

DR. MAHMUT REYHANOGLU

Education

University of Michigan

Ann Arbor, MI

Ph.D. in Aerospace Engineering, August 1992.

Thesis: Control and Stabilization of Nonholonomic Dynamic Systems.

University of Michigan

Ann Arbor, MI

M.S. in Electrical Engineering: Systems, December 1991.

The Ohio State University

Columbus, OH

M.S. in Aeronautical and Astronautical Engineering, December 1987.

Thesis: Model Truncation Effects in Variable Structure Control System Maneuvering of Flexible Spacecraft.

Istanbul Technical University

Istanbul, Turkey

M.S. in Mechanical Engineering, July 1984.

Thesis: Dynamic Characteristics of Hydrostatic Driving Systems.

Istanbul Technical University

Istanbul, Turkey

B.S. in Aeronautical Engineering, July 1982.

Senior Thesis: Dynamic Characteristics of Unsteady Boundary Layer Flows.

Employment

- 2014-present Professor and Graduate Program Chair, Embry-Riddle Aeronautical University (ERAU), Daytona Beach, Florida
- 2013-2014 Visiting Professor, Aerospace Engineering Division, School of Mechanical and Aerospace Engineering, Nanyang Technological University (NTU), Singapore
- 2011-2013 Professor and Associate Department Chair, Embry-Riddle Aeronautical University (ERAU), Daytona Beach, Florida
- 2007-2011 Professor, Associate Department Chair, and Program Coordinator of B.S. in Engineering Physics (BSEP) & B.S. in Space Physics (BSSP) programs, ERAU, Daytona Beach, Florida
- 2005-2007 Professor, Associate Department Chair, and Program Coordinator of BSEP, ERAU, Daytona Beach, Florida
- 2000-2005 Associate Professor and Program Coordinator of BSEP, ERAU, Daytona Beach, Florida
- 1998-2000 Assistant Professor of Engineering Physics, ERAU, Daytona Beach, Florida
- 1997-1998 Instructor, Automation Robotics Technology, TSTC, Sweetwater, Texas
- 1996-1997 Assistant Professor, Mechanical Eng., Ohio University, Athens, Ohio
- 1995-1996 Research Fellow, Applied Mathematics, University of Twente, Netherlands
- 1992-1995 Assistant Professor, Mechanical Engineering, KFUPM, KSA

Courses Taught

Aerospace Engineering Division, NTU

AE4006 Unmanned Aerial Vehicles

AE4002 Aerospace Control Theory

MA8005 Aircraft Electr. & Electronics Circuits

MA2701 Flight Performance

Physical Sciences Department, ERAU

EP340 Introduction to Space Systems Design

EP393 Spaceflight Dynamics

EP394 Space Systems Engineering

EP496 Space Systems Design I

PS103/104 Technical Physics I/II

PS150/160 Physics for Engineers I/II

PS320 Classical Mechanics

EP499 Special Topics in EP

EP497 Space Systems Design II	EP599 Special Topics in EP
EP505 Adv. Spacecraft Dynamics & Control	EP699 Special Topics in EP
EP605 Spacecraft Power & Thermal Design	EP705 Optimal Dynamical Systems
EP702 Theoretical Mechanics & Astrodynamics	EP800 Dissertation Research

Aerospace Engineering Department, ERAU

AE313 Space Mechanics	AE430 Control Systems Analysis & Design
AE413 Airplane Stability & Control	AE432 Flight Dynamics & Control
AE426 Spacecraft Attitude Dynamics	AE434 Spacecraft Control
AE506 Airplane Dynamic Stability	

Other Institutions

AE350 Aerospace Engineering Analysis (UM)	ME224 Dynamics (OU)
ME605 Advanced Dynamics (OU)	ME636 Advanced Numerical Analysis (OU)
ME201 Dynamics (KFU)	ME309 Mechanics of Machines (KFU)
ME403 Systems Dynamics & Control (KFU)	ME651 Nonlinear Vibrations (KFU)

Graduate Students Supervised/Supervising

- **Derek Hoffman** (Current Ph.D. student)
- **Muhammad Rehan** (Current Ph.D. student)
- **Bhavitya Kidambi** (Current Ph.D. student)
- **Michael Campobasso** (Current M.S. student)
- **Joshua A. Teramea** (Current M.S. student)
- **Jaime Rubio** (Ph.D. student-graduated in July 2013)
Dissertation Title: Dynamics and Control of Higher-Order Nonholonomic Systems.
- **Juan Alvarado** (March 2012)
Thesis Title: Space Vehicle Debris Hazard Airspace Stratification.
- **Takahiro Kuhara** (December 2011)
Thesis Title: Dynamics and Control of an Asteroid Orbiting Satellite.
- **Jaime Rubio** (May 2011)
Thesis Title: Nonlinear Control of Underactuated Space Systems.
- **Chau T. Ton** (June 2009)
Thesis Title: Magnetic Stabilization of Nadir-Pointing Small Satellites.
- **Pavan Donepudi** (May 2007)
Thesis Title: Control System Design and Simulation of Spacecraft Formations via Virtual Structure Approach.
- **Philip Savella** (August 2005)
Thesis Title: Maneuvering Control of a Spacecraft with Propellant Sloshing.
- **Daniel Dyer** (June 2005)
Thesis Title: Control System Design and Simulation of Spacecraft Formations.
- **Jeremy Eckhart** (May 2005)
Thesis Title: Modeling and Slew-Maneuver Control of a Flexible Spacecraft.
- **Jasper van de Loo** (May 2006)
Thesis Title: Control of a Nonholonomic Control Moment Gyroscope.
- **Theo Geluk** (May 2004)
Thesis Title: Control of First-Order Nonholonomic Systems.
- **Ard Bommer** (May 2004)
Thesis Title: Control of Underactuated Mechanical Systems.
- **Emad I. Al-Regib** (May 1994)
Thesis Title: Nonholonomic Motion Planning for Wheeled Mobile Systems Using Geometric Phases.

Service Activities

- Developed the Ph.D. in Engineering Physics (PhDEP) Proposal and led its approval process.
- Designed and implemented the SACS (Southern Association of Colleges and Schools) Assessment Plans for the BSEP, BSSP, MSEP, and PhDEP programs.
- Developed the ABET Self-Study Reports, Assessment Reports/Addenda, and coordinated the highly successful ABET accreditation visits for the BSEP program in 2001 and 2007.
- Coordinated the development and improvement of BSEP, BSSP, MSEP, BS/MSEP, and PhDEP catalog entries, web pages, brochures, and posters.
- Coordinated the Open Houses, IAB Visits, Department Retreats, PS Department Awards, and Town Hall Meetings.
- Served as EP/SP program coordinator and chaired the EP Program Committee.
- Served as member of EP Graduate Program Committee.
- Served as member of Ph.D. in Engineering Physics Program Committee.
- Served as member of PS (Physical Sciences) Faculty Development Committee.
- Served as chair of PS Faculty Search Committee.
- Served as member of COAS (College of Arts and Sciences) Assessment Committee.
- Served as member of COAS Admission / Recruitment Committee.
- Served as vice speaker of ERAU faculty senate.
- Served as member of Faculty Senate Research Committee.
- Served as Faculty Advisor for Sigma Pi Sigma National Physics Honor Society.
- Attended the Joint Senate Coordination Meetings.
- Attended the University Council Meetings.
- Advised more than 40 EP & SP students every year.
- Advised Microgravity Student Projects.
- Advised Capstone Senior Design Projects.

Research Activities

- PI, NSF, Nonlinear Dynamics and Control of Mechanical Systems with Higher-Order Nonholonomic Constraints, \$171,658 (pending), 2015-2018.
- PI, NSF, Stochastic Estimation of Debris Dispersion due to a Space Vehicle Breakup at High Altitudes, \$186,729 (pending), 2015-2018.
- Co-PI, DSO National Laboratories of Singapore, Automatic Landing System for UAVs, \$120,000, 2013-2014.
- PI, FAA Contract, Space Vehicle Debris Hazard Airspace Stratification Feasibility Study, \$103,327, 2011-2012.
- PI, FAA Contract, Spacecraft and Propulsion Technician Training and Certification, \$50,000, 2011-2012.
- PI, FSGC Research Grant, Development of Novel Attitude Control Algorithms for Small Satellites Using only Magnetic Actuation, \$30,000, 2008-2009.
- PI, FSGC Research Grant, Dynamics and Control of Underactuated Spacecraft Systems, \$25,000, 2003-2004.
- PI, Daytona Beach Research Grants, Dynamics and Control of Underactuated Mechanical Systems, ~\$100,000, 1999-2002.
- ERAU Equipment Grants, ~\$90,000. Purchased a 4-DOF Control Moment Gyroscope, a 3-DOF Hovercraft, a Two-Link Flexible Robot Arm, an Air bearing system, and a Compressor for the Spacecraft Engineering Research Lab.
- Research Fellow, Dutch Institute of Systems and Control, Modeling and Control of Open Physical Systems, University of Twente, Enschede, Netherlands, 1995-1996.
- Participated in research projects supported by the NSF under Grants MSM-8722266 and MSS-9114630, and by the NASA Grant under NAG-1-1419, University of Michigan, 1989-1992.

Research themes: Control and Stabilization of Space Multibody Systems, Spacecraft Attitude Dynamics and Control, Control and Stabilization of Nonholonomic Dynamic Systems.

Honors & Awards

- First Runner-Up, ERAU Researcher of the Year (2012, 2013).
- Finalist, ERAU Researcher of the Year (2004, 2005, 2006).
- Rackham Block Grant Fellowship (1990-1992).
- National Merit Scholarship from Turkish Government (1985-1990).

Societies & Activities

- Senior Member of IEEE (Institute of Electrical & Electronics Engineers).
- Senior Member of AIAA (American Institute of Aeronautics & Astronautics).
- Associate Editor, International Journal of Aerospace Engineering (2010-present).
- Associate Editor, IEEE Transactions on Automatic Control Editorial Board (2001-2007).
- Associate Editor, IEEE Control Systems Society Conference Editorial Board (1997-2001).
- AIAA Guidance, Navigation & Control Technical Committee Member (1999-2002).
- International Program Committee Member for IFAC NOLCOS'98, ICNPAA 2000, and IEEE Conference on Decision and Control, 2001.
- Technical reviewer for IEEE Transactions, IFAC Automatica, SIAM Journals, Systems & Control Letters, and IEEE sponsored conferences.

Research Interests

Unmanned Aerial Vehicles, Thermoacoustic Systems, Nonlinear Vibrations, Dynamics & Control of Space Multibody Systems, Spacecraft Attitude Dynamics & Control, Space Robotics, Control and Stabilization of Mechanical and Aerospace Systems, Motion Planning Problems, Dynamics and Control of Autonomous Vehicles, Theoretical Mechanics, Astrodynamics, Differential Geometric Control Theory.

Book Chapters

- [1] K. Lynch, A.M. Bloch, S. V. Drakunov, **M. Reyhanoglu**, and D. Zenkov, "Control of Nonholonomic and Underactuated Systems," The Control Handbook, a Volume in the Electrical Engineering Handbook Series, CRC Press, Inc., 2011, Chapter 42, pp.1-36.
- [2] **M. Reyhanoglu**, "Modeling and Control of Space Vehicles with Fuel Slosh Dynamics," Chapter in Advances in Spacecraft Technologies, Intech Education and Publication, Vienna, Austria, 2011, pp.549-562.
- [3] **M. Reyhanoglu**, N.H. McClamroch, and A.M. Bloch, "Motion Planning for Nonholonomic Dynamic Systems," Chapter in Nonholonomic Motion Planning, Z. X. Li and J. Canny, Editors, Kluwer Academic Publishers, 1993, pp.201-234.

Book Reviews

- [1] **M. Reyhanoglu**, "Applied Linear Optimal Control: Examples and Algorithms," *ASME Applied Mechanics Reviews*, Vol.56, No.4, 2003, pp.55.
- [2] **M. Reyhanoglu**, "Mechatronic Control of Distributed Noise and Vibration: A Lyapunov Approach," *IFAC Journal Automatica*, Vol.39, No.9, 2003, pp.1664-1666.

Peer-Reviewed Publications (~2500 citations, an H-Index of 21 -- Google Scholar)

Journal and Proceedings Papers (Science Citation Index/EI Compendex/ISI Web of Knowledge)

2015

[1] J. R. Hervas, D. Zhao, and **M. Reyhanoglu**, "Nonlinear Feedback Control of Self-Sustained Thermoacoustic Oscillations," *Aerospace Science and Technology*, Vol. 41, 2015, pp. 209-215.

[2] M. A. Khanesar, E. Kayacan, **M. Reyhanoglu**, and O. Kaynak, "Feedback Error Learning Control of Magnetic Satellites using Type-2 Fuzzy Neural Networks with Elliptic Membership Functions," *IEEE Transactions on Cybernetics*, DOI: 10.1109/TCYB.2015.2388758.

[3] J. R. Hervas and **M. Reyhanoglu**, "Dynamics and Control of Higher-Order Nonholonomic Systems," *IFAC Journal Automatica*, DOI: 10.1016/j.automatica.2015.02.006.

[4] J. R. Hervas, **M. Reyhanoglu**, H. Tang, and E. Kayacan "Landing Control of Fixed-Wing UAVs in the Presence of Stochastic Wind," submitted to *Communications in Nonlinear Science and Numerical Simulation*, 2015.

[5] J. R. Hervas and **M. Reyhanoglu**, "Nonlinear Control of a Robot Manipulator with a Nonholonomic Jerk Constraint," in revision, *Asian Journal of Control*, 2015.

[6] J. R. Hervas, D. Zhao, and **M. Reyhanoglu**, "Observer-Based Sliding Mode Control of Rijke-Type Thermoacoustic Instabilities" submitted to *Asian Journal of Control*, 2014.

[7] J. R. Hervas, **M. Reyhanoglu**, and W. MacKunis, "Observer-based Sliding Mode Control of Rijke-type Combustion Instability," submitted to *Journal of Low Frequency Noise and Active Vibration Control*, 2015.

[8] N. Ramos-Pedroza, W. MacKunis, and **M. Reyhanoglu**, "Sliding Mode Control-Based Limit Cycle Oscillation Suppression for UAVs Using Synthetic Jet Actuators," to appear in *Proceedings of International Workshop on Recent Advances in Sliding Modes*, 2015.

[9] J. R. Hervas, **M. Reyhanoglu**, and W. MacKunis, "Sliding Mode Control of Rijke-Type Thermoacoustic Systems," , to appear in *Proceedings of International Workshop on Recent Advances in Sliding Modes*, 2015.

[10] M. Reyhanoglu and W. MacKunis, "Robust and Adaptive Nonlinear Control of Thermoacoustic Oscillations," submitted to *Int. Conf. Control, Automation and Systems*, 2015.

2014

[11] J. R. Hervas and **M. Reyhanoglu**, "Thrust-Vector Control in 3D Maneuvering of a Spacecraft with Fuel Slosh Dynamics," *Acta Astronautica*, Vol. 98, 2014, pp. 120-127.

[12] D. Zhao and **M. Reyhanoglu**, "Feedback Control of Transient Growth in a Non-normal Thermoacoustic System," *Journal of Sound and Vibration*, Vol. 333, No. 16, 2014, pp. 3639-3656.

[13] J. R. Hervas, D. Zhao, and **M. Reyhanoglu**, "Linear-Quadratic-Gaussian Control of Rijke-Type Combustion Instability," *Mathematics in Engineering, Science and Aerospace*, Vol. 5, No. 4, 2014, pp. 1-12.

[14] J. R. Hervas, D. Zhao, and **M. Reyhanoglu**, "Nonlinear Feedback Control of Thermoacoustic Oscillations in a Rijke Tube," *Proc. IEEE Int. Symp. Industrial Electronics*, 2014, pp. 173-177.

[15] J. R. Hervas, **M. Reyhanoglu**, and H. Tang, "Automatic Landing Control of Unmanned Aerial Vehicles on Moving Platforms," *Proc. IEEE Int. Symp. Industrial Electronics*, 2014, pp. 69-74.

[16] J. R. Hervas and **M. Reyhanoglu**, "Observer-Based Nonlinear Control of Space Vehicles with Multi-Mass Fuel Slosh Dynamics," *Proc. IEEE Int. Symp. Industrial Electronics*, 2014, pp. 178-182.

[17] D. Zhao and **M. Reyhanoglu**, "Feedback Control of Transient Growth of Thermoacoustic Oscillations," *Proc. 20th AIAA/CEAS Aeroacoustics Conference, AIAA Aviation and Aeronautics Forum and Exposition 2014*, AIAA-2014-3183.

[18] J. R. Hervas, E. Kayacan, **M. Reyhanoglu**, and H. Tang, "Sliding Mode Control of Fixed-Wing UAVs in the Presence of Stochastic Wind," *Proc. International Conference on Control, Automation, Robotics and Vision*, 2014, pp. 986-991.

[19] J. R. Hervas, D. Zhao, and **M. Reyhanoglu**, "Observer-Based Control of Rijke-type Combustion Instability," *AIP Proceedings*, Vol. 1637, 2014, pp. 899-906.

[20] J. R. Hervas, **M. Reyhanoglu**, and H. Tang, "Nonlinear Automatic Landing Control of Unmanned Aerial Vehicles on Moving Platforms via a 3D Laser Radar," *AIP Proceedings*, Vol. 1637, 2014, pp. 907-917.

2013

[21] **M. Reyhanoglu** and J. R. Hervas, "Robotically Controlled Sloshing Suppression in Point-to-Point Liquid Container Transfer," *Journal of Vibration and Control*, Vol. 19, No. 14, 2013, pp. 2137-2144.

[22] **M. Reyhanoglu** and J. Alvarado, "Estimation of Debris Dispersion due to a Space Vehicle Breakup During Reentry," *Acta Astronautica*, Vol. 86, 2013, pp. 211-218.

[23] **M. Reyhanoglu** and J. R. Hervas, "Nonlinear Modeling and Control of Slosh in Liquid Container Transfer via a PPR Robot," *Communications in Nonlinear Science and Numerical Simulation*, Vol. 18, 2013, pp. 1481-1490.

[24] J. R. Hervas and **M. Reyhanoglu**, "Controllability and Stabilizability of Higher-Order Nonholonomic Systems," *Proc. Asian Control Conf.*, 2013, pp. 1-5.

[25] **M. Reyhanoglu**, J. Alvarado, and A. Carmi, "Estimation of Debris Hazard Areas due to a Space Vehicle Breakup at High Altitudes," *Proc. Asian Control Conf.*, 2013, pp. 1-6.

[26] W. MacKunis, S. Subramanian, S. Mehta, C. Ton, J.W. Curtis, and **M. Reyhanoglu**, "Robust Nonlinear Aircraft Tracking Control Using Synthetic Jet Actuators," *Proc. IEEE Conf. Decision and Control*, 2013, pp. 220-225.

[27] J. R. Hervas and **M. Reyhanoglu**, "Nonlinear Modeling of Systems with Higher-Order Nonholonomic Constraints," *Proc. Int. Conf. Control, Automation and Systems*, 2013, pp. 1009-1013.

[28] J. R. Hervas and **M. Reyhanoglu**, "Nonlinear Control of a Third-Order Nonholonomic System," *Proc. Int. Conf. Control, Automation and Systems*, 2013, pp. 17-22.

[29] J. R. Hervas and **M. Reyhanoglu**, "Nonlinear Observer Based Control of Slosh in Liquid Container Transfer via a PPR Robot," *Proc. Int. Conf. Control, Automation and Systems*, 2013, pp. 777-782.

- [30] J. R. Hervas and **M. Reyhanoglu**, "Thrust-Vector Control of a Three-Axis Stabilized Spacecraft with Fuel Slosh Dynamics," *Proc. Int. Conf. Control, Automation and Systems*, 2013, pp. 761-766.
- 2012**
- [31] **M. Reyhanoglu** and J. R. Hervas, "Nonlinear Dynamics and Control of Space Vehicles with Multiple Fuel Slosh Modes," *IFAC Journal Control Engineering Practice*, Vol. 20, 2012, pp. 912-918.
- [32] J. R. Hervas and **M. Reyhanoglu**, "Thrust Vector Control of an Upper-Stage Rocket with Multiple Fuel Slosh Modes," *Mathematical Problems in Engineering*, Vol. 2012, Article ID 848741, 18 pages, 2012.
- [33] W. MacKunis, **M. Reyhanoglu**, and S. Drakunov, "Robust and Adaptive Maximum Power Point Tracking for Standalone Photovoltaic Systems Using a Sliding Mode Control Approach," *Proc. IEEE Conf. Industrial Electronics and Applications*, 2012, pp. 1156-1160.
- [34] **M. Reyhanoglu** and J. R. Hervas, "Point-to-Point Liquid Container Transfer via a PPR Robot with Sloshing Suppression," *Proc. American Control Conf.*, 2012, pp. 5490-5494.
- [35] J. R. Hervas, **M. Reyhanoglu**, and S. Drakunov, "Three-Axis Magnetic Attitude Control Algorithms for Small Satellites in the Presence of Noise," *Proc. Int. Conf. Control, Automation and Systems*, 2012, pp. 1342-1347.
- [36] J. R. Hervas and **M. Reyhanoglu**, "Control of a Spacecraft with Time-Varying Propellant Slosh Parameters," *Proc. Int. Conf. Control, Automation and Systems*, 2012, pp. 1621-1626.
- [37] **M. Reyhanoglu**, N. Kamran, and T. Kuhara, "Orbital and Attitude Control of a Spacecraft Around an Asteroid," *Proc. Int. Conf. Control, Automation and Systems*, 2012, pp. 1627-1632.
- [38] **M. Reyhanoglu** and J. R. Hervas, "Magnetic Attitude Control Design for Small Satellites via Slowly-Varying Systems Theory," *Proc. IEEE Industrial Electronics Society*, 2012, pp. 2313-2318.
- [39] **M. Reyhanoglu** and J. R. Hervas, "Partial-State Feedback Control Design for Liquid Container Transfer with Sloshing Suppression," *Proc. IEEE Industrial Electronics Society*, 2012, pp. 2377-2381.
- 1990-2011**
- [40] S. Drakunov and **M. Reyhanoglu**, "Hierarchical Sliding Mode Observers for Distributed Parameter Systems," *Journal of Vibration and Control*, Vol.17, No. 10, 2011, pp.1441-1453.
- [41] **M. Reyhanoglu** and J. R. Hervas, "Nonlinear Control of Space Vehicles with Multi-Mass Fuel Slosh Dynamics," *Proc. Int. Conf. Recent Advances in Space Technologies*, 2011, pp. 247-252.
- [42] **M. Reyhanoglu** and J. R. Hervas, "Three-Axis Magnetic Attitude Control Algorithms for Small Satellites," *Proc. Int. Conf. Recent Advances in Space Technologies*, 2011, pp. 897-902.
- [43] **M. Reyhanoglu** and J. R. Hervas, "Nonlinear Control of a Spacecraft with Multiple Fuel Slosh Modes," *Proc. IEEE Conf. Decision and Control*, 2011, pp. 6192-6197.
- [44] W. MacKunis, S. V. Drakunov, **M. Reyhanoglu**, and L. Ukeiley, "Nonlinear Estimation of Fluid Flow Velocity Fields," *Proc. IEEE Conf. Decision and Control*, 2011, pp. 6931-6935.

- [45] S. Armstrong, S. Drakunov, and **M. Reyhanoglu**, "Feedback Control of a Nonholonomic Vehicle Among Moving Obstacles Using Variable Structure Observer," *2011 AIAA Infotech@Aerospace Conference*, AIAA-2011-1586, pp. 1-5.
- [46] **M. Reyhanoglu**, S. Drakunov, and J. Alvarado, "Feasibility Study of Space Vehicle Debris Hazard Airspace Stratification," *Proc. AIAA Space 2011*, AIAA-2011-7182, pp.1-9.
- [47] **M. Reyhanoglu** and S. Drakunov, "Novel Three-Axis Attitude Control Algorithms for Small Satellites Using only Magnetic Actuators," *Advances in the Astronautical Sciences*, Vol. 134, 2009, pp. 2279-2290.
- [48] **M. Reyhanoglu**, S. V. Drakunov, and P. Savella, "Planar Maneuvering of a Spacecraft with Propellant Sloshing Using Switched Feedback," *Advances in the Astronautical Sciences*, Vol. 134, 2009, pp. 2291-2302.
- [49] **M. Reyhanoglu**, "Control System Design and Simulation of Spacecraft Formations via Leader-Follower Approach," *Advances in the Astronautical Sciences*, Vol. 134, 2009, pp.141-152.
- [50] S. Drakunov, **M. Reyhanoglu**, and B. Singh, "Sliding Mode Control of DC-DC Power Converters," *Proc. IFAC Int. Conf. on Intelligent Control Systems and Signal Processing*, doi: 10.3182/20090921-3-TR-3005.00043, Vol. 2, Issue Part 1, 2009, pp.1-6.
- [51] **M. Reyhanoglu**, C. Ton, and S. Drakunov, "Attitude Stabilization of a Nadir-Pointing Small Satellite Using Only Magnetic Actuators," *Proc. IFAC Int. Conf. on Intelligent Control Systems and Signal Processing*, doi: 10.3182/20090921-3-TR-3005.00052, Vol. 2, Issue Part 1, 2009, pp.1-6.
- [52] **M. Reyhanoglu**, "Slewing Maneuver of a Flexible Spacecraft Using Finite Time Control," *Proc. IEEE Industrial Electronics Society*, Art. No. 4758378, 2008, pp.2667-2671.
- [53] **M. Reyhanoglu** and S. Drakunov, "Attitude Stabilization of Small Satellites Using Only Magnetic Actuation," *Proc. IEEE Industrial Electronics Society*, Art. No. 4757936, 2008, pp.103-107.
- [54] **M. Reyhanoglu** and D. Dyer, "Control System Design and Simulation of Spacecraft Formations," *Proc. IEEE Industrial Electronics Society*, Art. No. 4757939, 2008, pp.120-125.
- [55] **M. Reyhanoglu** and Jasper van de Loo, "Rest-to-Rest Maneuvering of a Nonholonomic Control Moment Gyroscope," *Proc. IEEE Int. Symp. Industrial Electronics*, Art. No. 4077916, 2006, pp.160-165.
- [56] **M. Reyhanoglu** and Jasper van de Loo, "State Feedback Tracking of a Nonholonomic Control Moment Gyroscope," *Proc. IEEE Conf. Decision and Control*, Art. No. 4177183, 2006, pp.6156-6161.
- [57] **M. Reyhanoglu** and Theo Geluk, "Switched Feedback Tracking Control of a Nonholonomic Mobile Robot," *Proc. IEEE Industrial Electronics Society*, Art. No. 4152997, 2006, pp.3810-3814.
- [58] **M. Reyhanoglu** and Ard Bommer, "Tracking Control of an Underactuated Surface Vessel Using Switched Feedback," *Proc. IEEE Industrial Electronics Society*, Art. No. 4153012, 2006, pp.3833-3838.

- [59] A.D. Mahindrakar, R.N. Banavar, and **M. Reyhanoglu**, "Controllability and Point-to-Point Control of 3-DOF Planar Horizontal Underactuated Manipulators," *International Journal of Control*, Vol. 78, No.1, January 2005, pp.1-13.
- [60] **M. Reyhanoglu**, "Maneuvering Control Problems for a Spacecraft with Unactuated Fuel SLOSH Dynamics," *Proc. IEEE Conf. Control Applications*, Vol. 1, 2003, pp.695-699.
- [61] **M. Reyhanoglu**, "Feedback Control of an Underactuated System with Two Unactuated Degrees of Freedom," *Proc. IEEE Conf. Decision and Control*, Vol.5, 2001, pp.4176-4177.
- [62] A.D. Mahindrakar, R.N. Banavar, and **M. Reyhanoglu**, "Discontinuous Feedback Control of a 3 Link PPR Underactuated Manipulator," *Proc. IEEE Conf. Decision and Control*, Vol.3, 2001, pp.2424-2429.
- [63] S. Cho, N. H. McClamroch, and **M. Reyhanoglu**, "Feedback Control of a Space Vehicle with Unactuated Fuel SLOSH Dynamics," *Proc. AIAA Guidance, Navigation, and Control Conf.*, Vol.1, 2000, AIAA 2000-4046, pp.354-359.
- [64] S. Cho, N. H. McClamroch, and **M. Reyhanoglu**, "Dynamics of Multibody Vehicles and Their Formulation as Nonlinear Control Problems," *Proc. American Control Conf.*, Vol.6, 2000, pp.3908-3912.
- [65] **M. Reyhanoglu**, S. Cho, and N.H. McClamroch, "Discontinuous Feedback Control of a Class of Underactuated Mechanical Systems," *International Journal of Robust and Nonlinear Nonlinear Control*, Vol.10, No.4, 2000, pp.265-281.
- [66] **M. Reyhanoglu**, S. Cho, and N. H. McClamroch, "Control Problems for Planar Maneuvers of a Spacecraft with Fuel SLOSH," *Proc. Int. Conf. on Nonlinear Problems in Aviation*, Daytona Beach, FL, 2000, pp.579-584.
- [67] **M. Reyhanoglu**, A.J. van der Schaft, N.H. McClamroch, and I. Kolmanovsky, "Dynamics and Control of a Class of Underactuated Mechanical Systems," *IEEE Transactions on Automatic Control*, Vol.44, No.9, September 1999, pp.1663-1671.
- [68] **M. Reyhanoglu**, S. Cho, and N.H. McClamroch, "Feedback Stabilization for a Class of Underactuated Mechanical Systems," *Proc. IEEE Conf. Decision and Control*, Vol.2, 1999, pp.1658-1663.
- [69] **M. Reyhanoglu**, S. Cho, and N.H. McClamroch, "Feedback Control for Planar Maneuvers of an Aerospace Vehicle with an Unactuated Internal Degree of Freedom," *Proc. American Control Conf.*, Vol.5, 1999, pp.3432-3436.
- [70] **M. Reyhanoglu**, S. Cho, and N.H. McClamroch, "Feedback Control of a Planar Manipulator with an Unactuated Elastically Mounted End Effector," *Proc. IEEE Int. Conf. Robotics and Automation*, Vol.4, 1999, pp.2805-2810.
- [71] G. Escobar, R. Ortega, and **M. Reyhanoglu**, "Regulation and Tracking of the Nonholonomic Double Integrator: A Field-Oriented Control Approach," *IFAC Journal Automatica*, Vol.34, No.1, January 1998, pp.125-131.

- [72] **M. Reyhanoglu**, S. Cho, N.H. McClamroch, and I. Kolmanovsky, "Discontinuous Feedback Control of a Planar Rigid Body with an Unactuated Degree of Freedom," *Proc. IEEE Conf. Decision and Control*, Vol.1, 1998, pp.433-438.
- [73] N. H. McClamroch, C. Rui, I. Kolmanovsky, S. Cho, and **M. Reyhanoglu**, "Control Problems for Planar Motion of a Rigid Body with an Unactuated Internal Degree of Freedom," *Proc. American Control Conf.*, Vol.1, 1998, pp.229-233.
- [74] **M. Reyhanoglu**, "Exponential Stabilization of an Underactuated Autonomous Surface Vessel," *IFAC Journal Automatica*, Vol.33, No.12, December 1997, pp.2249-2254.
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