

**PUBLICACIONES DERIVADAS DE LAS TESIS DEFENDIDAS EN EL PROGRAMA DE
DOCTORADO EN “SISTEMAS ELECTRÓNICOS AVANZADOS. SISTEMAS
INTELIGENTES” EN EL AÑO 2014**

Doctorando	Javier Nuño del Campo
Fecha lectura	22/01/2014
<ul style="list-style-type: none"> - V.V. Kozlov, J. Nuño, J.D. Ania-Castañón, S. Wabnitz, S. “Theory of fiber optic Raman polarizers”, (2010) Optics Letters, 35 (23), pp. 3970-3972. - V.V. Kozlov, J. Nuño, J.D. Ania-Castañón, S. Wabnitz, “Theoretical study of optical fiber Raman polarizers with counterpropagating beams”, (2011) Journal of Lightwave Technology, 29 (3), art. no. 5668487, pp. 341-347. - V.V. Kozlov, J. Nuño, J.D. Ania-Castañón, S. Wabnitz, “Multichannel Raman polarizer with suppressed relative intensity noise for wavelength division multiplexing transmission lines”, (2012) Optics Letters, 37 (11), pp. 2073-2075. - J. Nuño, M. Alcon-Camas, J.D. Ania-Castanón, “RIN transfer in random distributed feedback fiber lasers”,(2012) Optics Express, 20 (24), pp. 27376-27381. Cited 39 times. - V.V. Kozlov, J. Nuño, J.D. Ania-Castañón, S. Wabnitz, S. “Analytic theory of fiber-optic Raman polarizers”, (2012) Optics Express, 20 (24), pp. 27242-27247. - J. Nuño, J.D. Ania-Castañón, “RIN transfer in second-order amplification with centrally-pumped random distributed feedback fiber lasers”, (2014) International Journal of Modern Physics B, 28 (12), art. no. 1442005 - J. Nuño, J.D. Ania-Castañón, “Cavity and random ultralong fibre laser amplification in BOTDAs: A comparison”, (2014) Laser Physics, 24 (6), art. no. 065107. - J. Nuño, J.D. Ania-Castañón, “Fiber Sagnac interferometers with ultralong and random distributed feedback Raman laser amplification”, (2014) Optics and Lasers in Engineering, 54, pp. 21-26. 	

Doctorando	Xabier Angulo Vinuesa
Fecha lectura	28/03/2014
<ul style="list-style-type: none"> - M.A. Soto, A. Denisov, X. Angulo-Vinuesa, S. Martin-Lopez, L. Thévenaz, M. Gonzalez-Herraez, “All-optical flip-flops based on dynamic Brillouin gratings in fibers”. Optics Letters, 42 (13), pp. 2539-2542 (2017) - L. Duarte, A.C. Teodoro, J.A Gon alves, J. Ribeiro, D. Flores, A. Lopez-Gil, A. Dominguez-Lopez, X. Angulo-Vinuesa, S. Martin-Lopez, M. Gonzalez-Herraez, “Distributed temperature 	

measurement in a self-burning coal waste pile through a GIS open source desktop application". ISPRS International Journal of Geo-Information, 6 (3), art. no. 87 (2017)

- A. Lopez-Gil, M.A. Soto, X. Angulo-Vinuesa, A. Dominguez-Lopez, S. Martin-Lopez, L. Thévenaz, M. Gonzalez-Herraez, "*Evaluation of the accuracy of BOTDA systems based on the phase spectral response*". Optics Express, 24 (15), pp. 17200-17214. (2016)
- A. Lopez-Gil, M.A. Soto, X. Angulo-Vinuesa, A. Dominguez-Lopez, S. Martin-Lopez, M. Gonzalez-Herraez, "*Simple Baseband Method for the Distributed Analysis of Brillouin Phase-Shift Spectra*". IEEE Photonics Technology Letters, 28 (13), art. no. 7433390, pp. 1379-1382 (2016)
- A. Dominguez-Lopez, Z. Yang, M.A. Soto, X. Angulo-Vinuesa, S. Martin-Lopez, L. Thevenaz, M. Gonzalez-Herraez, "*Novel scanning method for distortion-free BOTDA measurements*". Optics Express, 24 (10), pp. 10188-10204 (2016)
- X. Angulo-Vinuesa, A. Dominguez-Lopez, A. Lopez-Gil, J.D. Ania-Castañón, S. Martin-Lopez, M. Gonzalez-Herraez, "*Limits of BOTDA Range Extension Techniques*". IEEE Sensors Journal, 16 (10), art. no. 7088555, pp. 3387-3395. (2016)
- A. Lopez-Gil, X. Angulo-Vinuesa, A. Dominguez-Lopez, S. Martin-Lopez, M. Gonzalez-Herraez, "*Exploiting nonreciprocity in BOTDA systems*". Optics Letters, 40 (10), pp. 2193-2196 (2015)
- A. Dominguez-Lopez, X. Angulo-Vinuesa, A. López-Gil, S. Martin-Lopez, M. Gonzalez-Herraez, "*Non-local effects in dual-probe-sideband Brillouin optical time domain analysis*". Optics Express, 23 (8), pp. 10341-10352 (2015)
- X. Angulo-Vinuesa, D. Bacquet, S. Martin-Lopez, P. Corredera, P. Szriftgiser, M. Gonzalez-Herraez, "*Relative intensity noise transfer reduction in raman-assisted BOTDA systems*". IEEE Photonics Technology Letters, 26 (3), art. no. 6674998, pp. 271-274 (2014)
- M.A. Soto, X. Angulo-Vinuesa, S. Martin-Lopez, S.-H Chin, J.D. Ania-Castañón, P. Corredera, E. Rochat, M. Gonzalez-Herraez, L. Thévenaz, "*Extending the real remoteness of long-range brillouin optical time-domain fiber analyzers*". Journal of Lightwave Technology, 32 (1), art. no. 6678536, pp. 152-162. (2014)
- M. Bravo, X. Angulo-Vinuesa, S. Martin-Lopez, M. Lopez-Amo, M. Gonzalez-Herraez, "*Slow-light and enhanced sensitivity in a displacement sensor using a lossy fiber-based ring resonator*". Journal of Lightwave Technology, 31 (23), art. no. 6654258, pp. 3752-3757. (2013)
- X. Angulo-Vinuesa, S. Martín-López, J. Nuño, P. Corredera, J.D. Ania-Castañón, M. González-Herraez, "*2 meter resolution Raman-assisted BOTDA temperature sensor over 100 km with 1.2°C uncertainty [Sensor de temperatura BOTDA asistido por Raman, de 2 metros de resolución sobre 100 km de distancia con incertidumbre de 1,2°C]*". Optica Pura y Aplicada, 45 (2), pp. 145-154. (2012)

- X. Angulo-Vinuesa, S. Martin-Lopez, P. Corredera, M. Gonzalez-Herraez, “*Raman-assisted Brillouin optical time-domain analysis with sub-meter resolution over 100 km*”. Optics Express, 20 (11), pp. 12147-12154. (2012)
- X. Angulo-Vinuesa, S. Martin-Lopez, J. Nuño, P. Corredera, J.D. Ania-Castañón, L. Thévenaz, M. González-Herráez, “*Raman-assisted Brillouin distributed temperature sensor over 100 km featuring 2 m resolution and 1.2 °c uncertainty*”. Journal of Lightwave Technology, 30 (8), art. no. 6025229, pp. 1060-1065. (2012)
- S. Martín-López, Angulo-Vinuesa, X., Nuño, J., Bhamber, R.S., Rodríguez-Barrios, F., Carrasco-Sanz, A., Alcón-Camas, M., Gonzalez-Herraez, M., Ania-Castañón, J.D., Corredera, P. “*Nonlinear dynamics and fiber optics group at instituto de óptica "daza de valdes del CSIC: Experimental research lines [Líneas de investigación experimentales del grupo de Dinámica No Lineal y Fibras Ópticas del Instituto de Óptica "Daza de Valdes del CSIC]*”. Optica Pura y Aplicada, 44 (3), pp. 413-423. (2011)

Doctorando	Álvaro Marcos Ramiro
Fecha lectura	17/06/2014
<ul style="list-style-type: none"> - Á. Marcos Ramiro; D. Pizarro Pérez; M. Marrón-Romera; D. Gatica Pérez. “<i>Let Your Body Speak: Communicative Cue Extraction on Natural Interaction Using RGBD Data</i>”. IEEE Transactions on Multimedia. 17/10, pp. 1721 – 1732 (2015) - A. Marcos, D. Pizarro Pérez, M. Marrón-Romera; M.R. Mazo Quintas. “<i>Captura de movimiento y reconocimiento de actividades para múltiples personas mediante un enfoque bayesiano</i>”. RIAI - Revista Iberoamericana de Automática e Informática Industrial. 10(2), pp. 170 -177. (2013) 	

Doctorando	Joaquín Aparicio Sosa
Fecha lectura	11/07/2014
<ul style="list-style-type: none"> - J. Aparicio, A. Jiménez, F. J. Álvarez, D. Ruiz, C. De Marziani, and J. Ureña, “<i>Characterization of an Underwater Positioning System Based on GPS Surface Nodes and Encoded Acoustic Signals</i>”. IEEE Transactions on Instrumentation and Measurement, Vol. 65, No. 8, pp 1773-1784, June 2016. - J. Aparicio, A. Jiménez, F.J. Álvarez, J. Ureña, C. De Marziani, D. de Diego, N. Cruz y H. Campos, “<i>Accurate detection of spread-spectrum modulated signals in reverberant underwater environments</i>”. Applied Acoustics, 88, pp. 57-65 (2014) 	

- J. Aparicio, A. Jiménez, F. J. Álvarez, J. Ureña, C. De Marziani and C. Diego, “*Modeling the Behavior of an Underwater Acoustic Relative Positioning System Based on Complementary Set of Sequences*”. *Sensors*, 11, pp. 11188-11205 (2011).
- J. Aparicio, E. García, A. Jiménez, F. Álvarez y J. Ureña, “Modelos de propagación de señales acústicas en entornos subacuáticos (I)”, *CONECTrónica*, Nº 137, pp. 40- 43, mayo 2010.
- J. Aparicio, E. García, A. Jiménez, F. Álvarez y J. Ureña, “Modelos de propagación de señales acústicas en entornos subacuáticos (II)”, *CONECTrónica*, Nº 139, pp. 40- 41, julio-agosto 2010.
- J. Aparicio, E. García, A. Jiménez, F. Álvarez y J. Ureña, “Modelos de propagación de señales acústicas en entornos subacuáticos (y III)”, *CONECTrónica*, Nº 140, pp. 39-43, septiembre 2010.

Doctorando	Noelia Hernández Parra
Fecha lectura	22/07/2014
<ul style="list-style-type: none"> - N. Hernández Parra; J. M. Alonso Moral; M. Ocaña Miguel. “<i>Fuzzy classifier ensembles for hierarchical WiFi-based semantic indoor localization</i>”. <i>Expert Systems With Applications</i>. 90, pp. 394 - 404. (2017) - N. Hernández Parra; M. Ocaña Miguel; J.M. Alonso Moral; E. Kim. “<i>Continuous Space Estimation: Increasing WiFi-based indoor localization resolution without increasing the site-survey effort</i>”. <i>Sensors</i>. 17 - 1-147, (2017) - N. Hernández Parra; J.M. Alonso Moral; M. Ocaña Miguel. “<i>Hierarchical Approach to Enhancing Topology-Based WiFi Indoor Localization in Large Wnvironments</i>”. <i>Journal of Multiple-Valued Logic and Soft Computing</i>, (2016). - K. Trawinski; J.M. Alonso Moral; N. Hernández Parra. “<i>A multiclassifier approach for topology-based WiFi indoor localization</i>”. <i>Soft Computing</i>. 17 - 10, pp. 1817 - 1831. (2013) - N. Hernández Parra; J.M. Alonso Moral; M. Ocaña Miguel; M. K. Marina. “<i>Impact of Signal Representations on the Performance of Hierarchical WiFi Localization Systems</i>”. <i>Lecture Notes in Computer Science</i>. 8112, pp. 17 - 24. (2013). - J.M. Alonso Moral; M. Ocaña Miguel; N. Hernández Parra; F. Herranz Cabrilla; Á. Llamazares Llamazares; M.A. Sotelo Vázquez; L.M. Bergasa Pascual; L. Magdalena Layos. “<i>Enhanced WiFi localization system based on soft computing techniques to deal with small-scale variations in wireless sensors</i>”. <i>Applied Soft Computing</i>. 11 - 8, pp. 4677 - 4691. (2011). - J. M. Alonso Moral; N. Hernández Parra; M. Ocaña Miguel. “<i>Wifigrams: Design of Hierarchical Wi-Fi Indoor Localization Systems Guided by Social Network Analysis</i>”. <i>Lecture Notes in Computer Science</i>. 8112, pp. 9 – 16 (2013) 	

Doctorando	José Javier Yebes Torres
Fecha lectura	25/07/2014
<ul style="list-style-type: none"> - J. Javier Yebes, Luis M. Bergasa, Miguel A. García, “<i>Visual Object Recognition with 3D-aware features in the KITTI urban scenes</i>”, <i>Sensors</i> (ISSN 1424-8220), Vol: 15, pp: 9228-9250, 2015. - A. Cela, J. Javier Yebes, R. Arroyo, L. M. Bergasa, R. Barea, E. López. “<i>Complete Low-cost Implementation of a Teleoperated Humanoid Robot</i>”. <i>Sensors</i>, Vol. 13 Nº: 2, 1385-1401, 2013. - A. Rodríguez, J. J. Yebes, P. F. Alcantarilla, L. M. Bergasa, J. Almazán, A. Cela, “<i>Assisting the Visually Impaired: Obstacle Detection and Warning System by Acoustic Feedback</i>”, <i>Sensors</i> (ISSN 1424-8220), Vol: 12, Nº: 12, pp: 17476-17496, 2012 	

Doctorando	Hugo Fidalgo Martins
Fecha lectura	19/09/2014
<ul style="list-style-type: none"> - M.R. Fernández-Ruiz, J. Pastor-Graells, H.F. Martins, A. Garcia-Ruiz, S. Martin-Lopez, M. Gonzalez-Herraez, “<i>Laser Phase-Noise Cancellation in Chirped-Pulse Distributed Acoustic Sensors</i>”. <i>Journal of Lightwave Technology</i>, 36 (4), pp. 979-985. (2018) - J. Tejedor, J. Maclas-Guarasa, H.F. Martins, J. Pastor-Graells, S. Martín-López, P.C. Guillén, G. De Pauw, F. De Smet, W. Postvoll, C.H. Ahlen, M. González-Herráez, “<i>Real Field Deployment of a Smart Fiber-Optic Surveillance System for Pipeline Integrity Threat Detection: Architectural Issues and Blind Field Test Results</i>”. <i>Journal of Lightwave Technology</i>, 36 (4), pp. 1052-1062. (2018) - A. Garcia-Ruiz, A. Dominguez-Lopez, J. Pastor-Graells, H.F. Martins, S. Martin-Lopez, M. Gonzalez-Herraez, “<i>Long-range distributed optical fiber hot-wire anemometer based on chirped-pulse ΦOTDR</i>”. <i>Optics Express</i>, 26 (1), pp. 463-476 (2018) - J. Pastor-Graells, J. Nuno, M.R. Fernandez-Ruiz, A. Garcia-Ruiz, H.F. Martins, S. Martin-Lopez, M. Gonzalez-Herraez, “<i>Chirped-Pulse Phase-Sensitive Reflectometer Assisted by First-Order Raman Amplification</i>”. <i>Journal of Lightwave Technology</i>, 35 (21), art. no. 8049266, pp. 4677-4683. (2018) - J. Ribeiro, Viveiros, D., Ferreira, J., Lopez-Gil, A., Dominguez-Lopez, A., Martins, H.F., Perez-Herrera, R., Lopez-Aldaba, A., Duarte, L., Pinto, A., Martin-Lopez, S., Baierl, H., Jamier, R., Rougier, S., Auguste, J.-L., Teodoro, A.C., Gonçalves, J.A., Esteban, O., Santos, J.L., Roy, P., Lopez-Amo, M., Gonzalez-Herraez, M., Baptista, J.M., Flores, D., “<i>ECOAL project-Delivering Solutions for Integrated monitoring of coal-related fires supported on optical fiber sensing technology</i>”. <i>Applied Sciences (Switzerland)</i>, 7 (9), art. no. 956 (2017) 	

- J. Tejedor, J. Macias-Guarasa, H.F. Martins, J. Pastor-Graells, P. Corredera, S. Martin-Lopez, "Machine learning methods for pipeline surveillance systems based on distributed acoustic sensing: A review". Applied Sciences (Switzerland), 7 (8), art. no. 841, (2017)
- J. Pastor-Graells, L.R. Cortés, M.R. Fernández-Ruiz, H.F. Martins, J. Azaña, S. Martin-Lopez, M. Gonzalez-Herraez, "SNR enhancement in high-resolution phase-sensitive OTDR systems using chirped pulse amplification concepts". Optics Letters, 42 (9), pp. 1728-1731. (2017)
- J. Tejedor, J. Macias-Guarasa, H.F. Martins, D. Piote, J. Pastor-Graells, S. Martin-Lopez, P. Corredera, M. Gonzalez-Herraez, "A novel fiber optic based surveillance system for prevention of pipeline integrity threats". Sensors (Switzerland), 17 (2), art. no. 355, (2017)
- A. Garcia-Ruiz, J. Pastor-Graells, H.F. Martins, K.H. Tow, L. Thévenaz, S. Martin-Lopez, M. Gonzalez-Herraez, "Distributed photothermal spectroscopy in microstructured optical fibers: Towards high-resolution mapping of gas presence over long distances". Optics Express, 25 (3), pp. 1789-1805. (2017).
- M.R. Fernández-Ruiz, H.F. Martins, J. Pastor-Graells, S. Martin-Lopez, M. Gonzalez-Herraez, "Phase-sensitive OTDR probe pulse shapes robust against modulation-instability fading". Optics Letters, 41 (24), pp. 5756-5759. (2016)
- J. Tejedor, H.F. Martins, D. Piote, J. Macias-Guarasa, J. Pastor-Graells, S. Martin-Lopez, P.C. Guillen, F. De Smet, W. Postvoll, M. Gonzalez-Herraez, "Toward prevention of pipeline integrity threats using a smart fiber-optic surveillance system". Journal of Lightwave Technology, 34 (19), art. no. 7434581, pp. 4445-4453. (2016)
- H.F. Martins, K. Shi, B.C. Thomsen, S. Martin-Lopez, M. Gonzalez-Herraez, S.J. Savory, "Real time dynamic strain monitoring of optical links using the backreflection of live PSK data". Optics Express, 24 (19), pp. 22303-22318. (2016)
- A. Garcia-Ruiz, J. Pastor-Graells, H.F. Martins, S. Martin-Lopez, M. Gonzalez-Herraez, "Speckle Analysis Method for Distributed Detection of Temperature Gradients with Φ OTDR". IEEE Photonics Technology Letters, 28 (18), art. no. 7486037, pp. 2000-2003. (2016)
- J. Pastor-Graells, H.F. Martins, A. Garcia-Ruiz, S. Martin-Lopez, M. Gonzalez-Herraez, "Single-shot distributed temperature and strain tracking using direct detection phase-sensitive OTDR with chirped pulses". Optics Express, 24 (12), pp. 13121-13133. (2016)
- H. F. Martins, J. Pastor-Graells, L.R. Cortés, D. Piote, S. Martin-Lopez, J. Azaña, M. Gonzalez-Herraez, "PROUD-based method for simple real-time in-line characterization of propagation-induced distortions in NRZ data signals". Optics Letters, 40 (18), pp. 4356-4359 (2015)
- M.A. Soto, X. Lu, H.F. Martins, M. Gonzalez-Herraez, L. Thévenaz, "Distributed phase birefringence measurements based on polarization correlation in phase-sensitive optical time-domain reflectometers". Optics Express, 23 (19), pp. 24923-24936. (2015)

- H.F. Martins, S. Martin-Lopez, P. Corredera, J.D. Ania-Castanon, O. Frazao, M. Gonzalez-Herraez, “*Distributed vibration sensing over 125 km with enhanced SNR using Phi-OTDR over a URFL cavity*”. *Journal of Lightwave Technology*, 33 (12), art. no. 7021938, pp. 2628-2632. (2015)
- H.F. Martins, J. Bierlich, K. Wondraczek, S. Unger, J. Kobelke, K. Schuster, M.B. Marques, M. Gonzalez-Herraez, O. Frazão, “*High-sensitivity dispersive Mach-Zehnder interferometer based on a dissimilar-doping dual-core fiber for sensing applications*”. *Optics Letters*, 39 (9), pp. 2763-2766. (2014)
- H.F. Martins, S. Martin-Lopez, P. Corredera, M.L. Filograno, O. Frazao, M. Gonzalez-Herraez, “*Phase-sensitive optical time domain reflectometer assisted by first-order raman amplification for distributed vibration sensing over >100 km*”. *Journal of Lightwave Technology*, 32 (8), art. no. 6748011, pp. 1510-1518. (2014)
- H.F. Martins, M.B. Marques, O. Frazão, “*Intensity vibration sensor based on Raman fiber laser using a distributed mirror combined with Bragg grating structures*”. *Applied Physics B: Lasers and Optics*, 114 (4), pp. 455-459. (2014)
- H.F. Martins, S. Martin-Lopez, P. Corredera, M.L. Filograno, O. Frazao, M. Gonzalez-Herraez, “*Coherent noise reduction in high visibility phase-sensitive optical time domain reflectometer for distributed sensing of ultrasonic waves*”. *Journal of Lightwave Technology*, 31 (23), art. no. 6637057, pp. 3631-3637. (2013)
- H.F. Martins, S. Martin-Lopez, P. Corredera, P. Salgado, O. Frazão, M. González-Herráez, “*Modulation instability-induced fading in phase-sensitive optical time-domain reflectometry*”. *Optics Letters*, 38 (6), pp. 872-874. (2013)
- H.F. Martins, M.B. Marques, P. Jorge, C.M.B. Cordeiro, O. Frazão, “*Intensity curvature sensor based on photonic crystal fiber with three coupled cores*”. *Optics Communications*, 285 (24), pp. 5128-5131. (2012)
- H. Martins, M.B. Marques, O. Frazão, “*Comparison of brillouin-raman comb fiber laser in two different configurations*”. *Laser Physics*, 21 (11), pp. 1925-1931. (2011)
- H. Martins, M.B. Marques, O. Frazão, “*300 km-ultralong Raman fiber lasers using a distributed mirror for sensing applications*”. *Optics Express*, 19 (19), pp. 18149-18154. (2011)
- H. Martins, M.B. Marques, O. Frazão, “*Temperature-insensitive strain sensor based on four-wave mixing using Raman fiber Bragg grating laser sensor with cooperative Rayleigh scattering*”. *Applied Physics B: Lasers and Optics*, 104 (4), pp. 957-960. (2011)