

Professor and Chair
Department of Electrical & Biomedical Engineering
College of Engineering
University of Nevada
Reno, NV 89557-0153

Assistant Professor, King Abdul Aziz University,
Jeddah, 1981-83.

Cairo, Egypt, May 22, 1952.

U.S.

English, Arabic, Spanish, French.

3959 Regal Dr., Reno, NV 89503
Work Phone: (775)784-6951
Home Phone: (775)747-4832

Married

Intelligent control, fuzzy logic, fault detection,
control of renewable energy systems, structural
control, random signals, mathematical modeling of

Coordinator and Chair of Graduate Admission Committee 1989-98, Member Univeristy
Conflict of Interest Committee, Past Chair College Personnel Committee.

Region VI IEEE Service Award 2003, 2009, 2011, 2014

Organized and chaired sessions for the *American Control Conference*, the *ISCA International Conference*, *Fuzz IEEE*.

3. A. Chitsazan, M. Sami Fadali and A. Trzynadlowski, "State Estimation for Large-Scale Power Systems and FACTS Devices Based on Spanning Tree Maximum Exponential Absolute Value", *IEEE Transactions on Power Systems*, Vol. 35, NO. 1, pp. 238-248, 2020. O.A. Gashteroodkhani, M. Majidi, M.S. Fadali, M. Etezadi-Amoli, E. Maali-Amiri, "A protection scheme for microgrids using time-time matrix z-score vector", *Int. J. Electrical Power & Energy Systems*, Vol. 110, pp. 400-410, September 2019.
4. M. Kaheni, M. H. Zarif, A. A. Kalat, M. S. Fadali, "Radial pole paths SVSC for linear time-invariant multinput systems with constrained input," *Asian J. Control*, Vol. 22, No. 1, pp. 1–9, January 2020.
5. Hamid Khodabandehlou, Gökhan Pekcan, M. Sami Fadali, "Vibration-based structural condition assessment using convolution neural networks," *Structural Control and Health Monitoring*, vol. 26, no. 1, January 2019.
6. A. Chitsazan, M. Sami Fadali, A. M. Trzynadlowski, "Wind speed and wind direction forecasting using echo state network with nonlinear functions," *Renewable Energy*, vol. 131, pp. 879-889, 2019.
7. Hamid Khodabandehlou, Gökhan Pekcan, M. Sami Fadali, Mohamed M.A. Salem, "Active Neural Predictive Control of Seismically Isolated Structures," *Structural Control and Health Monitoring*, vol. 25, no. 1, January 2018.
8. M. Majidi, M. Etezadi-Amoli, M. S. Fadali, "A Sparse-Data Driven Approach for Fault Location in Transmission Networks," *IEEE Trans. Smart Grid*, vol. 8, no. 2, pp. 548-556, March 2017.
9. C. Lascu, S. Jafarzadeh, S. Fadali, F. Blaabjerg, "Direct Torque Control with Feedback Linearization for Induction Motor Drives," *IEEE Transactions on Power Electronics*, vol. 323, no. 3, pp. 2072-2080, 2017.
10. S. Jafarzadeh, H. Livani and M. Sami Fadali, "Stability Analysis of Electricity Markets Using TSK Fuzzy Modeling," *IEEE Transactions on Power Systems*, Vol. 31, No. 3, pp. 1161-1169, Mar 2016.
11. A. Arabli, M. Majidi, M. S. Fadali and M. Etezadi-Amoli, "Line outage identification-based state estimation in a power system with multiple line outages," *Electric Power Systems Research*, Vol. 133, April 2016, pp. 79-86.
12. M. Majidi, M. Etezadi-Amoli, H. Livani and M. S. Fadali, "Distribution Systems State Estimation Using Sparsified Voltage Profile," *Electric Power Systems Research*, Vol. 136, July 2016, pp. 69-78.
13. M. Majidi, M. Etezadi-Amoli, M. S. Fadali, "A Novel Method for Single and Simultaneous Faults Location in Distribution Networks," *IEEE Trans. Power Systems*, Vol. 30, No. 6, pp. 3368-3376, 2015.

14. X. Wang, B. S. Rawat, M. S. Fadali and M. Tayahi, "Performance Analysis of Multiple Input Multiple Output Free Space Optical Systems,"

37. Hyun Cheol Cho, K. S. Lee, M. Sami Fadali, "Real-time Adaptive Speed Control of DC Motors with Bounded Periodic Random Disturbance," *Int. J. of Innovative Computing, Information and Control*, vol. 5, no. 9, September, 2009.
38. Hyun Cheol Cho, Sami M. Fadali, and Kwon S. Lee, "Real-

49. M. Sami Fadali, "Discussion on "Limit Cycle Analysis of Single-loop Systems with Multiple Nonlinearities and Parameter Uncertainties", *European J. Control*, Vol. 10, No. 2, pp. 129-130, 2004.
50. L. LaForge, K. Korver, M. S. Fadali, "What Designers of Bus and Network Architectures Should Know About Hypercubes", *IEEE Trans. On Computers*, Vol. 52, No. 4. April, 2003. pp. 525 - 544.
51. K. McNichols and M. S. Fadali, "Selecting Operating Points for Discrete-Time Gain Scheduling", *J. Control Applications*, Vol. 29, 1, 2003.
52. M. S. Fadali, H. Emarah-Shabaik, "Timely Robust Fault Detection for Multirate Linear System", *Internat. J. Control*, Vol. 75, No.5, 2002.
53. M. S. Fadali, L. LaForge, "Linear Time Computation of Feasible Regions for Robust Compensators", *J. Robust and Nonlinear Control*, 11, 2001.
54. M. S. Fadali, "Fault Detection for Systems with Multirate Sampling: an Observer-based Approach", *J. Control Applications*, 2001.
55. M. S. Fadali, "Computer-Aided Implementation of Graphical Root Locus Design Recipes", *IEEE Trans. Education*, CD-ROM, November, 1999.
56. M. S. Fadali, Y. Zhang, and S. Louis, "Robust Stability Analysis of Discrete-Time Systems Using Genetic Algorithms," *IEEE Trans. Systems, Man, Cybern.*, Part A, No. 5, Sept., 1999.
57. J. Liu, M.S. Fadali, "Performance Constrained Stabilization of Uncertain Systems: Application to Load-frequency Control", *J. Computer Applications*, March, 1999.
58. B. Zhang, M. S. Fadali, "Nonlinear System Identification Using a Gabor/Hopfield Network", *IEEE Trans. Systems, Man & Cybernetics*, Vol. 26, No. 2, 1996.
59. H. Assadi, M. Etezadi-Amoli, D. D. Egbert, M. S. Fadali, A. Tan, "Application of the New Voting ARTMAP Neural Network to Power System Stability Studies", *ISCA J.*, Apr., 1995.
60. P. Fanchons, M. S. Fadali, "Elements of Variable Structure Control for Economists", *Economics and Planning*, Vol. 27, pp. 93-116, 1994.
61. M. S. Fadali, K. El-Zayyat, E. Maragakis, "Disturbance Rejection Control of Bridge Response to Earthquake Excitation", *Earthquake Engineering and Structural Dynamics*, Vol. 25, 291-302, 1996.
62. A. Bamani, M. Waly, M. S. Fadali, "Model reduction in the presence of small time delay", *Computers & Electrical Eng.*, Vol.19, No. 1, 1993.

63. M. Zohdy, M. S. Fadali, A. Abdel-Wahab, "Robust control system design with state constraints", *Int. J. Systems Science*, Vol.24, No. 1, 1993.
64. M. Zohdy, M. S. Fadali, J. Liu, "Robust design of discrete-time systems via optimization", *Internat. J. System Science*, Vol.24, No. 4, 1993.
65. M. Zohdy, M. S. Fadali, J. Liu, "Variable structure control using system decomposition", *IEEE Trans. Automatic Control*, Oct., 1992.
66. C.Li, M. S. Fadali, "Optimal control of 2-D systems", *IEEE Trans. Automatic Control*, Feb., 1991.
67. M. Zohdy, K., Gu, H. S. Tantawy, H.S., M. S. Fadali, "Robust eigenstructure assignment for multi-input systems", *Internat. J. Control*, Vol. 54, No. 5, May, 1991.
68. S. Bagchi, M.S. Fadali, "Error bounds for computed torque control in a noisy environment", *Control and Computers*, Vol. 18, No. 2, 1990.
69. M. S. Fadali, R. Gnanasekaran, "Normal matrices and their stability properties: application to 2-d system stabilization", *IEEE Trans. Cts. & Systems*, Vol. CAS-36, No. 6, June, 1989.
70. M. S. Fadali, C. Li, "Optimal control of linear 2-D systems", *Computer Control & Computers*, Vol. 170 Tc 0 Tw5 al()Tj/TT0 1 Tf0.TJ/TT ae t70. nt",

Conference Publications (160)

2020 (1)

M. S. Fadali, "Hybrid Boolean Systems Models for Cyberattacks, Faults, and Human Operators," *American Control Conference*, Denver, Co, July 2020.

2019 (2)

H. Khodabandehlou, I. Nizari, H. Livani, M. Sami Fadali, "Event Classification in Distribution Networks Using a Quotient Gradient System ", *NAPPS 2019*

H. Khodabandehlou and

S. Jafarzadeh and M. S. Fadali, "Instability Conditions for Type-1 and Type-2 TSK Fuzzy Systems," *Fuzz-IEEE 2016*, Vancouver, British Columbia, July 2016, pp. 240-247.

H. Khodabandehlou and M. S. Fadali, "Networked Control of Unmanned Vehicle Using Wavelet-Based Generalized Predictive Controller," *IJCNN 2016*, Vancouver, British Columbia, July 2016, pp. 5226-5233.

2015 (4)

C. Qiao, H. Livani, M. S. Fadali, "Probabilistic Optimal Power Flow with Integrated Wind

S. Jafarzadeh,

S. Jafarzadeh, M.S.Fadali, , M. Etezadi-Amoli, and A. Nafeh, " Type 1 and Type 2 Fuzzy TSK Modeling of Solar Radiation for PV Power Generation," *NAPS 2010* , Arlington, TX, Sept. 2010.

S. Jafarzadeh and M. Sami Fadali, "Stability Analysis of Discrete Type-2 TSK Fuzzy Systems with Interval Uncertainty," *2010 Fuzz.-IEEE*, Barcelona, Spain, July 19-23, 2010.

M. Sami Fadali, Saeed Jafarzadeh and A. Nafeh, "Fuzzy TSK Approximation Using Type

M. S. Fadali, "Stability testing for fuzzy polynomials," 2007 ISCA CAINE, SF, CA, November, 2007.

2006 (6)

M. S. Fadali and H. Oloomi, "Realization for Discrete-Time Linear Systems through Input or Output Maps", *Proc. 2006 American Control Conference*, Minneapolis, MN, June 2006

Hyun Cheol Cho, M. Sami Fadali, "Online Parameter Learning of Dynamic Bayesian Networks", *World Congress on AI*, Vancouver, BC, July, 2006.

Hyun C. Cho, M. Sami Fadali and Kwon S. Lee, "Modeling

M. Sami Fadali, N. Henderson, J. Johnson, J. Mortensen, J. McGough, "On-line Engineering Mathematics Testing and Assessment", *Proc. 2001 FIE Conf.*

1994 (1)

M. S. Fadali, G. Cai, Y. Ghoneim, "Air/fuel controller design using the describing function approach", *Proc. 1994 American Control Conf.*, Baltimore, MD, 1994.

1993 (4)

C. Zhang, M.S. Fadali, "Nonlinear System Identification Using a Gabor/Hopfield Network", *ISCA Internat. Conf. Computer Applications*, George Washington Univ., Washington DC, Mar., 1993.

M. S. Fadali, Y. Ghoneim, "2-D modeling control and simulation of vehicle platoons", *Proc. 1993 American Control Conf.*, San Francisco, CA, June, 1993.

L. Bandt, M.S. Fadali, "Analytical gain scheduled control for a nonlinear DC motor system", *ISCA CAINE'93*, Honolulu, HI, Dec., 1993.

H. Assadi, A. Tan, M. Etezadi, D. D. Egbert, M. S. Fadali, "Power system stability studies using the voting fuzzy ARTMAP neural network", *ISCA CAINE'93*, Honolulu, HI, Dec., 1993.

1992 (5)

M. S. Fadali, K. El-Zayyat, M. Zohdy, "Robust optimal control of binary distillation column", *Proc. ISMM Conf. Control Applic.*, Orlando, FA, 1992.

B. Adamczyk, M. S. Fadali, M. Zohdy, "Path optimization using dynamic programming", *Summer Simulation Conf.*, Reno, NV, 1992.

M. Pinsky, M. S. Fadali, "Path tracking using WKB approximation", *1992 American Control Conf.*, Chicago, Il, 1992.

S. Gardner, M. S. Fadali, "Vehicular longitudinal control using quantitative feedback theory", *Proc. Symp. QFT*, Wright-Patterson AFB, Dayton, Ohio, Aug., 1992.

H. Assadi, A. Tan, M. Etezadi, D. Egbert, M. S. Fadali, "Application of the ARTMAP neural network to power system stability studies", *1992 IEEE Conf. Systems, Man & Cybern.*, Chicago, Il, 1992.

1991 (2)

M. S. Fadali, M. Etezadi, M. Zohdy, "Variable structure control of power networks", *1991 American Control Conf.*, Boston, MA, June, 1991.

H. Assadi, A. Tan, M. Etezadi-Amoli, D. D. Egbert, M.S. Fadali, "Steady state stability studies using artificial neural networks", *1991 North American Power Symp.*, Carbondale, Il, Oct., 1991.

1990 (8)

M. S. Fadali, E. C. Tacker, "Hierarchical process modeling of submarine command and control system", *IEEE Internat. Conf. on Systems, Man & Cybern*

M. Zohdy, J., Liu, M. S. Fadali, "Some results in system robustness", *20th Running of Modeling & Simulation Conf.*, University of Pittsburgh, Pittsburgh, PA, May, 1989.

M. S. Fadali, C. Li, "Optimal control of linear 2-D systems", *ISMM Internat. Conf. Computer Applic.*, Reno, NV, Feb., 1989 .

S. Bagchi, M. S. Fadali, S. Gardner, "Error bounds for computed torque control of robotic manipulators in a noisy environment", *ISMM Internat. Conf. Computer Applic.*, Reno, NV, Feb., 1989.

A. Bamani, G. Al Saddiki, M. S. Fadali, "Robust Model Reduction of Discrete Stochastic systems", *ISMM Internat. Conf. Computer Applic.*, Reno, NV, Feb., 1989 .

1988 (5)

M. S. Fadali, M. Wei, "Step size selection for straight line suboptimal control of robotic manipulators", *Second Internat. Conf. Robotics & Manufacturing*, Nov. 16-18, Albuquerque, NM, 1988.

D. D. Egbert, M. S. Fadali, "Time-optimal control with neural networks", *IASTED Internat. Conf. Robotics & Automation*, May 25- 27, Santa Barbara, Ca, 1988.

M. S. Fadali, M. Wei, "Straight line single-step con

1985 (5)

M. S. Fadali, W. Henle, A. Tucker, T. A. W. Dwyer, III, "Spline modeling of phenolephrine pharmacodynamics", *Proc. XXII RMBS-ISA*, Fort Collins, Co, Apr. , 1985.

M. S. Fadali, F. Erturk, "A discrete-time model of pulmonary gas exchange", *Proc. XXII RMBS-ISA*, Fort Collins, Co, Apr., 1985.

