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Personal Details

Date of birth: 21st April, 1972

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Professional Experiences

Periods	Company	Job description
2017 - ...	Advanced Remanufacturing and Technology Centre	Collaboration Director
2009 - ...	Nanyang Technology University, Singapore	Assistant Professor (School of Mechanical and Aerospace Engineering, Division Mechatronics & Design)
2006 - 2009	Flanders' MECHATRONICS Technology Centre	Senior Research Engineer (System diagnosis, condition monitoring and predictive maintenance)
2001 - 2006	Katholieke Universiteit Leuven, Belgium	Research Assistant (Mechatronics Group, PMA division)
2000 - 2001	GECI International (engineering consultant in aircraft design), Indonesia	Stress analyst (in particular for aircraft structures)

Academic Background

Doctorate	Mechanical Engineering, PMA, Katholieke Universiteit Leuven, Belgium, 2001 - 2006 Research: <i>'Characterization, Modelling and Control of Mechanical Systems Comprising Material and Geometrical Nonlinearities'</i> Objective: Developing identification techniques of nonlinear mechanical system and implementing a control strategy based on the developed identification results. Promoter: Prof. Dr. ir. Hendrik Van Brussel and Prof. Dr. ir. Farid Al-Bender
Master	Mechanical Engineering, Institute of Technology, Bandung (ITB), 1997-1999 Research: <i>'Theoretical Study and Analysis of Non-Linear Vibration Response of A Rotor-Shaft System using The Volterra Functional Series'</i> , GPA: 3.96/4.00 (Honor: Graduate with Highest Distinction) Objective: Correlating dynamic signatures of nonlinear mechanical systems to the defect of elements. Promoter: Prof. Dr. ir. Komang Bagiasna and Dr. ir. Zainal Abidin
Bachelor	Mechanical Engineering, Institute of Technology, Bandung (ITB), 1991-1996 Research: <i>'Analysis and Measurement of Parallelism & Straightness of A Machine Tool Structure using A Laser Interferometer'</i> Objective: Developing an integrated laser interferometer measurement software and preliminary study of a correlation between mechanical defects in machine tools and accuracy error. Promoter: Prof. Dr. ir. Komang Bagiasna

Research Interests: Analysis, Modeling and Identification of (nonlinear) systems

Current Research Area: Smart manufacturing, Power generation and distribution, Friction

List of Publications

Books and Book Chapters

1. Tjahjowidodo, T., (2006). Characterization, Modelling and Control of Mechanical Systems Comprising Material and Geometrical Nonlinearities, PhD Thesis, Katholieke Universiteit Leuven, Belgium.
2. Do, T.N., Tjahjowidodo, T., Lau, W.S. and Phee, S.J. (2016). Adaptive Tracking Approach of Flexible Cable Conduit-Actuated NOTES Systems for Early Gastric Cancer Treatments, In J. Filipe, O. Gusikhin, K. Madani and J. Sasiadek (Eds.), Informatics in Control Automation and Robotics, Lecture Notes in Electrical Engineering, 370, 79-97, Springer-Verlag.

International Journals

1. Huynh, B.H., Tjahjowidodo, T., Zhong, Z-W., Wang, Y. and Srikanth, N. (2018). Design and Experiment of Controlled Bistable Vortex Induced Vibration Energy Harvesting Systems Operating in Chaotic Regions, Mechanical Systems and Signal Processing, 98(1), 1097-1115, DOI:10.1016/j.ymssp.2017.06.002.
2. Dung, V.T.* and Tjahjowidodo, T. (2017). A Direct Method to Solve Optimal Knots of B-Spline Curves: an Application for Non-Uniform B-Spline Curves Fitting, PloS one, 12(3), e0173857.
3. Pappachan, B.K., Caesarendra, W., Tjahjowidodo, T., Wijaya, T. (2017). Frequency Domain Analysis of Sensor Data for Event Classification in Real-Time Robot Assisted Deburring, Sensors, 17(6), 1247 DOI:10.3390/s17061247.
4. Pandiyan, V. and Tjahjowidodo, T. (2017). In-Process Endpoint Detection of Weld Seam Removal in Robotic Abrasive Belt Grinding Process, International Journal of Advanced Manufacturing Technology, DOI:10.1007/s00170-017-0646-x.
5. Pandiyan, V., Caesarendra, W., Tjahjowidodo, T. and Praveen, G. (2017). Predictive Modelling and Analysis of Process Parameters on Material Removal Characteristics in Abrasive Belt Grinding Process, Applied Sciences, 7(4), 363, DOI: 10.3390/app7040363.
6. Tjahjowidodo, T. and Lee, S. (2017). Tendon-Sheath Mechanisms in Flexible Membrane Wing Mini-UAVs: Control and Performance, International Journal of Aerospace Engineering.
7. Caesarendra, W., Tjahjowidodo, T., Kosasih, B. and Tieu, A.K. (2017). Integrated Condition Monitoring and Prognosis Method for Incipient Defect Detection and Remaining Life Prediction of Low Speed Slew Bearings, Machines, 5(11), DOI: 10.3390/machines5020011.
8. Tjahjowidodo, T. and Hu, P.* (2017). Systematic Investigation and Modelling of Piezoelectric Interaction with Loading Structures, Mechanics of Advanced Materials and Structures, DOI: 10.1080/15376494.2017.1308600.
9. Huynh, B.H. and Tjahjowidodo, T. (2017). Experimental Chaotic Quantification in Bistable Vortex Induced Vibration Systems, Mechanical Systems and Signal Processing, 85, 1005–1019.
10. Lee, S., Tjahjowidodo, T., Lee, H. and Lai, B. (2017). Investigation of a Robust Tendon-Sheath Mechanism for Flexible Membrane Wing Application in Mini-UAV, Mechanical Systems and Signal Processing, 80, 252-266.
11. Huynh, B.H., Tjahjowidodo, T., Zhong, Z-W., Wang, Y. and Srikanth, N. (2017). Numerical and Experimental Investigation of Nonlinear Vortex Induced Vibration Energy Converters, accepted in Journal of Mechanical Science and Technology.
12. Hassani, V. and Tjahjowidodo, T. (2015). A Hysteresis Model for a Stacked-Type Piezoelectric Actuator, Mechanics of Advanced Materials and Structures, 24(1), DOI:10.1080/15376494.2015.1107668.
13. Do, T.N., Tjahjowidodo, T., Lau, W.S and Phee, S.J. (2017). Position Control of Asymmetric Nonlinearities for a Cable-Conduit Mechanism in Flexible Robots, IEEE Transactions on Automation Science and Engineering, 14(3), 1515-1523, DOI:10.1109/TASE.2015.2438319.
14. Tjahjowidodo, T., Zhu, K., Dailey, W., Burdet, E. and Campolo, D. (2016). Multi-Source Micro Friction Identification for a Class of Cable-Driven Robots with Passive Backbone, Mechanical Systems and Signal Processing, 80, 152–165.
15. Do, T.N., Tjahjowidodo, T., Lau, W.S and Phee, S.J. (2016). Real-Time Enhancement of Tracking Performances for Cable-Conduit Mechanisms-Driven Flexible Robots, Robotics and Computer-Integrated Manufacturing, 37, 197-207.
16. Do, T.N., Tjahjowidodo, T., Lau, W.S and Phee, S.J. (2015). Adaptive Control for Enhancing Tracking Performances of Flexible Tendon-Sheath Mechanism in Natural Orifice Transluminal Endoscopic Surgery (NOTES), Mechatronics, 28, 67–78.
17. Do, T.N., Tjahjowidodo, T., Lau, W.S and Phee, S.J. (2015). Nonlinear Friction Modelling and Compensation Control of Hysteresis Phenomena for a Pair of Tendon-Sheath Actuated Surgical Robots, Mechanical Systems and Signal Processing, 60-61, 770-784.
18. Do, T.N., Tjahjowidodo, T., Lau, W.S and Phee, S.J. (2015). A New Approach of Friction Model for Tendon-Sheath Actuated Surgical Systems: Nonlinear Modelling and Parameter Identification, Mechanism and Machine Theory, 85, 14-24.
19. Hassani, V., Tjahjowidodo, T., Do, T.N. (2014). A Survey on Hysteresis Modeling, Identification and Control, Mechanical Systems and Signal Processing, 49, 209-233.

20. Do, T.N., Tjahjowidodo, T., Lau, W.S, and Phee, S.J. (2014). Dynamic Friction-Based Force Feedback for Tendon- Sheath Mechanism in NOTES System, *International Journal of Computer and Electrical Engineering*, 6(3), 252-258.
21. Do, T.N.,Tjahjowidodo, T., Lau, W.S, Yamamoto, T., and Phee, S.J. (2014). Hysteresis Modelling and Position Control of Tendon-Sheath Mechanism in Flexible Endoscopic Systems, *Mechatronics*, 24(1), 12-22.
22. Do, T.N.,Tjahjowidodo, T., Lau, W.S and Phee, S.J. (2014). An Investigation of Friction-Based Tendon Sheath Model Appropriate for Control Purposes, *Mechanical Systems and Signal Processing*, 42(1), pp. 97-114.
23. Hassani, V. and Tjahjowidodo, T., (2013). Dynamic Modeling of 3-DOF Pyramidal-shaped Piezo-Driven Mechanism, *Mechanism and Machine Theory*, 70, 225-245.
24. Tjahjowidodo, T., Al-Bender, F., and Van Brussel, H. (2013). Theoretical Modelling and Experimental Identification of Nonlinear Torsional Behaviour in Harmonic Drives, *Mechatronics*, 23(5), pp. 497–504.
25. Hassani, V. and Tjahjowidodo, T., (2013). Structural Response Investigation of A Triangular-based Piezoelectric Drive Mechanism to Hysteresis Effect of the Piezoelectric Actuator, *Mechanical Systems and Signal Processing*, 36 (1), pp. 210–223
26. Hassani, V. and Tjahjowidodo, T., (2013). A Generalized Inertial-Dependent Prandtl-Ishlinskii Model for Wide-Band Frequency Piezoelectric Actuator, *Advanced Materials Research*, 622-623, pp. 1357-1361
27. Tjahjowidodo, T., (2012). Theoretical Analysis of the Dynamic Behavior of Presliding Rolling Friction, *Mechanical Systems and Signal Processing*, 29, pp. 296-309.
28. Rafan, N.A., Jamaludin, Z., Tjahjowidodo, T., Chey, L.S., Chiew, T.H., (2012). Theoretical Analysis of Friction Compensation Using Sliding Mode Control, *Applied Mechanics and Materials*, 229-231, pp. 2385-2388.
29. Hassani, V., Tjahjowidodo, T., Soetarto, A.D., (2011). Modeling Hysteresis with Inertial-Dependent Prandtl-Ishlinskii Model in Wide-Band Frequency-Operated Piezoelectric Actuator, *Smart Materials Research*, DOI: 10.1155/2012/164062.
30. Nurprasetyo, P., Bagiasna, K., Suharto, D. and Tjahjowidodo, T. (2011). The Development of An Effective Time-Series Based Fault Identification Technique using Parametric-Distance Method, *International Journal of Mechanical & Mechatronics Engineering*, 11(5), pp. 10-18.
31. Vo Minh, T., Tjahjowidodo, T., Ramon, H., and Van Brussel, H. (2010). A New Approach to Modeling Hysteresis in a Pneumatic Artificial Muscle using the Maxwell-slip Model, *IEEE/ASME Transaction on Mechatronics*, 99, pp. 1-10.
32. Vo Minh, T., Tjahjowidodo, T., Ramon, H., and Van Brussel, H. (2010). Cascade Position Control of a Single Pneumatic Artificial Muscle-Mass System with Hysteresis Compensation, *IFAC Mechatronics Journal*, 20(3), pp. 402-414.
33. Tjahjowidodo, T., Al-Bender, F., Van Brussel, H., and Symens, W. (2007). Friction Characterization and Compensation in Electro-Mechanical Systems, *The Journal of Sound and Vibration*, **308**, pp. 632-646.
34. Tjahjowidodo, T., Al-Bender, F., and Van Brussel, H. (2007). Experimental Dynamic Identification of Backlash Using Skeleton Methods, *Mechanical Systems and Signal Processing*, **21**(2), pp. 959-972.
35. Tjahjowidodo, T., Al-Bender, F., and Van Brussel, H. (2007). Quantifying Chaotic Responses of Mechanical Systems with Backlash Component, *Mechanical Systems and Signal Processing*, **21**(2), pp. 973-993.
36. Worden, K., Wong, C.X., Parlitz, U., Hornstein, A., Engster, A., Tjahjowidodo, T., Al-Bender, F., Fassois, S.D., Rigos, D. (2007). Identification of Pre-sliding and Sliding Friction Dynamics: Grey Box and Black-Box Models, *Mechanical Systems and Signal Processing*, **21**(1), pp. 514-534.
37. Parlitz, U., Hornstein, A., Engster, A., Al-Bender, F., Lampaert, V., Tjahjowidodo, T., Fassois, S.D., Rigos, D., Wong, C.X., Worden, K., and G. Manson. (2004). Identification of Pre-sliding Friction Dynamics, *Chaos: An Interdisciplinary Journal of Nonlinear Science*, **4**(2), pp. 420-430.

International Paper Conferences

1. Dung, VT. and Tjahjowidodo, T. (2017). Automatic Weld Bead Detection on Free-form Surface Parts for Remanufacturing Processes, *Proceedings of 2017 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Munich, Germany, pp. 1065-1070.
2. Chua, W.Y., Tjahjowidodo, T., Seet, G.L. and Chan, R. (2017). Optimizing Fuel Savings and Power System Reliability for All-Electric Hybrid Vessels using Model Predictive Control, *Proceedings of 2017 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Munich, Germany, pp. 1532-1537.
3. Huynh, B.H., Tjahjowidodo, T., Zhong, Z., Wang, Y. and Srikanth, N. (2017). Comparative Study of Full State Variables and Time-delay Coordinates OGY Chaos Control for Bi-stable Vortex Induced Vibration Energy Harvesters, *Proceedings of 2017 IEEE/ASME International Conference on Advanced Intelligent Mechatronics*, Munich, Germany, pp. 1544-1549.
4. Pappachan, B.K., Wijaya, T., and Tjahjowidodo, T., (2017). Event Classification from Sensor Data using Spectral Analysis in Robotic Finishing Processes , *Proceedings of The 6th International Conference on Sensor Networks - Volume 1: SENSORNETS*, Porto, Portugal, pp. 80-86.
5. Chan, R., Chua, W.Y., and Tjahjowidodo, T. (2016). Enabling Technologies for Sustainable All-Electric Hybrid Vessels (invited paper), *Proceedings of IEEE International Conference on Sustainable Energy Technologies (ICSET)*, Hanoi, Vietnam, pp. 401-406.

6. Huynh, B.H., Tjahjowidodo, T., Zhong, Z., Wang, Y. and Srikanth, N. (2016). Chaotic Responses on Vortex Induced Vibration Systems Supported by Bi-stable Springs, Proceedings of ISMA Conference 2016, Leuven, Belgium. Paper ID:555.
7. Lee, S. and Tjahjowidodo, T. (2016). Wing Warping Control of Flexible Membrane Wing Under Gusty Conditions, Proceedings of ISMA Conference 2016, Leuven, Belgium. Paper ID:186.
8. Chua, W.Y., Tjahjowidodo, T., Seet, G.L., Chan, R., and Adnanes, A.K. (2016). Equivalent Consumption Minimization Strategy for Hybrid All-Electric Tugboats to Optimize Fuel Savings , Proceedings of The 2016 American Control Conference, Boston, MA, pp 6803-6808.
9. Pandiyan, V., Tjahjowidodo, T., and Meena, P.S. (2016). In-Process Surface Roughness estimation model for compliant abrasive belt machining process , Proceedings of The 7th CIRP Conference on High Performance Cutting (HPC 2016), Chemnitz, Germany, pp 254-257.
10. Barai, R.K., Tjahjowidodo, T., and Pappachan, B.K. (2015). Fuzzy Inference System Based Intelligent Sensor Fusion for Estimation of Surface Roughness in Machining Process, Proceedings of the 9th International Conference on Sensing Technology (ICST 2015), Auckland, New Zealand.
11. Tjahjowidodo, T., Dung, VT., and Han, ML. (2015). A Fast Non-Uniform Knots Placement Method for B-Spline Fitting, Proceedings of the 2015 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Busan, Korea, pp 1490-1495.
12. Dung, VT., Tjahjowidodo, T., and Han, ML. (2015). Automatic defect detection and the estimation of nominal profiles based on B-spline for free-form surface parts, Proceedings of the 2015 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Busan, Korea, pp 1484-1489.
13. Huynh, BH., Tjahjowidodo, T., Zhong, ZW., Wang, Y., and Srikanth, N. (2015). Nonlinearly Enhanced Vortex Induced Vibrations for Energy Harvesting, Proceedings of the 2015 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Busan, Korea, pp 91-96.
14. Shian, L., Tjahjowidodo, T., Moon, S.K. (2015). Flexible Membrane Wing Warping Using Tendon-Sheath Mechanism, Proceedings of the 23th Mediterranean Conf. on Control and Automation, Torremolinos, Spain, pp. 658-663.
15. Do, T.N., Tjahjowidodo, T., Lau, W.S and Phee, S.J. (2015). Enhanced Performances for Cable-Driven Flexible Robotic Systems with Asymmetric Backlash Profile, Proceedings of The 7th Annual IEEE International Conference on Technologies for Practical Robot Applications (TePRA), Boston, Massachusetts.
16. Hu, P., Tjahjowidodo, T., and Castagne, S. (2014). Dynamic Model of One-Dimensional Piezoelectric Actuators in Micro-forming, The Proceedings of The 4M/ICOMM2015 Conference, Milan, Italy, pp. 211-214.
17. Wijaya, T., Tjahjowidodo, T., Thepsithar, P., (2014). Real Time Ship Exhaust Gas Monitoring for Compliance to SOx and NOx Regulation and CO2 Footprint, The Proceedings of The International Maritime and Port Technology and Development Conference, Trondheim, Norway.
18. Do, T.N., Tjahjowidodo, T., Lau, W.S and Phee, S.J. (2014). Adaptive Control of Position Compensation for Cable-Conduit Mechanisms Using in Flexible Surgical Robots, The Proceedings of The 11th International Conference on Informatics in Control, Automation and Robotics, Vienna, Austria, pp. 110-117.
19. Taureza M., Castagne S., Tjahjowidodo T., Hu P. (2014). Strain rate dependent flow stress characterization using a piezo-actuated micropress, The Proceedings of International Conference on Technology of Plasticity, Nagoya, Japan, pp. 1451-1456.
20. Do, T.N., Tjahjowidodo, T., Lau, M.W.S., Phee, S.J., (2014). Dynamic Friction-Based Force Feedback for Tendon-Sheath Mechanism in NOTES System, The Proceedings of 2nd International Conference on Electronics Engineering and Technology, Dubai, UAE.
21. Hu, P., Tjahjowidodo, T., Castagne, S., Taureza, M., (2014). Theoretical Dynamic Model of the Piezoelectric Actuator with Multi-DOF Loading Structure in Process of Microforging, The Proceedings of 9th International Conference on Micromanufacturing, Singapore.
22. Do, T.N., Tjahjowidodo, T., Lau, M.W.S., Phee, S.J., (2013). Dynamic Friction Model for Tendon-sheath Actuated Surgical Robot: Modeling and Stability Analysis, The Proceedings of 3rd IFToMM International Symposium on Robotics and Mechatronics, Singapore, pp. 302-311.
23. Do, T.N., Tjahjowidodo, T., Lau, M.W.S., Phee, S.J., (2013). Nonlinear Modeling and Parameter Identification of Dynamic Friction Model in Tendon Sheath for Flexible Endoscopic Systems, The Proceedings of 10th International Conference on Informatics in Control, Automation and Robotics, Reykjavik, Iceland.
24. Tjahjowidodo, T., (2012). Geometric Nonlinear Equivalence of Frictional Systems for Compensation Purpose, The Proceedings of ISMA Conference 2012, Leuven, Belgium.
25. Tjahjowidodo, T., (2011). Dynamic Analysis of Rolling Friction via Skeleton Method, The Advanced Computational Methods in Engineering, Liege, Belgium.
26. Hassani, V., and Tjahjowidodo, T. (2011). Integrated Rate and Inertial Dependent Prandtl- Ishlinskii Model for Piezoelectric Actuator, The Proceedings of the 2nd International Conference on Instrumentation, Control and Automation, Bandung, Indonesia, pp. 152-157.
27. Nurprasetyo, P., Bagiasna, K., Suharto, D. and Tjahjowidodo, T. (2010). The Development of A Novel Fault Identification Technique by Combining Minimum-Distance Pattern-Recognition and Discrete Wavelet Transform, The Proceedings of ICIUS 2010, Bali, Indonesia, pp. 332-336.

28. Tjahjowidodo, T., Jamaluddin, Z. and Shara, S. (2010). Sliding Mode Control on a Frictional System, *The Proceedings of International Conference on Design and Concurrent Engineering 2010*, Melaka, Malaysia, pp. 100-104.
29. Vo Minh, T., Kamers, B., Tjahjowidodo, T., Ramon, H., and Van Brussel, H. (2010). Modeling Torque-Angle Hysteresis in A Pneumatic Muscle Manipulator, *The Proceedings of IEEE/ASME Int. Conf. on Advanced Intelligent Mechatronics*.
30. Vo Minh, T., Tjahjowidodo, T., Ramon, H., and Van Brussel, H. (2009). Non-local Memory Hysteresis in A Pneumatic Artificial Muscle (PAM), *The Proceedings of the 17th Mediterranean Conf. on Control and Automation*, Thessaloniki, Greece, pp. 640-645.
31. Vo Minh, T., Tjahjowidodo, T., Ramon, H., and Van Brussel, H. (2009). Control of a Pneumatic Artificial Muscle (PAM) with Model-Based Hysteresis Compensation, *The Proceedings of IEEE/ASME Int. Conf. on Advanced Intelligent Mechatronics*, Singapore, pp. 1082-1087.
32. Tjahjowidodo, T., Al-Bender, F., Van Brussel, H., and Symens, W. (2007). Positioning Controller in Mechanical Systems with a Mini Harmonic Drive Servo Actuator, *The Proceedings of IEEE/ASME International Conference on Advanced Intelligent Mechatronics 2007*, Zurich, Switzerland, Paper ID: 146.
33. Tjahjowidodo, T., Al-Bender, F., and Van Brussel, H. (2005). Nonlinear Modelling and Identification of Torsional Behaviour in Harmonic Drives, *The Proceedings of ISMA Conference 2006*, Leuven, Belgium, pp. 2785-2796.
34. Tjahjowidodo, T., Al-Bender, F., Van Brussel, H., and Symens, W. (2006). Friction Characterization and Compensation in Electro-Mechanical Systems, *The Book of Abstract of 1st International Conference of Vibro-Impact Systems*, Loughborough, UK.
35. Tjahjowidodo, T., Al-Bender, F., and Van Brussel, H. (2005). A Case Study in Backlash Characterization in Mechanical Systems, *The Proceedings of ASME 2005 International Design Engineering Technical Conferences*, Long Beach, California, Paper ID: DETC2005-85013.
36. Tjahjowidodo, T., Al-Bender, F., and Van Brussel, H. (2005). Modeling and Identification of Nonlinear Torsional Stiffness in Harmonic Drive, *The Proceedings of 5th Euromech Nonlinear Dynamics Conference*, Eindhoven, pp. 1809-1816.
37. Tjahjowidodo, T., Al-Bender, F., and Van Brussel, H. (2005). On The Chaotic Response in a Robot Joint Mechanism Due To Backlash, *The Proceedings of 5th Euromech Nonlinear Dynamics Conference*, Eindhoven, pp. 1929-1936.
38. Worden, K., Wong, C.X., Tjahjowidodo, T., Al-Bender, F., Parltitz, U., Hornstein, A., Engster, A., Fassois, S.D., and Rizos, D. (2005). Identification of Pre-sliding and Sliding Friction, *The Proceedings of 5th Euromech Nonlinear Dynamics Conference*, Eindhoven, pp 1985-1995.
39. Tjahjowidodo, T., Al-Bender, F., and Van Brussel, H. (2005). Friction Identification and Compensation in a DC Motor, *The Proceedings of 16th IFAC World Congress*, Prague, Czech Republic, Paper ID: 4017.
40. Tjahjowidodo, T., Al-Bender, F., and Van Brussel, H. (2004). Identification of Backlash in Mechanical System, *The Proceedings of ISMA Conference 2004*, Leuven, Belgium, pp. 2195-2209.
41. Tjahjowidodo, T., Bagiasna, K., and Abidin, Z. (1999). The Application of Volterra Functional Series to Non Linier Rotor-Shaft Vibration System, *The Proceedings of Asia-Pacific ECM&SP99 Conference*, Bandung, Indonesia, pp. 539-548.

National Paper Conferences

1. Tjahjowidodo, T., Al-Bender, F., and Van Brussel, H. (2006). A Gain Scheduling Controller for Friction Compensation, *Book of Abstracts of The 25th Benelux Meeting on Systems and Control*, pp. 81, Heeze, The Netherlands.
2. Tjahjowidodo, T., Al-Bender, F., and Van Brussel, H. (2005). Identification of Nonlinear Modal Parameter Using Wavelet Transform, *Book of Abstracts of The 24th Benelux Meeting on Systems and Control*, pp. 32, Houffalize, Belgium.
3. Tjahjowidodo, T., Al-Bender, F., and Van Brussel, H. (2005). Characterization of Torsional Stiffness in Harmonic Drive, *Book of Abstracts of The 24th Benelux Meeting on Systems and Control*, pp. 78, Houffalize, Belgium.
4. Tjahjowidodo, T., Al-Bender, F., and Van Brussel, H. (2005). Model Based Friction Compensation in a DC Motor, *Book of Abstracts of The 24th Benelux Meeting on Systems and Control*, pp. 79, Houffalize, Belgium.
5. Tjahjowidodo, T., Al-Bender, F., and Van Brussel, H. (2004). Simple Identification of Nonlinear Modal Parameter Using Wavelet Transform, *The Proceedings of ISSM2004*, pp. 210-216, Aachen, Germany.
6. Tjahjowidodo, T., Al-Bender, F., and Van Brussel, H. (2004). Chaotic Responses in Robot Joint Mechanism Due to Backlash Component, *The Proceedings of ISSM2004*, pp. 127-132, Aachen, Germany.
7. Tjahjowidodo, T., Bagiasna, K., Abidin, Z., and Irwanto. (2000). Theoretical Analysis of The Nonlinear Vibration Response of The Rotor-Shaft Systems. Part I: Influences of the clearance. (Respons getaran non-linier pada sistem poros-rotor. Bagian I: Pengaruh celah bantalan), *The Proceedings of Institute of Technology, Bandung*, **32**(1), Bandung, Indonesia. (in Indonesian)

8. Tjahjowidodo, T., Bagiasna, K., Abidin, Z, and Irwanto. (2000). Theoretical Analysis of The Nonlinear Vibration Response of The Rotor-Shaft Systems. Part II: Comparison study of Runge-Kutta and Volterra Functional Series. (Respons getaran non-linier pada sistem poros-rotor. Bagian II: Kaji banding metode Runge-Kutta dan metode deret fungsional Volterra), *The Proceedings of Institute of Technology, Bandung*, **32**(1), Bandung, Indonesia. (in Indonesian)

List of Presentations

1. Tjahjowidodo, T., (2015). A Fast Non-Uniform Knots Placement Method for B-Spline Fitting, The 2015 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Busan, Korea.
2. Tjahjowidodo, T., (2015). Automatic defect detection and the estimation of nominal profiles based on B-spline for free-form surface parts, Proceedings of the 2015 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, Busan, Korea.
3. Tjahjowidodo, T., (2014). Adaptive Control of Position Compensation for Cable-Conduit Mechanisms Using in Flexible Surgical Robots, The 11th International Conference on Informatics in Control, Automation and Robotics, Vienna, Austria.
4. Tjahjowidodo, T., (2012). Geometric Nonlinear Equivalence of Frictional Systems for Compensation Purpose, ISMA Conference 2012, Leuven, Belgium.
5. Tjahjowidodo, T., (2011). *Dynamic Analysis of Rolling Friction via Skeleton Method*, The Advanced Computational Methods in Engineering Conference, Liege, Belgium.
6. Tjahjowidodo, T., *Identification of Nonlinear System for Diagnosis Purpose*, Keynote Speaker at EUMECHA Pro, June 18, 2007
7. Tjahjowidodo, T., *Positioning Controller in Mechanical Systems with a Mini Harmonic Drive Servo Actuator*, IEEE/ASME International Conference on Advanced Intelligent Mechatronics 2007, Zurich, Switzerland, September 6, 2007.
8. Tjahjowidodo, T., *Nonlinear Modelling and Identification of Torsional Behaviour in Harmonic Drives*, The ISMA Conference 2006, Leuven, Belgium, 2006.
9. Tjahjowidodo, T., *Friction Characterization and Compensation in Electro-Mechanical Systems*, Loughborough, UK, 2006.
10. Tjahjowidodo, T., *Modeling and Identification of Nonlinear Torsional Stiffness in Harmonic Drive*, The 5th Euromech Nonlinear Dynamics Conference, Eindhoven, 2005.
11. Tjahjowidodo, T., *On The Chaotic Response in a Robot Joint Mechanism Due To Backlash*, The 5th Euromech Nonlinear Dynamics Conference, Eindhoven, 2005.
12. Tjahjowidodo, T., *Friction Identification and Compensation in a DC Motor*, The 16th IFAC World Congress, Prague, Czech Republic, 2005.
13. Tjahjowidodo, T., *Identification of Backlash in Mechanical System*, The ISMA Conference 2004, Leuven, Belgium, 2004.
14. Tjahjowidodo, T., *The Application of Volterra Functional Series to Non Linier Rotor-Shaft Vibration System*, The Proceedings of Asia-Pacific ECM&SP99 Conference, Bandung, Indonesia, 1999.