

## 7

### Referências bibliográficas

- 1 ANTOLOVIC, D.. **Development of a Real Time Vision System for an Autonomous Model Airplane**. MSc Dissertation. Department of Computer Science. Indiana University. Indiana, USA, 2001.
- 2 WAGNER, P.; GÜNTHER, W.; SCHNEIDER, E.; BRANDT, T.; ULBRICH, H.. **A Pivotal Head Mounted Camera System that is Aligned by Three-Dimensional Eye Movements**. Proceedings of ETRA 2006. USA, 2006.
- 3 BANG, Y. B.; PAIK, J. K.; SHIN, B. H.; LEE, C.. **A Three Degree of Freedom Anthropomorphic Oculomotor Simulator**. International Journal of Control, Automation and Systems, Volume 4, Number 2 (2006) 227-235.
- 4 RUE, A. K.. **Precision Stabilization Systems**. IEEE Transactions on Aerospace and Electronic Systems, Volume AES-10, Number 1 (1974) 34-42.
- 5 EKSTRAND, B.. **Equations of Motion for a Two-Axes Gimbal System**. IEEE Transactions on Aerospace and Electronic Systems, Volume 37, Number 3 (2001) 1083-1091.
- 6 RUDIN, R. T.. **Strapdown Stabilization for Imaging Seekers**. Proceedings of the 2<sup>nd</sup> AIAA SDIO Interceptor Technology Conference, USA, 1993.
- 7 WALDMANN, J.. **Modeling and Control of an Imaging Seeker for a Visually Guided Missile**. Anais do III SBEIN – Simpósio Brasileiro de Engenharia Inercial. Rio de Janeiro, Brazil, 2001.
- 8 KENNEDY, P. J.; KENNEDY, R. L.. **Direct Versus Indirect Line of Sight (LOS) Stabilization**. IEEE Transactions on Control Systems Technology, Volume 11, Number 1 (2003) 3-15.
- 9 MASTEN, M. K.. **Inertially Stabilized Platforms for Optical Imaging Systems**. IEEE Control Systems Magazine, Volume 28, Number 1 (2008) 47-64.
- 10 SEONG, K. J.; KANG, H. G.; YEO, B. Y.; LEE, H. P.. **The Stabilization Loop Design for a Two-Axis Gimbal System Using LQG/LTR Controller**. SICE-ICASE International Joint Conference. Busan, Korea, 2006.
- 11 CRANDALL, S. H., KARNOPP, D. C. J.; KURTZ, F. J.; PRIDEMORE-BROWN, D.C.. **Dynamics of Mechanical and Electromechanical Systems**. McGraw-Hill. USA, 1968.
- 12 SHABANA, A. A.. **Dynamics of Multibody Systems**. John Wiley and Sons. USA, 1988.
- 13 GREENWOOD, D. T.. **Principles of Dynamics**. Prentice-Hall. USA, 1965.

- 14 BAEK, J. H.. **Modeling on a Gimbal with Antenna and Investigation on the Influence of Backlash.** JSME International Journal, Series C, Volume 49, Number 3 (2006) 804-813.
- 15 BAEK, J. H.; KWAK, Y.K.; KIM, S. H... **Backlash Estimation of a Seeker Gimbal with Two-Stage Gear Reducers.** International Journal of Advanced Manufacturing Technology, 21 (2003) 604-611.
- 16 NORDIN, M.; GALIC, J.; GUTMAN, P. O.. **New Models for Backlash and Gear Play.** International Journal of Adaptative Control and Signal Processing, 11 (1997) 49-63.
- 17 NORDIN, M.; GUTMAN, P. O.. **Non-Linear Speed Control of Elastic Systems with Backlash.** Proceedings of the 38<sup>th</sup> Conference on Decision and Control. Sidney, Australia, 2000.
- 18 NORDIN, M.; GUTMAN, P. O.. **Controlling Mechanical Systems with Backlash – A Survey.** Automatica 38 (2002) 1633 – 1649.
- 19 LAGERBERG, A.. **Control and Estimation of Automotive Powertrains with Backlash.** PhD Thesis. Department of Signals and Systems, Chalmers University of Technology. Göteborg, Sweden, 2004.
- 20 LAGERBERG, A.; EGARDT, B.. **Evaluation of Control Strategies for Automotive Powertrains with Backlash.** Proceedings of the 6<sup>th</sup> International Symposium on Advanced Vehicle Control. Hiroshima, Japan, 2002.
- 21 WONGKAMCHANG, P.; SANGVERAPHUNSIRI, V.. **Control of Inertially Stabilization Systems Using Robust Inverse Dynamics.** Thammasat International Journal of Science and Technology, Volume 13, Number 2 (2008) 20-32.
- 22 KWON, Y. S.; HWANG, H. Y.; CHOI, Y.S.. **Stabilization Loop Design on Direct Drive Platform with Low Stiffness and Heavy Inertia.** International Conference on Control, Automation and Systems. Seoul, Korea, 2007.
- 23 PIEDBCEUF, J.C.; CARUFEL, J.; HURTEAU, R.. **Friction and Stick-Slip in Robots: Simulation and Experimentation.** Multibody Systems Dynamics, Volume 4 (2000) 341-354.
- 24 DUPONT, P.; HAYWARD, V.; ARMSTRONG, B.; ALTPETER, F.. **Single State Elastoplastic Friction Models.** IEEE Transactions on Automatic Control, Volume 47, Number 5 (2002) 787-792.
- 25 LAMPAERT, V.; SWEVERS, J.; AL-BENDER, F.. **Experimental Comparison of Different Friction Models for Accurate Low-Velocity Tracking.** Proceedings of the 10<sup>th</sup> Mediterranean Conference on Control and Automation. Lisbon, Portugal, 2002.
- 26 LAMPAERT, V.; SWEVERS, J.; AL-BENDER, F.. **Comparison of Model and Non-Model Based Friction Compensation Techniques in the Neighbourhood of Pre-Sliding Friction.** Proceedings of the 2004 Control Conference. Boston, USA, 2004.

- 27 MAKKAR, C.; DIXON, W. E.; SAWYER, W. G.; HU, G.. **A New Continuously Differentiable Friction Model for Control Systems Design.** Proceedings of the 2005 IEEE/ASME International Conference on Advanced Intelligent Mechatronics. California, USA, 2005.
- 28 NGUYEN, B. D.. **Modelling of Frictional Contact Conditions in Structures.** MSc Dissertation. Georgia Institute of Technology. Georgia, USA, 2005.
- 29 DUIN, S. V.. **Impulse Control Systems with Nonlinear Friction.** PhD Thesis. School of Electrical, Computer and Telecommunications Engineering, University of Wollongong. Australia, 2006.
- 30 ANDERSON, S.; SÖDERBERG, A.; BJÖRKLUND, S.. **Friction Models for Sliding Dry, Boundary and Mixed Lubricated Contacts.** Tribology International, Volume 40 (2007) 580-587.
- 31 ALTPETER, F.. **Friction Modeling, Identification and Compensations for Sliding Dry, Boundary and Mixed Lubricated Contacts.** DSc Thèse. Département de Génie Mécanique, École Polytechnique Fédérale de Lausanne. Lausanne, Switzerland, 1999.
- 32 GE, S. S.; LEE, T. H.; REN, S.X.. **Adaptative Friction Compensation of Servo Mechanisms.** International Journal of Systems Science, Volume 32, Number 4 (2001) 523-532.
- 33 de WIT, C. C.; OLSSON, H., ASTRÖM, K. J.; LISCHINSKY, P.. **A New Model for Control of Systems with Friction.** IEEE Transactions on Automatic Control, Volume 40, Number 3 (1995) 419-425.
- 34 HAUG, E. J.. **Computer Aided Kinematics and Dynamics of Mechanical Systems.** Allyn and Bacon. USA, 1989.
- 35 GRUZMAN, M.. **Simulação de Giroscópio de Suspensão Cardânica com Dois Graus de Liberdade.** Dissertação de Mestrado. Departamento de Engenharia Mecânica, Instituto Militar de Engenharia. Rio de Janeiro, Brasil, 2003.
- 36 TENENBAUM, R. A.. **Dinâmica Aplicada.** 3ª Ed., Editora Manole. São Paulo, Brasil, 2006.
- 37 NEMER, E. S.. **Controle de uma Plataforma Estabilizada.** Dissertação de Mestrado. Departamento de Engenharia Elétrica/COPPE, Universidade Federal do Rio de Janeiro. Rio de Janeiro, Brasil, 1992.
- 38 RUGGIERO, M. A.; LOPES, V. L. R.. **Cálculo Numérico – Aspectos Teóricos e Computacionais.** 2ª Ed., Makron Books do Brasil. São Paulo, Brasil, 1996.
- 39 BUTCHER, J. C.. **Numerical Methods for Ordinary Differential Equations.** 2<sup>nd</sup> Ed., John Wiley & Sons. England, 2008.
- 40 NIGRI, I.. **Comparação entre Controles Look-and-Move e Servo-Visual Utilizando Transformadas SIFT em Manipuladores do Tipo Eye-in-Hand.** Dissertação de Mestrado. Departamento de Engenharia Elétrica, Pontifícia Universidade Católica do do Rio de Janeiro. Rio de Janeiro, Brasil, 2009.

- 41 KIKUCHI, D. Y.. **Sistema de Controle Servo Visual de Câmera Pan-Tilt com Rastreamento de uma Região de Referência**. Dissertação de Mestrado, Departamento de Engenharia Mecânica, Universidade de São Paulo. São Paulo, Brasil, 2007.
- 42 JONES, D. I.; WHITWORTH, C. C.; EARP, G. K.; DULLER, A. W. G.. **A Laboratory Test-bed for an Automated Power Line Inspection System**. Control Engineering Practice, Number 13 (2005) 835-851.
- 43 OGATA, K.. **Engenharia de Controle Moderno**. 4ª Ed., Prentice Hall. São Paulo, Brasil, 2003.
- 44 ASTRÖM, K. J.. **Feedback Systems an Introduction for Scientists and Engineers**. Princeton University Press. New Jersey, USA, 2008.
- 45 ZIEGLER, J. G.; NICHOLS, N. B.. **Optimum Settings for Automatic Controllers**. ASME Transactions (1942) 759-768.
- 46 LAWRENCE, A.. **Modern Inertial Technology, Navigation, Guidance and Control**. 2<sup>nd</sup> Ed., Springer-Verlag. New York, USA, 1998.
- 47 GRUZMAN, M.; WEBER, H. I.; MENEGALDO, L. L.. **Time Domain Simulation of a Target Tracking System with Backlash Compensation**. Mathematical Problems in Engineering, Volume 2010 (2010) 1-27.
- 48 BRDYS, M. A.; LITTLER, J. J.. **Fuzzy Logic Gain Scheduling for Non-Linear Servo Tracking**. International Journal of Applied Mathematics and Computer Science, Volume 12, Number 2 (2002) 209-219.
- 49 GRUZMAN, M.; WEBER, H. I.; MENEGALDO, L. L.. **Control of a Target Tracking System Embedded in a Moving Body**. ABCM Symposium Series in Mechatronics, Volume 4 (2010) 80-89.
- 50 BHATTACHERJEE, R. N.; SAHA, A.. **On a New Six-Degree-of-Freedom Modelling Method for Homing Missiles and its Application for Design/Analysis**. Defense Science Journal, Volume 47, Number 3 (1997) 327-341.
- 51 PASINO, K. M.; YURKOVICH, S.. **Fuzzy Control**. Addison-Wesley Longman. California, USA, 1998.
- 52 SHAW, I. S.; SIMÕES, M. G.. **Controle e Modelagem Fuzzy**. Edgard Blücher. São Paulo, Brasil, 1999.
- 53 RIID, A.. **Transparent Fuzzy Systems: Modeling and Control**. PhD Thesis. Department of Computer Control, Tallinn Technical University. Tallin, Estonia, 2002.
- 54 INSTITUTO NACIONAL DE METROLOGIA, NORMALIZAÇÃO E QUALIDADE INDUSTRIAL – INMETRO. **Vocabulário Internacional de Metrologia, Conceitos Fundamentais e Gerais e Termos Associados (VIM 2008)**, 1ª Ed. Rio de Janeiro, Brasil, 2009.
- 55 BAPNA, D.. **Payload Pointing from Mobile Robots**. PhD Thesis. The Robotics Institute, Carnegie Mellon University. Pittsburg, USA, 1998.

- 56 SETOODEH, P.; KHAYATIAN, A.; FARJAH, E.. **Backstepping-Based Control of a Strapdown Boatboard Camera Stabilizer.** International Journal of Control, Automation and Systems, Volume 5, Number 1 (2007) 15-23.
- 57 SKOGLAR, P.. **Modelling and Control of IR/EO-gimbal for UAV Surveillance Applications.** MSc Dissertation. Electrical Engineering, Linköping Institute of Technology. Linköping, Sweden, 2002.
- 58 PLAIAN, A.; TECUCEANU, G.; URSU, F.; URSU I.. **Inertially Stabilized Pointing Control System.** Aircraft Engineering and Aerospace Technology: An International Journal, Volume 72, Number 4 (2000) 358-364.
- 59 GRUZMAN, M.; WEBER, H. I.; MENEGALDO, L. L.. **Modelagem de um Sistema de Posicionamento com Folga e Atrito Seco.** VI Congresso Nacional de Engenharia Mecânica. Campina Grande, Brasil, 2010.
- 60 ARAMBEL, P. O.; MEHRA, R. K.; BRADLEY, B.; LAVIGNA, C.; KWATNY, H.; MATTICE, M. S.; TESTA, R.C.. **New Generation High Speed Turret and Pseudo Bang-Bang Controller.** Proceedings of the American Control Conference. Arlington, USA, 2001.
- 61 BORRELLO, M.. **A Multi Stage Pointing, Acquisition and Tracking (PAT) Control System Approach for Air to Air Laser Communications.** Proceedings of the American Control Conference. Portland, USA, 2005.
- 62 HAIDER, Z.; HABIB, F. MUKHTAR, M. H.; MUNAWAR, K. H.. **Design, Control and Implementation of 2-DOF Motion Tracking Platform Using Drive-Anti Drive Mechanism for Compensation of Backlash.** Proceedings of the ROSE 2007 – IEEE International Workshop on Robotic and Sensors Environments. Ottawa, Canada, 2007.
- 63 GRUZMAN, M.; WEBER, H. I.. **Simulation of a Positioning System with Backlash, Flexibility and a Proportional Controller Aided by a Brake.** Proceedings of the 15th International Workshop on Dynamics and Control. Barcelona, Spain, 2009.
- 64 KIM, N. H.; HUH, U. Y.; KIM, J. G.. **Fuzzy Position Control of Motor Plant with Backlash.** Proceedings of the 30<sup>th</sup> Annual Conference of the IEEE Industrial Electronics Society. Busan, Korea, 2004.
- 65 MOKHTARI, H.; BARATI, F.. **A New Scheme for a Mechanical Load Position Control Driven by a Permanent Magnet DC Motor and Nonzero Backlash Gearbox.** Proceedings of the IEEE ISIE 2006. Montréal, Canada, 2006.
- 66 SANTOS, T. S.; VIEIRA, F. H. T.. **Uma Proposta de Controle Adaptativo para Sistemas Discretos no Tempo com Folga Desconhecida.** Congresso Brasileiro de Automática. Juiz de Fora, Brasil, 2008.
- 67 WOO, K. T.; WANG, L. X.; LEWIS, F. L.; LI, Z. X.. **A Fuzzy System Compensator for Backlash.** Proceedings of the 1998 IEEE Conference on Robotics and Automation. Leuven, Belgium, 1998.
- 68 JANG, J. .O.; CHUNG, H. T.; LEE, I. S.. **Backlash Compensation of Discrete Time Systems Using Fuzzy Logic.** Proceedings of the 40<sup>th</sup> IEEE Conference on Decision and Control. Orlando, USA, 2001

- 69 TAO, C. W.. **Fuzzy Control for Linear Plants with Uncertain Output Backlashes**. IEEE Transactions on Systems, Man and Cybernetic – PART B: Cybernetics, Volume 32, Number 3 (2002) 373-380.
- 70 SEIDL, D. R.; LAM, S. L.; PUTMAN, J. A.; LORENZ, R. D.. **Neural Network Compensation of Gear Backlash Hysteresis in Position-Controlled Mechanisms**. IEEE Transactions on Industry Applications, Volume 31, Number 6 (1995) 1475-1483.
- 71 ODAI, M.; HORI, Y.. **Speed Control of Two-Inertia System with Gear Backlash Based on Gear Torque Compensation**. Electrical Engineering in Japan, Volume 134, Number 2 (2001) 36-43.
- 72 JUKIC, T.; PERIC, N.. **Model Based Backlash Compensation**. Proceedings of the American Control Conference. Arlington, USA, 2001.
- 73 EZAL, K.; KOKOTOVIC, P. V.; TAO, G.. **Optimal Control of Tracking Systems with Backlash and Flexibility**. Proceedings of the 36<sup>th</sup> Conference on Decision & Control. San Diego, USA, 1997.
- 74 MERZOUKI, R.; CADIOU, J. C.. **Estimation of Backlash Phenomenon in the Electromechanical Actuator**. Control Engineering Practice, 13 (2005) 973-983.
- 75 COLOMBI, S.. **Comparison of Different Control Strategies and Friction Compensation Algorithms in Position and Speed Controls**. IFAC Workshop Motion Control. Munich, Germany, 1995.
- 76 BROCKETT, R. W.; CEBUHARI, W. A.. **Smoothing and Linearization of Discontinuous Control Systems**. Dynamical Systems Approaches to Nonlinear Problems in Systems and Circuits (1988) 198-208.
- 77 OREJAS, M. E.. **UAV Stabilized Platform**. MSc Dissertation. Department of Control Engineering, Faculty of Electrical Engineering, Czech Technical University. Prague, Czech Republic, 2007.
- 78 POPOVIC, M. R.; GORINEVSKY, D. M.; GOLDENBERG, A. A.. **High-Precision Positioning of a Mechanism with Nonlinear Friction Using a Fuzzy Logic Pulse Controller**. IEEE Transactions on Control Systems Technology, Volume 8, Number 1 (2000) 151-158.
- 79 SCHACHERBAUER, A.; XU, Y.. **Fuzzy Control and Fuzzy Kinematic Mapping for Redundant Space**. The Robotics Institute, Carnegie Mellon University. Pennsylvania, USA, 1992.
- 80 TATARYN, P. D.; SEPEHRI, N.; STRONG, D.. **Experimental Comparison of Some Compensation Techniques for the Control of Manipulators with Stick-Slip Friction**. Control Engineering Practice, Volume 4, Number 9 (1996) 1209-1219.
- 81 WAHYUDI; SATO, K., SHIMOKOHBE, A.. **Robustness Evaluation of Three Friction Compensation Methods for Point-to-Point (PTP) Positioning Systems**. Robotics and Autonomous Systems 52 (2005) 247-256.
- 82 PAYANDEH, J. A. S.. **Methods for Low-Velocity Friction Compensation: Theory and Experimental Study**. Journal of Robotics Systems 13 (1996) 391-404.

- 83 DUIN, S. V.. **Impulse Control System for Servomechanisms with Nonlinear Friction**. PhD Thesis. School of Electrical, Computer and Telecommunications Engineering, University of Wollongong. Sydney, Australia, 2006.
- 84 TEETER, J. T.; CHOW, M. Y.; BRICKLEY Jr., J. J.. **A Novel Fuzzy Friction Compensation Approach to Improve the Performance of a DC Motor**. IEEE Transactions on Industrial Electronics, Volume 43, Number 1 (1996) 113-120.
- 85 MENON, K.; KRISHNAMURTHY, K.. **Control of Low Velocity Friction and Gear Backlash in a Machine Tool Feed Drive System**. Mechatronics, Volume 9 (1999) 33-52.
- 86 LIN, C. F.; YU, T. J.; FENG, X.. **Fuzzy Control of Nonlinear Pointing Testbed with Backlash and Friction**. Proceedings of the 35<sup>th</sup> Conference on Decision & Control. Kobe, Japan, 1996.
- 87 JANG, J. O.; SON, M. K; CHUNG, H. T.. **Friction and Output Backlash Compensation of Systems Using Neural Network and Fuzzy Logic**. Proceedings of the 2004 American Control Conference on Decision & Control. Boston, USA, 2004.
- 88 ANTON, H.; RORRES, C.. **Álgebra Linear com Aplicações**. 8<sup>a</sup> Ed., Bookman, Porto Alegre, Brasil, 2001.