

List of Publications

Alfredo Antonio Núñez Vicencio
January 2023

International journal papers

- [J64]** Y. Zeng, C. Shen, A. Núñez, R. Dollevoet, W. Zhang, and Z. Li, "An interpretable method for operational modal analysis in time-frequency representation and its applications to railway sleepers". Accepted, *Structural Control and Health Monitoring* (IF 2021: 6.058, **Q1**)
- [J63]** Z. Li, S. Li, P. Zhang, A. Núñez, and R. Dollevoet, "Mechanism of short pitch corrugation: Initial excitation and frequency selection for consistent initiation and growth". *International Journal of Rail Transportation*, DOI: 10.1080/23248378.2022.2156402 (IF 2021: 2.759, **Q2**)
- [J62]** S. Unsiwilai, L. Wang, A. Núñez and Z. Li, "Multiple-axle box acceleration measurements at railway transition zones". *Measurement*, Volume 213, May 2023, 112688. DOI: 10.1016/j.measurement.2023.112688 (IF 2021: 5.131, **Q1**)
- [J61]** J. Fu, S. Peyghami, A. Núñez, F. Blaabjerg, and B. De Schutter, "A tractable failure probability prediction model for predictive maintenance scheduling of large-scale modular-multilevel-converters". *IEEE Transactions on Power Electronics*, Volume 38, Issue 5, May 2023, Pages: 6533 - 6544. DOI: 10.1109/TPEL.2023.3241317 (IF 2021: 5.967, **Q1**)
- [J60]** J. Fu, A. Núñez, and B. De Schutter, "A bidding mechanism for maintenance of generation units considering inter-ISO power exchange". *International Journal of Electrical Power & Energy Systems*, Volume 144, January 2023, 108595. DOI: 10.1016/j.ijepes.2022.108595 (IF 2021: 5.659, **Q1**)
- [J59]** J. Fu, A. Núñez, and B. De Schutter, "Accelerated optimal maintenance scheduling for generation units on a truthful platform". *Energy Reports*, Volume 8, November 2022, Pages: 9777-9786. DOI: 10.1016/j.egyr.2022.08.002 (IF 2021: 4.937, **Q2**)
- [J58]** M. Kapetanović, A. Núñez, N. van Oort, and R.M.P. Goverde, "Analysis of hydrogen-powered propulsion system alternatives for diesel-electric regional trains". *Journal of Rail Transport Planning & Management*, Volume 23, September 2022, 100338, DOI: 10.1016/j.jrtpm.2022.100338
- [J57]** Y. Zhen, A. Núñez, and Z. Li, "Speckle noise reduction for structural vibration measurement with laser doppler vibrometer on moving platform". *Mechanical Systems and Signal Processing*, Volume 178, October 2022, 109196, DOI: 10.1016/j.ymsp.2022.109196 (IF 2021: 8.934, **Q1**)
- [J56]** J. Fu, A. Núñez, and B. De Schutter, "Real-time UAV routing strategy for monitoring and inspection for post-disaster restoration of distribution networks". *IEEE Transactions on Industrial Informatics*, Volume 18, Issue 4, April 2022, Pages: 2582-2592. DOI: 10.1109/TII.2021.3098506 (IF 2021: 11.648, **Q1**)
- [J55]** J. Zhong, Z. Liu, C. Yang, H. Wang, S. Gao, and A. Núñez, "Adversarial reconstruction based on tighter oriented localization for catenary insulator defect detection in high-speed railways." *IEEE Transactions on Intelligent Transportation Systems*, Volume 23, Issue 2, February 2022, Pages: 1109-1120. DOI: 10.1109/TITS.2020.3020287 (IF 2021: 9.551, **Q1**)
- [J54]** P. Zhang, S. Li, A. Núñez, and Z. Li, "Vibration modes and wave propagation of the rail under fastening constraint." *Mechanical Systems and Signal Processing*, Volume 160, November 2021, 107933, DOI: 10.1016/j.ymsp.2021.107933 (IF 2020: 6.823, **Q1**).
- [J53]** F. Yang, Z. Wei, X. Sun, C. Shen, and A. Núñez, "Wheel-rail rolling contact behavior induced by both rail surface irregularity and sleeper hanging defects on a high-speed railway line." *Engineering Failure Analysis*, Volume 128, October 2021, 105604, DOI: 10.1016/j.engfailanal.2021.105604 (IF 2020: 3.114, **Q1**)
- [J52]** M. Kapetanović, A. Núñez, N. van Oort, and R.M.P. Goverde, "Reducing fuel consumption and related emissions through optimal sizing of energy storage system for diesel-electric trains." *Applied Energy*, Volume 294, July 2021, 117018. DOI: 10.1016/j.apenergy.2021.117018 (IF 2020: 9.746, **Q1**)
- [J51]** J. Zhong, Z. Liu, H. Wang, W. Liu, C. Yang, Z. Han, and A. Núñez, "A looseness detection method for railway catenary fasteners based on reinforcement learning refined localization." *IEEE Transactions on Instrumentation and Measurements*, Volume 70, June 2021, Pages: 1-13. DOI: 10.1109/TIM.2021.3086913 (IF 2020: 4.016, **Q1**)
- [J50]** J. Fu, A. Núñez, and B. De Schutter, "A short-term preventive maintenance scheduling method for distribution networks with distributed generators and batteries." *IEEE Transactions on Power Systems*, Volume 36, Issue 3, May 2021, Pages: 2516-2531. DOI: 10.1109/TPWRS.2020.3037558 (IF 2020: 6.663, **Q1**)
- [J49]** W. Liu, Z. Liu, Q. Li, Z. Han, and A. Núñez, "High-precision detection method for structure parameters of catenary cantilever devices using 3D point cloud data." *IEEE Transactions on Instrumentation and Measurement*, Volume 70, 3507811, 2021, Pages: 1-11. DOI: 10.1109/TIM.2020.3045801 (IF 2020: 4.016, **Q1**)
- [J48]** P. Zhang, S. Li, A. Núñez, and Z. Li, "Multimodal dispersive waves in free rail: numerical modeling and experimental validation." *Mechanical Systems and Signal Processing*, Volume 150, March 2021, 107305. DOI: 10.1016/j.ymsp.2020.107305 (IF 2020: 6.823, **Q1**)
- [J47]** H. Wang, A. Núñez, Z. Liu, D. Zhang, and R. Dollevoet, "A Bayesian network approach for the condition monitoring of high-speed railway catenary." *IEEE Transactions on Intelligent Transportation Systems*, Volume 21, October 2020, Pages: 4037-4051. DOI: 10.1109/TITS.2019.2934346 (IF 2019: 6.319, **Q1**)
- [J46]** Z. Li, M. Berg, D. Fletcher, P. Meehan, and A. Núñez, "Special issue of Wear on Contact Mechanics 2018." *Wear*, July 2020, Article 203362. DOI: 10.1016/j.wear.2020.203362 (IF 2019: 4.108, **Q1**)
- [J45]** W. Liu, Z. Liu, A. Núñez, and Z. Han, "Unified deep learning architecture for the detection of all catenary support components." *IEEE Access*, Volume 8, 2020, Pages: 17049-17059. DOI: 10.1109/ACCESS.2020.2967831 (IF 2019: 3.745, **Q1**)
- [J44]** Z. Wei, A. Núñez, X. Liu, R. Dollevoet, and Z. Li, "Multi-criteria evaluation of wheel/rail matching behavior at railway crossings." *Tribology International*, Volume 144, April 2020, 106107. DOI: 10.1016/j.triboint.2019.106107 (IF 2019: 4.271, **Q1**)

- [J43]** L.G. Marín, M. Sumner, D. Muñoz-Carpintero, S. Pholboon, D. Kobrich, D. Saez, and A. Núñez, "Hierarchical energy management system for microgrid operation based on robust model predictive control." *Energies* 2019, 12(23), 4453, November 2019. DOI: 10.3390/en12234453 (IF 2019: 2.702, Q3)
- [J42]** H. Wang, Z. Liu, A. Núñez, and R. Dollevoet, "Entropy-based local irregularity detection for high-speed railway catenaries with frequent inspections." *IEEE Transactions on Instrumentation and Measurement*, Volume 68, Issue 10, October 2019, Pages: 3536-3547. DOI: 10.1109/TIM.2018.2881529 (IF 2019: 3.658, Q1)
- [J41]** Z. Su, A. Jamshidi, A. Núñez, S. Baldi, and B. De Schutter, "Integrated condition-based track maintenance planning and crew scheduling of railway networks." *Transportation Research Part C: Emerging Technologies*, Volume 105, August 2019, Pages: 359-384. DOI: 10.1016/j.trc.2019.05.045 (IF 2019: 6.077, Q1)
- [J40]** P. Santis, D. Sáez, R. Cárdenas, and A. Núñez, "Pareto-based modulated-model-predictive control strategy for power converter applications." *Electric Power Systems Research*, Volume 171, June 2019, Pages: 158-174. DOI: 10.1016/j.epsr.2019.02.016 (IF 2019: 3.211, Q2)
- [J39]** L. Marin, N. Cruz, D. Sáez, M. Sumner and A. Núñez, "Prediction interval methodology based on fuzzy numbers and its extension to fuzzy systems and neural networks." *Expert Systems with Applications*. Volume 119, April 2019, Pages: 128-141. DOI: 10.1016/j.eswa.2018.10.043 (IF 2019: 5.452, Q1)
- [J38]** A. Núñez, A. Jamshidi, and H. Wang, "Pareto-based maintenance decisions for regional railways with uncertain weld conditions using the Hilbert spectrum of axle box acceleration." *IEEE Transactions on Industrial Informatics*, Volume 15, Issue 3, March 2019, Pages: 1496-1507. DOI: 10.1109/TII.2018.2847736 (IF 2019: 9.112, Q1)
- [J37]** Z. Wei, A. Boogaard, A. Núñez, Z. Li, and R. Dollevoet, "An integrated approach for characterizing the dynamic behavior of wheel-rail interaction at crossings." *IEEE Transactions on Instrumentation and Measurement*, Volume 67, Issue 10, October 2018, Pages: 2332-2344. DOI: 10.1109/TIM.2018.2816800 (IF 2019: 3.658, Q1)
- [J36]** A. Jamshidi, S. Hajizadeh, Z. Su, M. Naeimi, A. Núñez, R. Dollevoet, B. De Schutter, and Zili Li, "A decision support approach for condition-based maintenance of rails based on big data analysis." *Transportation Research Part C: Emerging Technologies*, Volume 95, October 2018, Pages: 185-206. DOI: 10.1016/j.trc.2018.07.007 (IF 2019: 6.077, Q1)
- [J35]** H. Wang, A. Núñez, Z. Liu, Y. Song, F. Duan, and R. Dollevoet, "Analysis of the evolution of contact wire wear irregularity in railway catenary based on historical data." *Vehicle System Dynamics*, Volume 56, Issue 8, Pages: 1207-1232. DOI: 10.1080/00423114.2017.1408919 (IF 2019: 2.581, Q2)
- [J34]** Z. Wei, A. Núñez, A. Boogaard, R. Dollevoet, and Z. Li, "Method for evaluating the performance of railway crossings after long-term service." *Tribology International*, Volume 123, July 2018, Pages: 337-348. DOI: 10.1016/j.triboint.2018.03.016 (IF 2019: 4.271, Q1)
- [J33]** J. Chen, Z. Liu, H. Wang, A. Núñez, and Z. Han, "Automatic defect detection of fasteners on the catenary support device using deep convolutional neural network." *IEEE Transactions on Instrumentation and Measurement*, Volume 67, Issue 2, February 2018, Pages: 257-269. DOI: 10.1109/TIM.2017.2775345 (IF 2019: 3.658, Q1). *As of July/August 2020, this paper is in the highly cited list, the top 1% of the field Engineering, Data from Essential Science Indicators (ISI-Web of Science).*
- [J32]** Z. Su, A. Jamshidi, A. Núñez, S. Baldi, and B. De Schutter, "Multilevel condition-based maintenance planning for railway infrastructures – A scenario-based chance-constrained approach." *Transportation Research Part C: Emerging Technologies*, Volume 84, November 2017, Pages: 92-123. DOI: 10.1016/j.trc.2017.08.018 (IF 2019: 6.077, Q1)
- [J31]** Z. Hidayat, R. Babuška A. Núñez, and B. De Schutter, "Identification of distributed-parameter systems from sparse measurements." *Applied Mathematical Modelling*, Volume 51, November 2017, Pages: 605-626. DOI: 10.1016/j.apm.2017.07.001 (IF 2019: 3.633, Q1)
- [J30]** Z. Wei, A. Núñez, Z. Li, and R. Dollevoet, "Evaluating degradation at railway crossings using axle box acceleration measurements." *Sensors*, 2017 17(10), 2236, September 2017. DOI:10.3390/s17102236 (IF 2019: 3.275, Q1)
- [J29]** A. Jamshidi, A. Núñez, R. Dollevoet, and Z. Li, "Robust and predictive fuzzy key performance indicators for condition-based treatment of squats in railway infrastructures." *Journal of Infrastructure Systems*, Volume 23, Issue 3, September 2017, 04017006. DOI: 10.1061/(ASCE)IS.1943-555X.0000357 (IF 2019: 1.825, Q2)
- [J28]** A. Jamshidi, S. Faghih-Roohi, S. Hajizadeh, A. Núñez, R. Babuška, R. Dollevoet, Z. Li, and B. De Schutter, "A big data analysis approach for rail failure risk assessment." *Risk Analysis*. Volume 37, Issue 8, August 2017, Pages: 1495-1507. DOI: 10.1111/risa.12836 (IF 2019: 3.137, Q1)
- [J27]** S. Li, Z. Li, A. Núñez, and R. Dollevoet, "New insights into the short pitch corrugation development enigma based on 3D-FE dynamic vehicle-track coupled modeling in frictional rolling contact." *Applied Sciences*, 2017 7(8), 807, August 2017. DOI: 10.3390/app7080807 (IF 2019: 2.474, Q2)
- [J26]** M. Oregui, A. Núñez, R. Dollevoet, and Z. Li, "Sensitivity analysis of railpad parameters on vertical railway track dynamics." *ASCE Journal of Engineering Mechanics*, Volume 143, Issue 5, May 2017. DOI: 10.1061/(ASCE)EM.1943-7889.0001207 (IF 2019: 2.003, Q2)
- [J25]** J. Llanos, R. Morales, A. Núñez, D. Sáez, M. Lacalle, L.G. Marín, R. Hernández and F. Lanás, "Load estimation for microgrid planning based on a self-organizing map methodology." *Applied Soft Computing*, Volume 53, April 2017, Pages: 323-335. DOI: 10.1016/j.asoc.2016.12.054 (IF 2019: 5.472, Q1)
- [J24]** M. Oregui, S. Li, A. Núñez, Z. Li, R. Carroll, and R. Dollevoet, "Monitoring bolt tightness of rail joints using axle box acceleration measurements." *Structural Control and Health Monitoring*, Volume 24:e1848, February 2017. DOI: 10.1002/stc.1848 (IF 2019: 3.499, Q1)
- [J23]** Z. Liu, H. Wang, R. Dollevoet, Y. Song, A. Núñez, J. Zhang, "Ensemble EMD-based automatic extraction of the catenary structure wavelength from the pantograph-catenary contact force." *IEEE Transactions on Instrumentation and Measurement*, Volume 65, Issue 10, October 2016, Pages: 2272-2283. DOI: 10.1109/TIM.2016.2579360 (IF 2019: 3.658, Q1)

- [J22]** C. Portilla, F. Valencia, J. Espinosa, A. Núñez, and B. De Schutter, "Model-based predictive control for bicycling in urban intersections." *Transportation Research Part C: Emerging Technologies*, Volume 70, September 2016, Pages: 27-41. DOI: 10.1016/j.trc.2015.11.016 (IF 2019: 6.077, **Q1**)
- [J21]** M. Molodova, M. Oregui, A. Núñez, Z. Li, and R. Dollevoet, "Health condition monitoring of insulated joints based on axle box acceleration measurements." *Engineering Structures*, Volume 123, September 2016, Pages: 225-235. DOI: 10.1016/j.engstruct.2016.05.018 (IF 2019: 3.548, **Q1**)
- [J20]** C. Ponce, D. Sáez, C. Bordons, and A. Núñez, "Dynamic simulator and model predictive control of an integrated solar combined cycle plant." *Energy*, Volume 109, Issue 2016, August 2016, Pages: 974-986. DOI: 10.1016/j.energy.2016.04.129 (IF 2019: 6.082, **Q1**)
- [J19]** S. Liu, A.D. Sadowska, J.R.D. Frejo, A. Núñez, E.F. Camacho, H. Hellendoorn, and B. De Schutter, "Robust receding horizon parameterized control for multi-class freeway networks: A tractable scenario-based approach." *International Journal of Robust and Nonlinear Control*, Volume 26, Issue 6, April 2016, Pages: 1211-1245. DOI: 10.1002/rnc.3500 (IF 2019: 3.503, **Q1**)
- [J18]** M. Molodova, Z. Li, A. Núñez, and R. Dollevoet, "Parameter study of the axle box acceleration at squats." *Proceedings of the Institution of Mechanical Engineers Part F: Journal of Rail and Rapid Transit*, Volume 229, Issue 8, November 2015, Pages: 841-851. DOI: 10.1177/0954409714523583 (IF 2019: 1.228, **Q3**)
- [J17]** M. Oregui, M. Molodova, A. Núñez, Z. Li, R. Dollevoet, "Experimental investigation into the condition of insulated rail joints by impact excitation." *Experimental Mechanics*, Volume 55, Issue 9, November 2015, Pages: 1597-1612. DOI: 10.1007/s11340-015-0048-7 (Open Access). (IF 2019: 2.496, **Q2**)
- [J16]** A. Núñez, C. Ocampo-Martinez, J.M. Maestre, and B. De Schutter, "Time-varying scheme for non-centralized model predictive control of large-scale systems." *Mathematical Problems in Engineering*, Volume 2015, Article ID 560702, August 2015, 17 Pages. DOI: 10.1155/2015/560702 (Open Access) (IF 2019: 1.009, **Q3**)
- [J15]** Z. Li, M. Molodova, A. Núñez, and R. Dollevoet, "Improvements in axle box acceleration measurements for the detection of light squats in railway infrastructure." *IEEE Transactions on Industrial Electronics*, Volume 62, Issue 7, July 2015, Pages: 4385-4397. DOI: 10.1109/TIE.2015.2389761 (IF 2019: 7.515, **Q1**)
- [J14]** D. Muñoz, D. Sáez, C.E. Cortés, and A. Núñez, "A methodology based on evolutionary algorithms to solve dynamic pick-up and delivery problem under hybrid predictive control approach." *Transportation Science*, Volume 49, Issue 2, May 2015, Pages: 239-253. DOI: 10.1287/trsc.2014.0569 (IF 2019: 3.384, **Q2**)
- [J13]** A. Núñez, C.E. Cortés, D. Sáez, B. De Schutter and M. Gendreau, "Multiobjective model predictive control for dynamic pickup and delivery problems." *Control Engineering Practice*, Volume 32, November 2014, Pages: 73-86. DOI: 10.1016/j.conengprac.2014.07.004 (IF 2019: 3.193, **Q2**)
- [J12]** M. Molodova, Z. Li, A. Núñez, and R. Dollevoet, "Automatic detection of squats in the railway infrastructures." *IEEE Transactions on Intelligent Transportation Systems*, Volume 15, Issue 5, October 2014, Pages: 1980-1990. DOI: 10.1109/TITS.2014.2307955 (IF 2019: 6.319, **Q1**)
- [J11]** J.R. Frejo, A. Núñez, B. De Schutter, and E.F. Camacho, "Hybrid model predictive control for freeway traffic using discrete speed limit signals." *Transportation Research Part C: Emerging Technologies*, Volume 46, September 2014, Pages: 309-325. DOI: 10.1016/j.trc.2014.06.005 (IF 2019: 6.077, **Q1**)
- [J10]** M. Molodova, Z. Li, A. Núñez, and R. Dollevoet, "Validation of a finite element model for axle box acceleration at squats in the high-frequency range." *Computers and Structures*, Volume 141, Issue 1, August 2014, Pages: 84-93. DOI: 10.1016/j.compstruc.2014.05.005 (IF 2019: 3.664, **Q1**)
- [J09]** C. Ponce, D. Sáez, and A. Nuñez, "Fuzzy predictive control strategy for a distributed solar collector plant," *IEEE Latin America Transactions*, Volume 12, Issue 4, June 2014, Pages: 626-633. DOI: 10.1109/TLA.2014.6868864 (IF 2019: 0.782, **Q4**)
- [J08]** A. Núñez, B. De Schutter, D. Sáez, and I. Škrjanc, "Hybrid-fuzzy modeling and identification," *Applied Soft Computing*, Volume 17, April 2014, Pages: 67-78. DOI: 10.1016/j.asoc.2013.12.011 (IF 2019: 5.472, **Q1**)
- [J07]** D. Sáez, C.E. Cortés, F. Milla, A. Núñez, A. Tirachini, and M. Riquelme, "Hybrid predictive control strategy for a public transport system with uncertain demand," *Transportmetrica*, Volume 8, Issue 1, January 2012, Pages: 61-86. DOI: 10.1080/18128601003615535 (IF 2014: 3.773, **Q1**, this journal became two new journals Part A and B)
- [J06]** C.E. Cortés, D. Sáez, F. Milla, A. Núñez, and M. Riquelme, "Hybrid predictive control for real-time optimization of public transport system' operations based on evolutionary multiobjective optimization," *Transportation Research Part C: Emerging Technologies*, Volume 18, Issue 5, October 2010, Pages: 757-769. DOI: 10.1016/j.trc.2009.05.016 (IF 2019: 6.077, **Q1**)
- [J05]** C.E. Cortés, D. Sáez, A. Núñez, and D. Muñoz-Carpintero, "Hybrid adaptive predictive control for a dynamic pick-up and delivery problem," *Transportation Science*, Volume 43, Issue 1, February 2009, Pages: 27-42. DOI: 10.1287/trsc.1080.0251 (IF 2019: 3.384, **Q2**)
- [J04]** A. Núñez, D. Sáez, S. Oblak, and I. Škrjanc, "Fuzzy-model-based hybrid predictive control," *ISA Transactions*, Volume 48, Issue 1, January 2009, Pages: 24-31. DOI: 10.1016/j.isatra.2008.10.007 (IF 2019: 4.305, **Q1**)
- [J03]** J. Causa, G. Karer, A. Núñez, D. Sáez, I. Škrjanc, and B. Zupančič, "Hybrid fuzzy predictive control based on genetic algorithm for the temperature control of a batch reactor," *Computers & Chemical Engineering*, Volume 32, Issue 12, December 2008, Pages: 3254-3263. DOI: 10.1016/j.compchemeng.2008.05.014 (IF 2019: 4.000, **Q1**)
- [J02]** D. Sáez, C.E. Cortés, and A. Núñez, "Hybrid adaptive predictive control for the multi-vehicle dynamic pick-up and delivery problem based on genetic algorithms and fuzzy clustering," *Computers & Operations Research*, Volume 35, Issue 11, November 2008, Pages: 3412-3438. DOI: 10.1016/j.cor.2007.01.025 (IF 2019: 3.424, **Q2**)
- [J01]** C.E. Cortés, A. Núñez, and D. Sáez, "Hybrid adaptive predictive control for a dynamic pick-up and delivery problem including traffic congestion," *International Journal of Adaptive Control and Signal Processing*, Volume 22, Issue 2, March 2008, Pages: 103-123. DOI: 10.1002/acs.1005 (IF 2019: 2.116, **Q3**)

Books

[B02] Z. Li and A. Núñez (Editors), *Proceedings of the 11th International Conference on Contact Mechanics and Wear of Rail/Wheel Systems (CM 2018)*, Delft, The Netherlands, September 24-27, 2018. ISBN: 978-94-6186-963-0, ISSN: 2590-0609.

[B01] A. Núñez, D. Sáez, and C.E. Cortés, *Hybrid predictive control for dynamic transport problems*, Springer-Verlag London, Series Advances in Industrial Control, England. Publication Date: October 31, 2012 | ISBN-10: 1447143507 | ISBN-13: 978-1447143505 | Edition: 2013.

Book chapters

[BCh02] Z. Su, A. Jamshidi, A. Núñez, S. Baldi, and B. De Schutter, "Distributed Chance-Constrained Model Predictive Control for Condition-based Maintenance Planning for Railway Infrastructures," in *Predictive Maintenance in Dynamic Systems, Advanced Methods, Decision Support Tools and Real-World Applications*, (E. Lughofer, and M. Sayed-Mouchaweh, eds.), Springer. ISBN 978-3-030-05644-5, pp 533-554, 2019. DOI: 10.1007/978-3-030-05645-2_18

[BCh01] F. Valencia, J.D. López, A. Núñez, C. Portilla, L.G. Cortes, J.J. Espinosa, and B. De Schutter, "Congestion Management in Motorways and Urban Networks Through a Bargaining Game-Based Coordination Mechanism," Chapter 1 in *Game-Theoretic Analysis of Congestion, Safety, and Security*, Traffic and Transportation Theory, (K. Hausken, and J. Zhuang, eds.), vol. 1 of Series in Reliability Engineering, Springer, ISBN 978-3-319-11673-0, pp. 1-40, 2014. DOI: 10.1007/978-3-319-11674-7_1

Lecture notes

[LN01] R. Manasevich and A. Núñez, *Ordinary differential equations (in Spanish)*, Lecture Notes of the Course "Differential Equations," Mathematics Engineering Department (DIM), Universidad de Chile, 327 pp., Mar. 2009. Revised edition.

Conference papers

[C80] Y. Zeng, A. Núñez, and Z. Li, "A simulation-based approach for characterizing transfer functions of railway tracks using train-borne laser Doppler vibrometer". In Proceedings of the 10th International Conference on Experimental Vibration Analysis for Civil Engineering Structures Politecnico di Milano, Italy, August 30 – September 1, 2023.

[C79] T. Kapoor, H. Wang, A. Núñez, and R. Dollevoet, "Physics-informed machine learning for moving load problems". In Proceedings of the Eurodyn 2023, XII International Conference on Structural Dynamics, Delft, The Netherlands, 2-5 July 2023.

[C78] M. Kapetanović, A. Núñez, N. van Oort, and R.M.P. Goverde, "Vehicle-to-Grid Concept for Hydrogen Fuel Cell Hybrid-Electric Regional Trains". In Proceedings of the 10th International Conference on Railway Operations Modelling and Analysis ICROMA RailBelgrade 2023, April 25-28 2023, Belgrade, Serbia. *This paper was selected in the group of best papers of RailBelgrade 2021.*

[C77] Y. Zeng, A. Núñez, and Z. Li, "A post-processing methodology for reducing speckle noise in laser Doppler vibrometer measurements". In Proceedings of the International Meeting on Optical Measurement Techniques and Industrial Applications, 28-30 March 2023, Delft, The Netherlands.

[C76] T. Kapoor, H. Wang, A. Núñez, and R. Dollevoet, "Predicting traction return current in electric railway systems through physics-informed neural networks". In Proceedings of the IEEE Symposium Series on Computational Intelligence, 4 to 7 December 2022, Singapore.

[C75] W. Phusakulkajorn, J. Moraal, J. Hendriks, A. Núñez, R. Dollevoet, and Z. Li, "A multiple spiking neural network architecture based on fuzzy intervals for anomaly detection: a case study of rail defects". In Proceedings of the World Congress on Computational Intelligence (WCCI2022), 18-23 July 2022, Padova, Italy.

[C74] M. Kapetanović, N. Bešinović, A. Núñez, N. van Oort, and R.M.P. Goverde, "Optimal network electrification plan for operation of battery-electric multiple unit regional trains". In Proceedings of the 11th Triennial Symposium on Transportation Analysis Conference (TRISTAN2022), June 19-25, 2022, Mauritius Island.

[C73] Y. Zeng, C. Shen, A. Núñez, R. Dollevoet, and Z. Li, "A preliminary feasibility study on operational modal identification of in-situ railway sleeper." Proceedings of the 10th European Workshop on Structural Health Monitoring, Palermo, Italy, July 4-7, 2022.

[C72] M. Kapetanović, A. Núñez, N. van Oort, and R.M.P. Goverde, "Life cycle assessment of alternative traction options for non-electrified regional railway lines." In Proceedings of the World Congress on Railway Research 2022, June 6-10, 2022, Birmingham, United Kingdom.

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