

Book Chapters

1. **Zolotas, A. C.**, Goodall, R. M., Modelling and Control of Railway Vehicle Suspensions, in *Mathematical Methods for Robust and Nonlinear Control*, in Turner, M. C. and Bates, G. D. (Eds.), Series: Lecture Notes in Control and Information Sciences, Vol. 367, Springer, Nov. 2007.

Journal Publications (peer-reviewed int'l journals)

1. **Zolotas, A. C.**, Halikias, G. D., Optimal Design of PID Optimal Controllers using the QFT method, *IEE Proceedings, Control Theory and Applications*, Vol. 146, No. 6, pp. 585-589, November 1999.
2. B. Chaudhuri, B.C. Pal, **A.C. Zolotas**, I. M. Jaimoukha, and T.Green, Mixed-Sensitivity Approach to H-infinity Control of Power System Oscillations Employing Multiple FACTS Devices, *IEEE Transactions on Power Systems*, Vol. 18, No. 3, pp. 1149-1156, August, 2003.
3. B. Chaudhuri, B.C. Pal, **A.C. Zolotas**, I.M. Jaimoukha, A Simultaneous Stabilisation Approach for Power System Damping Control Design through TCPAR Employing Global Signals, *IEE Proceedings: Generation, Transmission and Distribution*, Vol. 151, no. 1, pp.43-50, January 2004.
4. **A.C. Zolotas**, J.T. Pearson, R.M. Goodall, Modelling Requirements for the Design of Active Stability Control for a High Speed Bogie, *MultiBody System Dynamics (special issue: Advances in Simulation Techniques for Applied Dynamics)*, Guest Editors: Martin Arnold, Werner Schiehlen, Springer Journals International, Volume 15, Number 1, pp. 51-66, February, 2006.
5. X. Zheng, **A.C. Zolotas**, H. Wang, Symbolic Algebra: output feedback pole assignment for uncertain systems in *Mathematica*, *Int'l Journal of Control (special issue on Symbolic Algebra)*, Taylor and Francis 2006.
6. **A.C. Zolotas**, B. Chaudhuri, I.M. Jaimoukha, P. Korba, A study on LQG/LTR control for damping inter-area oscillations in power systems, *IEEE Transactions on Control System Technology*, vol. 15, issue 1, pp. 151-160, January, 2007.
7. **A.C. Zolotas**, R.M. Goodall, G. D. Halikias, Recent results in tilt control design and assessment of high-speed railway vehicles, *IMECHe Proceedings Part F: Journal of Rail and Rapid Transit*, Volume 221, Number 2, pp. 291-312, 2007.
8. G.D. Halikias, **A. C. Zolotas**, R. Nandakumar, On the design of optimal robust fixed-structure controllers using the QFT approach, *IMECHe Proceedings Part I: Journal of Systems and Control Engineering*, Volume 221, Number 4, pp. 697-716, 2007.
9. H. Zamzuri, **A. C. Zolotas** and R. M. Goodall, Tilt control design for high speed trains: a study on multi-objective tuning approaches, *Vehicle System Dynamics*, Volume 46 S1&2, Taylor and Francis Journals, pp 535-547, 2008.
10. **A. C. Zolotas**, J. Wang and R. M. Goodall, Reduced order robust tilt control design for high speed railway vehicles, *Vehicle System Dynamics*, Volume 46 S1&2, Taylor and Francis Journals, pp995-1011, 2008.
11. P. Orupke, X. Zheng, I.M. Jaimoukha, **A.C. Zolotas** and R. M. Goodall, Model predictive control based on mixed H2/H inf control. Approach for active vibration control of railway vehicles, *Vehicle System Dynamics*, Volume 46 S1&2, Taylor and Francis Journals, pp 151-160, 2008.
12. K. Michail, **A.C. Zolotas**, R.M. Goodall, Optimised sensor configurations for MAGLEV suspension systems, *Journal Facta Universitatis (FU) Series Mechanics, Automatic Control and Robotics (MACR)*, Special Issue on Advanced Controls and Signal Processing in Active and Robotic systems, Published by the University of Nis, Rep. of Serbia, Vol. 7, No.1, pp.169-184, 2008 (invited).
13. Du, X., Dixon, R., Goodall, R. M., **Zolotas, A. C.**, Modelling and Control of a High Redundancy Actuator, *Mechatronics*, Volume 20, Issue 1, February 2010, Pages 102-112.
14. J. Yang, **A. Zolotas**, W-H. Chen, K. Michail, S. Li, Robust control of nonlinear MAGLEV suspension system with mismatched uncertainties via DOBC approach, *ISA Transactions- A Journal for the Science and Engineering of Measurement and Automation (Elsevier)*. [accepted for publication]

Journal Publications (refereed other)

1. K. Michail, **A.C.Zolotas**, R. M. Goodall and J. Pearson. Sensor Optimisation via H-infinity applied to a MAGLEV suspension system, International Journal of Electrical, Computer, and Systems Engineering (WASET), Vol.3, No.3, pp.143-149, 2009 (invited).

Conference Publications (peer reviewed int'l conferences)

1. **Zolotas, A. C.**, Goodall, R. M., Advanced Control Strategies for Tilting Railway Vehicles, Proceedings of the UKACC International Conference on Control, Cambridge, UK, ISBN 085296 2401, September, 2000.
2. **Zolotas, A. C.**, Halikias, G. D., Goodall, R. M., A Comparison of Tilt Control Approaches for High Speed Railway Vehicles, Proceedings of the 14th International Conference on Systems Engineering ICSE 2000, Coventry, UK, Vol. 2, pp.632-636, September, 2000.
3. Goodall, R. M., **Zolotas, A. C.**, Evans, J., Assessment of the Performance of Tilt System Controllers, Proceedings of The Railway Technology Conference, C580/028/2000, pp 231-239, Birmingham, UK, November, 2000.
4. **Zolotas, A. C.**, Goodall, R. M., Halikias, G. D., New control strategies for tilting trains, Proceedings of the 17th IAVSD Symposium on Vehicle System Dynamics, Copenhagen, Denmark, pp.171-182, ISBN 0042-3114, August, 2001.
5. Nandakumar, R., Halikias, G. D., **Zolotas, A. C.**, An Optimisation Algorithm for Designing Fixed-Structure Controllers using the QFT Method, IEEE CCA/CACSD Joint - Control Applications/Computer Aided Control Systems Design, Glasgow, Scotland, 18-20 September, 2002.
6. B. Chaudhuri, B.C. Pal, **A.C. Zolotas** and I.M. Jaimoukha, A Robust Coordinated Damping Control Strategy for Shunt and Series Connected FACTS Devices in an Interconnected Power System, IEEE Annual Convention and Exhibition, India, 20-21 December 2002.
7. B. Chaudhuri, B.C. Pal and **A.C. Zolotas**, An LMI approach to Centralized Design of Damping Controller for TCPAR using Remote Signals, National Power Systems Conference, India, 27-29 December 2002.
8. B. Chaudhuri, B.C. Pal, **A.C. Zolotas** and I.M. Jaimoukha, Mixed sensitivity Based LMI Approach for Damping of Multiple Swing Modes Employing Remote Signals, American Power System Conference 2003, Chicago, April 14-16, 2003.
9. Nandakumar, R., Halikias, G. D., **Zolotas, A. C.**, A New Educational Software Tool for Robust Control Design using the QFT Method, 42nd IEEE Conference on Decision and Control, December 2003, Hawaii, USA, 2003.
10. **A. C. Zolotas**, J.T. Pearson, R.M. Goodall, Modelling Requirements for the Design of Active Stability Control Strategies for a High Speed Bogie, EUROMECH 452 Conference in "Advances in Simulation Techniques for Applied Dynamics", March 1-4, 2004, Halle, Germany
11. J.T. Pearson, R. M. Goodall, T. X. Mei, S. Shen, **A.C. Zolotas**, Kalman filter design for a high speed bogie active stability system, UKACC International Conference on Control 2004, Bath (UK), September 6-9, 2004.
12. **Zolotas, A. C.**, and Goodall, R. M., Improving the tilt control performance of high-speed railway vehicles: an LQG approach, 16th IFAC World Congress, Prague, July 2005
13. Zamzuri, H., **Zolotas, A. C.**, and Goodall, R. M., Intelligent Control Approaches for Tilting Railway Vehicles, XIX IAVSD Symposium, Milan, Italy, August 2005
14. **Zolotas, A. C.**, Halikias, G. D., Goodall, R. M., and Wang, J. Model Reduction studies in LQR optimal control of high-speed tilting railway carriages, ACC 2006, Minneapolis, Minnesota USA, June 2006
15. X. Du, R. Dixon, R. Goodall, and **A.C. Zolotas**, Assessment of control strategies for High Redundancy Actuators, Actuator 2006 - 10th International Conference on New Actuators, Bremen, Germany, 2006.
16. Zamzuri, H., **Zolotas, A. C.**, and Goodall, R. M., Optimised intelligent tilt controller scheme using genetic algorithms, Control 2006, Glasgow, UK, 2006.
17. W. G. Garlick, **A. C. Zolotas**, D. G. Infield, R. M. Goodall, A Novel Architecture for Power

- Networks with Distributed Generation - Concept Outline, Control 2006, Glasgow, UK, 2006.
18. X. Du, R. Dixon, R.M. Goodall and **A.C. Zolotas**, Modelling and Control of A Highly Redundant Actuator, Control 2006, Glasgow, UK, 2006.
 19. Zheng, X., **Zolotas, A. C.**, and Goodall, R. M., Modelling of flexible-bodied railway vehicles for vibration suppression, ICSE 2006, Coventry, UK, 2006.
 20. **A.C. Zolotas**, B. Chaudhuri, I.M. Jaimoukha, P. Korba, H2 LMI-based Robust Control for Damping Oscillations in Power Systems, International Conference on System of Systems Engineering, San Antonio, TX, USA, April 2007.
 21. J. Wang, **A.C. Zolotas**, D. Wilson, Active Suspensions: A Reduced-Order H-infinity Control Design, Mediterranean Control Conference 2007, Athens, Greece, 2007.
 22. Z. Li, **A.C. Zolotas**, I. Jaimoukha, K. Grigoriadis, K. Michail, J. Pearson, Output Selection Under Control and Fault Detectability, Mediterranean Control Conference 2007, Athens, Greece, 2007.
 23. E. Mazars, I. Jaimoukha, Z. Li, **A. Zolotas**, Fault Detection and Isolation filter Design for Systems Subject to Polytopic Uncertainties (Poster), Mediterranean Control Conference 2007, Athens, Greece, 2007.
 24. R. Nandakumar, G.D. Halikias, **A.C. Zolotas**, Robust Control design of a Hydraulic Actuator using the QFT method, European Control Conference 2007, Kos, Greece, 2007.
 25. **A.C. Zolotas**, A. Tzes, M. Vagia, Robust Control Design for an Uncertain Electrostatic Micro-Mechanical System via Loop Shaping, European Control Conference 2007, Kos, Greece, 2007.
 26. X. Du, R. Dixon, R.M. Goodall, and **A.C. Zolotas**, LQG Control for a Highly Redundant Actuator, IEEE/ASME Conference for Advanced Intelligent Mechatronics (AIM), Zurich, 2007.
 27. T. Steffen, J. Davies, R. Dixon, R.M. Goodall and **A.C. Zolotas**, Using a Series of Moving Coils as a High Redundancy Actuator, IEEE/ASME Conference for Advanced Intelligent Mechatronics (AIM), Zurich, 2007.
 28. H. Zamzuri, **A. C. Zolotas** and R. M. Goodall, LQG and Fuzzy Correction Mechanism in Tilting Railway Vehicle Control Design, 3rd IFAC Advanced Fuzzy and Neural Network Workshop, Valenciennes, France, 2007.
 29. K. Michail, **A. C. Zolotas**, R. M. Goodall and J. T. Pearson, MAGLEV suspensions - a sensor optimisation framework, In the 16th Mediterranean Conference on Control and Automation. MED'08, June 25-27, Congress Centre, Ajaccio, Corsica, France, 2008.
 30. Z. Li, **A. C. Zolotas**, I.M. Jaimoukha and K. M. Grigoriadis, Output Selection with Fault Tolerance Via Dynamic Controller Design, 17th IFAC World Congress, Seoul, Korea, 2008.
 31. K. Michail, **A. C. Zolotas** and R.M. Goodall, Optimised Sensor Configuration for a Maglev Suspension, 17th IFAC World Congress, Seoul, Korea, 2008.
 32. J. Davies, T. Steffen, R. Dixon, R. Goodall, **A. C. Zolotas** and J. Pearson, Modelling of High Redundancy Actuation Utilising Multiple Moving Coil Actuators, 17th IFAC World Congress, Seoul, Korea, 2008.
 33. T. Steffen, J. Pearson, R. Dixon, R. Goodall, **A. C. Zolotas** and J. Davies, Failure Modes and Probabilities of a High Redundancy Actuator , 17th IFAC World Congress, Seoul, Korea, 2008.
 34. Garlick, W.G., **Zolotas, A.C.** and Infield, D.G., The architecture and control of large power networks with distributed generation, CIGRE Session 2008 Proceedings, 24-29 August, C6-201, 2008.
 35. T. Steffen, R. Dixon, R. Goodall, **A. Zolotas**, Robust control of a high redundancy actuator, UKACC Control Conference, Manchester, UK, 2-4 September, 2008.
 36. T. Steffen, R. Dixon, R. Goodall, **A. Zolotas**, Multi-variable control of a high redundancy actuator, In: Borgmann, H. (ed.). ACTUATOR 2008: 11th International Conference on New Actuators & 5th International Exhibition on Smart Actuators and Drive Systems– Conference proceedings. Bremen Convention Centre, 9-11 June. Bremen, Germany, 2008.
 37. Li, Z., **Zolotas, A. C.**, Jaimoukha, I.M., Grigoriadis, K.M., Integrated design of dynamic controller with fault diagnosis and tolerance. In: 17th Mediterranean Conference on Control and Automation, (MED '09), Thessaloniki, Greece, 24-26 June, pp. 694-699, 2009.

38. K. Michail, **A. Zolotas**, R. Goodall, J. Pearson, Fault Tolerant Control for EMS systems with sensor failure, In: IEEE 17th Mediterranean Conference on Control and Automation, Thessaloniki, Greece, 24 - 26 June, pp. 712 - 717, 2009.
39. Zhou, R., **Zolotas, A.C.** and Goodall, R.M., Integrated tilt and active lateral secondary suspension control, International Symposium on Speed-up, Safety and Service Technology for Railway and Maglev Systems (STECH09), Niigata JAPAN, 6-19th June, 2009.
40. Michail, K., **Zolotas, A.C.** and Goodall, R.M., EMS systems: optimised sensor configurations for control and sensor fault tolerance, International Symposium on Speed-up, Safety and Service Technology for Railway and Maglev Systems (STECH09), Niigata JAPAN, 6-19th June, 2009.
41. H. Zamzuri, **A.C. Zolotas**, R. Goodall, Integral sliding mode control design for high speed tilting trains, The Second International Conference on Control, Instrumentation and Mechatronic Engineering (CIM09), Malacca, Malaysia, June 2-3, 2009.
42. Zhou, R., **Zolotas, A.**, Goodall, R., Enhancing tilt system performance by integrating with active lateral suspension control, Proceedings of the 21st IAVSD Symposium on Vehicle System Dynamics [CDROM], Stockholm, Sweden, August, 2009.
43. T. Steffen, K. Michail, R. Dixon, **A. Zolotas**, R. Goodall, Optimal passive fault tolerant control of a high redundancy actuator, In: Proceedings of 7th IFAC Symposium on Fault Detection, Supervision and Safety of Technical Processes. SafeProcess 2009, Barcelona, Spain, 30 June - 3 July, 2009.
44. T. Steffen, **A. Zolotas**, R. Dixon, R. Goodall, Adaptive control of a high redundancy actuator using the geometric approach, In: Proceedings of 7th IFAC Symposium on Fault Detection, Supervision and Safety of Technical Processes. SafeProcess 2009, Barcelona, Spain, 30 June -3 July, 2009.
45. R. Dixon, T. Steffen, J. Davies, R.M. Goodall, **A.C. Zolotas**, J. Pearson, X. Du, HRA - Intrinsically fault tolerant actuation through high redundancy, In: Proceedings of 7th IFAC Symposium on Fault Detection, Supervision and Safety of Technical Processes. SafeProcess 2009, Barcelona, Spain, 30 June -3 July, 2009.
46. J. Davies, T. Steffen, R. Dixon, R. Goodall, **A. Zolotas**, Active versus Passive Fault Tolerant Control of a High Redundancy Actuator, European Control Conference 2009, Budapest, Hungary, 2009.
47. Garlick, W. G., **Zolotas, A. C.**, H-infinity Voltage Control of a Direct High-Frequency Converter, ICSE 2009, Coventry, UK, 2009.
48. Y. Zhou, A. Dexter, **A. Zolotas**, Generating Training Data for Identifying Neurofuzzy Models of Non-Linear Dynamic Systems, Joint 48th IEEE Conference on Decision and Control and 28th Chinese Control Conference, December 16-18, 2009, Shanghai, P.R. China, 2009.
49. R. Zhou, **A. Zolotas**, R. M. Goodall, LQG control for the integrated tilt and active lateral secondary suspension in high speed railway vehicles, 8th IEEE International Conference on Control & Automation (ICCA10), June 9-11, 2010, Xiamen.
50. Y. Zhou, **A. Zolotas**, Sensor Selection in Neuro-fuzzy Modelling for Fault Diagnosis, IEEE-ISIE (Int'l Symposium on Industrial Electronics), July 4-7, 2010, Bari (IT).
51. K. Michail, Y. Zhou, **A. Zolotas**, R. Goodall, G. Halikias, Optimised Sensor Configurations with Reduced Order Controllers Applied to an EMS System, 29th Chinese Control Conference, July 29-31, 2010, Beijing (P.R. China).
52. R. Zhou, **A. Zolotas**, R. M. Goodall, 9 DOF railway vehicle modeling and control for the integrated tilting bolster with active lateral secondary suspension, UKACC Control Conference, Coventry, UK, 7-10 September, 2010.
53. J. Yang, **A. Zolotas**, W-H. Chen, K. Michail, S. Li, Disturbance Observer Based Control for Nonlinear MAGLEV Suspension System, Conference on Control and Fault-Tolerant Systems (SysTol10), Oct. 6-8, 2010, Nice (FR).
54. K. Michail, **A. Zolotas**, R. M. Goodall, An Optimum Sensor Selection Design Framework Applied to an Electro-Magnetic Suspension System, Conference on Control and Fault-Tolerant Systems (SysTol10), Oct. 6-8, 2010, Nice (FR).

Other Conference Contributions

1. H. Zamzuri, **A. C. Zolotas** and R. M. Goodall, Tilt control design for high speed trains: a study on multi-objective tuning approaches, (presentation) IAVSD 20th Symposium on Dynamics of Vehicles on Roads and Tracks, Berkeley CA, 2007.
2. **A. C. Zolotas**, J. Wang and R. M. Goodall, Reduced order robust tilt control design for high speed railway vehicles, (presentation) IAVSD 20th Symposium on Dynamics of Vehicles on Roads and Tracks, Berkeley CA, 2007.
3. K. Michail, **A. C. Zolotas**, R.M. Goodall, J. T. Pearson, Sensor optimisation via H-infinity applied to a MAGLEV suspension system, (presentation), WASET- ICCAS 2008: International Conference on Control, Automation and Systems. Prague, Czech Republic, July 25-27, 2008.
4. P. Orupke, X. Zheng, I.M. Jaimoukha, **A.C. Zolotas** and R. M. Goodall, Model predictive control based on mixed H₂/H_∞ control. Approach for active vibration control of railway vehicles, (presentation) IAVSD 20th Symposium on Dynamics of Vehicles on Roads and Tracks, Berkeley CA, 2007.
5. K. Michail, **A. C. Zolotas** and R.M. Goodall, A fault tolerant control system for electromagnetic suspension with sensor failure, 23rd IAR Workshop on Advanced Control and Diagnosis (refereed and included in proceedings), 27-28 November, Coventry University, UK, 2008.
6. R. Zhou, **A. C. Zolotas** and R.M. Goodall, Model based integrated tilt and active lateral secondary suspension control (refereed and included in proceedings), 23rd IAR Workshop on Advanced Control and Diagnosis, 27-28 November, Coventry University, UK, 2008.

Poster Contributions (other)

1. R. Goodall, R. Dixon, **A. Zolotas**, T. Steffen, J. Davies, J. Pearson, X. Du, Highly Redundant Actuation, Invited poster presentation at the British House of Commons Exhibition, under the programme 'SET for Britain', March 2009.

Theses

1. **Zolotas, A. C.**, Advanced Control Strategies for Tilting Trains, 2002, PhD Thesis, Department of Electronic and Electrical Engineering, Loughborough University, UK.
2. **Zolotas, A. C.**, Towards Robust Sliding Mode Control of Electrostatic Microactuators, 2010, MSc Dissertation, Department of Engineering, University of Leicester, UK.

Reports

1. **Zolotas, A. C.**, Computer Aided Design for robust control using the QFT method, 1998, BEng(Hons) Dissertation, Department of Electronic and Electrical Engineering, University of Leeds, UK.