, PABLO

Director/es: Octavio Armas Vergel; María Aranzazu Gómez Esteban

Fecha de defensa: 05/10/2018

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

**PUBLICACIONES DERIVADAS:**

Fernández-Yañez, P., Gómez, A., García-Contreras, R. Armas. O. Evaluating thermoelectric modules in diesel exhaust systems: potential under urban and extra-urban driving conditions. *Journal of Cleaner Production*, Vol. 182, 1070-1079, 2018.

P. Fernández-Yañez, O. Armas, A. Capetillo, S. Martínez-Martínez. Thermal analysis of a thermoelectric generator for light-duty diesel engines. *Applied Energy*, Vol. 226, 690–702. 2018.

Fernández-Yáñez, P., Armas, O., Kiwan, R., Stefanopoulou, A.G., Boehman, A.L. A thermoelectric generator in exhaust systems of spark-ignition and compression-ignition engines. A comparison with an electric turbo-generator. *Applied Energy*, 229, pp. 80-87. 2018.

Fernández-Yáñez, P., Armas, O., Gómez, A., Gil, A. Developing CFD models to evaluate available energy in exhaust systems of diesel light duty vehicles. *Applied Sciences, Special Issue Internal Combustion Engines (ICE) for Ground Transport*, Vol. 7, 590; doi:10.3390/app7060590. 2017.

## **29. PERTURBATION DYNAMICS AND ANALYTICAL SCALINGS OF THE LINEAR RICHTMYER-MESHKOV LIKE FLOWS**

Doctorando: COBOS CAMPOS, FRANCISCO

Director/es: Juan Gustavo Wouchuk Schmidt

Fecha de defensa: 08/10/2018

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

### **PUBLICACIONES DERIVADAS:**

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Cobos-Campos, F.; Wouchuk, J. G. Analytical scalings of the linear Richtmyer-Meshkov instability when a rarefaction is reflected, *PHYSICAL REVIEW E*, Volumen: 96 Número: 1 Número de artículo: 013102 Fecha de publicación: JUL 5 2017

Wouchuk, J. G.; Cobos-Campos, F. Linear theory of Richtmyer-Meshkov like flows. *PLASMA PHYSICS AND CONTROLLED FUSION*, Volumen: 59 Número: 1 Número especial: SI Número de artículo: 014033 Fecha de publicación: JAN 2017

Campos, F. Cobos; Wouchuk, J. G. Analytical scalings of the linear Richtmyer-Meshkov instability when a shock is reflected. *PHYSICAL REVIEW E*. Volumen: 93 Número: 5 Número de artículo: 053111 Fecha de publicación: MAY 18 2016

Campos, F. Cobos; Wouchuk, J. G. Analytical asymptotic velocities in linear Richtmyer-Meshkov-like flows. *PHYSICAL REVIEW E*, Volumen: 90 Número: 5 Número de artículo: 053007 Fecha de publicación: NOV 14 2014

## **30. ADQUISICIÓN AUTOMÁTICA DE DATOS DE EDIFICIOS CON ESCÁNERES 3D Y GENERACIÓN DE MODELOS**

Doctorando: QUINTANA GALERA, BLANCA

Director/es: Antonio Adán Oliver

Fecha de defensa: 26/10/2018

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

### **PUBLICACIONES DERIVADAS:**

Adán, A., Quintana, B., Vázquez, A., Olivares, A., Parra, E., Prieto, S. (2015). Towards the Automatic Scanning of Indoors with Robots. *Sensors*, 15(5), 11551-11574.

Quintana, B., Prieto, S. A., Adán, A., y Vázquez, A. S. (2016). Semantic scan planning for indoor structural elements of buildings. *Advanced Engineering Informatics*, 30(4), 643-659.

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### **31. CURRENT SIGNATURE ANALYSIS TO DIAGNOSE DOUBLY-FED INDUCTION GENERATORS OF IN-SERVICE WIND TURBINES**

Doctorando: ARTIGAO ANDICOBERRY, ESTEFANÍA

Director/es: Emilio Gómez Lázaro; Andrés Honrubia Escribano

Fecha de defensa: 09/11/2018

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

#### **PUBLICACIONES DERIVADAS:**

Estefanía Artigao, Sergio Martín-Martínez, Andrés Honrubia-Escribano, Emilio Gómez-Lázaro, "Wind turbine reliability: A comprehensive review towards effective condition monitoring development". *Applied Energy*, Vol. 228, pp. 1569--1583, 2018.

Estefanía Artigao, Sofia Koukoura, Andrés Honrubia-Escribano, James Carroll, Alasdair McDonald, Emilio Gómez-Lázaro, "Current Signature and Vibration Analyses to Diagnose an In-Service Wind Turbine Drive Train". *Energies*, Vol., 11 No. 4, pp.960, 2018.

Estefanía Artigao, Andrés Honrubia-Escribano, Emilio Gómez-Lázaro, "Current signature analysis to monitor DFIG wind turbine generators: A case study". *Renewable Energy*, Vol. 116, pp. 5--14, 2018.

### **32. DESIGN, CHARACTERIZATION AND APPLICATION OF MEMS RESONATORS WITH HIGH PERFORMANCE IN LIQUID MEDIA**

Autor: RUIZ DIEZ, VICTOR

Director/es: Jorge Hernando García; José Luis Sánchez de Rojas Aldavero

Fecha de defensa: 18/11/2018

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)

Universidad: Universidad de Castilla-La Mancha

#### **PUBLICACIONES DERIVADAS:**

V. Ruiz-Díez; et al. (8/1). 2013. Design and characterization of AIN-based in-plane microplate resonators *Journal of Micromechanics and Microengineering*. IOP Publishing Ltd. 23-7, pp.074003-074003. ISSN 0960-1317.

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M. Kucera; et al. (8/4). 2015. Characterisation of multi roof tile-shaped out-of-plane vibrational modes in aluminium-nitride-actuated self-sensing micro-resonators in liquid media *Applied Physics Letters*. AIP Publishing LLC. 107-5. ISSN 0003-6951.

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M. Kucera; et al. (9/4). 2014. Characterization of a roof tile-shaped out-of-plane vibrational mode in aluminum-nitride-actuated self-sensing micro-resonators for liquid monitoring purposes *Applied Physics Letters*. AIP Publishing LLC. 104-23, pp.233501-233501. ISSN 0003-6951.

M. Kucera; et al. (11/4). 2014. Design-dependent performance of self-actuated and self-sensing piezoelectric-AlN cantilevers in liquid media oscillating in the fundamental in-plane bending mode *Sensors and Actuators B: Chemical*. Elsevier B.V. 200, pp.235-244. ISSN 0925-4005.

T. Manzanque; et al. (6/2). 2012. Characterization and simulation of the first extensional mode of rectangular micro-plates in liquid media *Applied Physics Letters*. AIP Publishing LLC. 101. ISSN 0003-6951.

### **33. DEVELOPMENT AND APPLICATIONS OF SENSORS BASED ON PIEZOELECTRIC RESONATORS**

Autor: TOLEDO SERRANO, JAVIER

Director/es: José Luis Sánchez de Rojas Aldavero

Fecha de defensa: 18/12/2018

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

#### **PUBLICACIONES DERIVADAS:**

J. Toledo; et al. 2017. Calibration procedure for piezoelectric MEMS resonators to determine simultaneously density and viscosity of liquids. *Microsystem Technologies*.

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Georg Pfusterschmied; et al. 2017. Potential of Piezoelectric MEMS Resonators for Grape Must Fermentation. *Monitoring Micromachines*. ISSN 2072-666X.

J. Toledo; et al. 2016. Piezoelectric MEMS resonators for monitoring grape must fermentation. *Journal of Physics: Conference Series*. IOP. 757-1, pp.1-8.

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J. Toledo; et al. 2014. Application of quartz tuning forks and extensional microresonators for viscosity and density measurements in oil/fuel mixtures. *Microsystem Technologies*. Springer Verlag. 20-4-5, pp.945-953. ISSN 09467076, ISBN 9780819495600.

### **34. OPTIMAL AND RELIABLE OPERATION OF ELECTRIC POWER SYSTEMS UNDER UNCERTAINTY**

Autor: GUERRERO MESTRE, VICTORIA

Director/es: Javier Contreras Sanz

Fecha de defensa: 20/12/2018

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)

Universidad: Universidad de Castilla-La Mancha

#### **PUBLICACIONES DERIVADAS:**

Victoria Guerrero-Mestre, Agustín A. Sánchez de la Nieta, Javier Contreras and João P. S. Catalão, Optimal bidding of a group of wind farms in day-ahead markets through an external agent, *IEEE Transactions on Power Systems*, volume: 31(4), pp. 2688-2700, July 2016.

Ahmad Nikoobakht, Jamshid Aghaei, Victoria Guerrero-Mestre, Javier Contreras and Mohammad Mardaneh, Flexible power system operation accommodating uncertain wind power generation using transmission topology control: an improved linearized AC SCUC model, *IET Generation, Transmission & Distribution*, volume 11(1), pp. 142-153, January 2017.

Victoria Guerrero-Mestre, Yury Dvorkin, Ricardo Fernández-Blanco, Miguel A. Ortega-Vazquez and Javier Contreras, Incorporating energy storage into probabilistic security-constrained unit commitment, *IET Generation, Transmission & Distribution*, volume 12(18), pp. 4206-4215, 2018.

### **35. ROBUST GENERATION SCHEDULING IN ELECTRICITY MARKETS**

Autor: GONZALEZ COBOS, NOEMI

Director/es: José Manuel Arroyo Sánchez; Natalia Alguacil Conde

Fecha de defensa: 21/12/2018

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

#### **PUBLICACIONES DERIVADAS:**

Noemi G. Cobos, José M. Arroyo, and Alexandre Street, Least-cost reserve offer deliverability in day-ahead generation scheduling under wind uncertainty and generation and network outages, *IEEE Transactions on Smart Grid*, vol. 9, no. 4, pp. 3430-3442, July 2018.

Noemi G. Cobos, José M. Arroyo, Natalia Alguacil, and Jianhui Wang, Robust energy and reserve scheduling considering bulk energy storage units and wind uncertainty, *IEEE Transactions on Power Systems*, vol. 33, no. 5, pp. 5206-5216, September 2018.

Noemi G. Cobos, José M. Arroyo, Natalia Alguacil, and Alexandre Street, Network-constrained unit commitment under significant wind penetration: A multistage robust approach with non-fixed recourse, *Applied Energy*, vol. 232, pp. 489-503, December 2018.

Noemi G. Cobos, José M. Arroyo, Natalia Alguacil, and Alexandre Street, Robust energy and reserve scheduling under wind uncertainty considering fast-acting generators, IEEE Transactions on Sustainable Energy, vol. 10, no. 4, pp. 2142-2151, October 2019.

### **36. POSITION CONTROL OF A FLEXIBLE LINK ROBOT MOVING UNDER GRAVITY WITH A NOVEL GRAVITY COMPENSATION SYSTEM**

Autor: CAMBERA IBAÑEZ, JUAN CARLOS

Director/es: Vicente Feliu Batlle

Fecha de defensa: 15/01/2019

Calificación: Sobresaliente (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

#### **PUBLICACIONES DERIVADAS:**

J.C. Cambera and V. Feliu, "Input-State Feedback Linearization Control of a Single-Link Flexible Robot Arm moving under Gravity and Joint Friction", Journal of Robotics and Autonomous Systems, vol. 88, pp: 24-36, February 2017.

J.C. Cambera, A. San-Millán and V. Feliu, "Payload Mass Identification of a Single-Link Flexible Arm moving under Gravity: an Algebraic Identification Approach", Shock and Vibration, vol. 2015, 13 pp, doi.org/10.1155/2015/294157, June 2015.

### **37. NONLINEAR AND FRACTIONAL CONTROL OF VERY LARGE LIGHTWEIGHT FLEXIBLE ROBOTS WITH MODEL UNCERTAINTIES**

Autor: FELIU TALEGON, DANIEL

Director/es: Vicente Feliu Batlle

Fecha de defensa: 05/02/2019

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)

Universidad: Universidad de Castilla-La Mancha

#### **PUBLICACIONES DERIVADAS:**

V. Feliu, D. Feliu-Talegón and A. San-Millán, "Increasing the damping of oscillatory systems with an arbitrary number of time varying frequencies using fractional-order collocated feedback", International Journal of Advanced Research, in press.

D. Feliu-Talegón, V. Feliu, I. Tejado, B.M. Vinagre and S. Hassan HosseinNia, "Stable Force Control and Contact Transition of a Single Link Flexible Robot Using a Fractional-order Controller", ISA Transactions, vol. 89, pp: 139-157, June 2019.

D. Feliu-Talegón and V. Feliu, "Passivity-based control of a single link flexible manipulator using fractional controllers", Nonlinear Dynamics, vol. 95, nº3, pp: 2415-2441, doi.org/10.1007/s11071-018-4701-4, February 2019.

D. Feliu-Talegón, A. San-Millán and V. Feliu, "A New Kinematic Model and Control Strategy for a Mobile Platform for Transporting Lightweight Manipulators", Electronics, vol.7, nº12, pp: 441-468, doi:10.3390/electronics7120441, December 2018.

V. Feliu, D. Feliu-Talegón, A. San-Millán and R. Rivas, "Wiener-Hopf Optimal Control of a Hydraulic Canal Prototype with Fractional-Order Dynamics", ISA Transactions, vol. 82, pp: 130-144, November 2018.

A. San-Millán, D. Feliu-Talegón, V. Feliu and R. Rivas, "On the Modelling and Control of a Laboratory Prototype of a Hydraulic Canal Based on a TITO Fractional-Order Model", Entropy, vol. 19, nº8, 18 pp, doi: 0.3390/e19080401, August 2017.

B.

V. Feliu, D. Feliu-Talegón y C.F. Castillo-Berrio, "Improved Object Detection Using a Robotic Sensing Antenna with Vibration Damping Control", *Sensors*, vol. 17, pp: 852-879, doi : 10.3390/s17040852, 2017.

D. Feliu and V. Feliu, "Improving the position control of a two degrees of freedom robotic sensing antenna using fractional-order controllers", *International Journal of Control*, vol. 90, nº6, pp: 1256-1281, doi : 10.1080/00207179.2017.1281440, 2017.

D. Feliu, A. San-Millán and V. Feliu, "Fractional-Order Integral Resonant Control of Collocated Smart Structures", *Control Engineering Practice*, vol. 56, pp: 210-223, November 2016.

### **38. MODELADO GEOMÉTRICO PARA EL ANÁLISIS FRACTAL DE AGLOMERADOS DE HOLLÍN EMITIDOS EN PROCESOS DE COMBUSTIÓN**

Autor: EXPOSITO GONZALEZ, JUAN JOSE

Director/es: Magín Lapuerta Amigo

Fecha de defensa: 19/03/2019

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)

Universidad: Universidad de Castilla-La Mancha

#### **PUBLICACIONES DERIVADAS:**

Lapuerta, M.; Martos, F.J.; Expósito, J.J. Morphological characterization of diesel soot agglomerates based on the Beer-Lambert law. *Measurement, Science and Technology*, 24 (3), 035405 (9 pp), 2013.

Lapuerta, M.; Expósito, J.J.; Martos, F.J.; Effect of sintering on the fractal prefactor of agglomerates. *Powder Technology*, 271, 141-154, 2015.

Martos, F.J.; Lapuerta, M.; Expósito J.J.; Sanmiguel, E. Overestimation of the fractal dimension from projections of soot agglomerates. *Powder Technology*. Vol. 311, pp.: 528-536. 2017.

### **39. MEJORA DEL CONFORT EN VEHÍCULOS CON ELEMENTOS NEUMÁTICOS Y MAGNETOREOLÓGICOS**

Autor: PALOMARES NOVALBOS, EDUARDO

Director/es: Ángel Luis Morales Robredo; Antonio Javier Nieto Quijorna

Fecha de defensa: 29/05/2019

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)

Universidad: Universidad de Castilla-La Mancha

#### **PUBLICACIONES DERIVADAS:**

Autores (p.o. de firma): Palomares, E; Nieto, A.J.; Morales, A.L.; Chicharro, J.M.; Pintado, P.

Título: Dynamic behaviour of pneumatic linear actuators

Revista: *Mechatronics*

Volumen: 45 Páginas: 37-48 Fecha: 2017

DOI: 10.1016/j.mechatronics.2017.05.007

Autores (p.o. de firma): Palomares, E.; Nieto, A.J.; Morales, A.L.; Chicharro, J.M.; Pintado, P.

Título: Numerical and experimental analysis of a vibration isolator equipped with a negative stiffness system

Revista: *Journal of Sound and Vibration*

Volumen: 414 Páginas: 31 - 42 Fecha: 2018

DOI: 10.1016/j.jsv.2017.11.006

Autores (p.o. de firma): Palomares, E.; Nieto, A.J.; Morales, A.L.; Chicharro, J.M.; Pintado, P.  
 Título: Modelling magnetorheological dampers in pre-yield and post-yield regions  
 Revista: Shock and Vibration  
 Volumen: 2019 Fecha: 2019  
 DOI: 10.1155/2019/5636053

#### **40. MODELING, SIMULATION AND VALIDATION OF GENERIC WIND TURBINE MODELS BASED ON INTERNATIONAL GUIDELINES**

Autor: LORENZO BONACHE, ALBERTO  
 Director/es: Emilio Gómez Lázaro; Andrés Honrubia Escribano  
 Fecha de defensa: 07/06/2019  
 Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: Sí)  
 Universidad: Universidad de Castilla-La Mancha

##### **PUBLICACIONES DERIVADAS:**

A. Lorenzo-Bonache, A. Honrubia-Escribano, J. Fortmann, E. Artigao, and E. Gómez-Lázaro, "Fault transient response of generic type 3 wind turbine models: Limitations and extension of the validation methodology," *International Journal of Electrical Power & Energy Systems*, vol. 121, no. 106001, pp. 1--11, October 2020.

A. Lorenzo-Bonache, A. Honrubia-Escribano, J. Fortmann, and E. Gómez-Lázaro, "Generic type 3 wind turbine models: Comparison between IEC and WECC approaches," *IET Renewable Power Generation*, 2019

R. Villena-Ruiz, A. Lorenzo-Bonache, A. Honrubia-Escribano, F. Jiménez-Buendía, and E. Gómez-Lázaro, "Implementation of IEC 61400-27-1 type 3 model: Performance analysis under different modeling approaches," *Energies*, vol. 12, no. 14:2690, pp. 1--23, July 2019.

A. Lorenzo-Bonache, A. Honrubia-Escribano, F. Jiménez-Buendía, and E. Gómez-Lázaro, "Field validation of generic type 4 wind turbine models based on IEC and WECC guidelines," *IEEE Transactions on Energy Conversion*, vol. 34, no. 2, pp. 933--941, June 2019.

A. Lorenzo-Bonache, A. Honrubia-Escribano, F. Jiménez-Buendía, A. Molina-García, and E. Gómez-Lázaro, "Generic type 3 wind turbine model based on IEC 61400-27-1: parameter analysis and transient response under voltage dips," *Energies*, vol. 10, no. 9:1441, pp. 1--23, September 2017.

#### **41. CARACTERIZACIÓN DEL COMPORTAMIENTO ELÉCTRICO PASIVO DE TEJIDOS EXCITABLES Y NO EXCITABLES DE ROEDOR UTILIZANDO LA TÉCNICA DE INTERRUPCIÓN DE CORRIENTE Y MEDIDAS DE IMPEDANCIA**

Autor: HERNÁNDEZ BALAGUERA, ENRIQUE  
 Director/es: José Luis Polo Sanz; Elisa López Dolado  
 Fecha de defensa: 18/06/2019  
 Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)  
 Universidad: Universidad de Castilla-La Mancha

##### **PUBLICACIONES DERIVADAS:**

E. Hernández-Balaguera, E. López-Dolado, J. L. Polo, "Obtaining electrical equivalent circuits of biological tissues using current interruption method, circuit theory and fractional calculus", *RSC Advances* 6 (2016), pp. 22312-22319.

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## **42. EVALUACIÓN DEL N-BUTANOL COMO COMPONENTE DE COMBUSTIBLES PARA MOTORES DIÉSEL CON SISTEMAS DE POSTRATAMIENTO EURO 6**

Autor: FERNÁNDEZ RODRÍGUEZ, DAVID

Director/es: Magín Lapuerta Amigo

Fecha de defensa: 26/07/2019

Calificación: Sobresaliente CUM LAUDE (Mención Doctorado Internacional: No)

Universidad: Universidad de Castilla-La Mancha

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