

# Publications

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## Journal Papers

1. D. S. Bernstein, "The Treatment of Inputs in Real-Time Digital Simulation," *Simulation*, Vol. 33, No. 2, pp. 65-68, 1979.
2. D. S. Bernstein and E. G. Gilbert, "Optimal Periodic Control: The  $\pi$  Test Revisited," *IEEE Trans. Autom. Contr.*, Vol. AC-25, pp. 673-684, 1980.
3. E. G. Gilbert and D. S. Bernstein, "Second-Order Necessary Conditions in Optimal Control: Accessory-Problem Results Without Normality Conditions," *J. Optim. Thy. Appl.*, Vol. 41, pp. 75-106, 1983.
4. D. S. Bernstein, "A Systematic Approach to Higher-Order Necessary Conditions in Optimization Theory," *SIAM J. Contr. Optim.*, pp. 211-238, Vol. 22, 1984.
5. D. C. Hyland and D. S. Bernstein, "The Optimal Projection Equations for Fixed-Order Dynamic Compensation," *IEEE Trans. Autom. Contr.*, Vol. AC-29, pp. 1034-1037, 1984.
6. D. S. Bernstein, "Control Constraints, Abnormality, and Improved Performance by Periodic Control," *IEEE Trans. Autom. Contr.*, Vol. AC-30, pp. 367-376, 1985.
7. D. S. Bernstein and D. C. Hyland, "The Optimal Projection Equations for Reduced-Order State Estimation," *IEEE Trans. Autom. Contr.*, Vol. AC-30, pp. 583-585, 1985.
8. D. C. Hyland and D. S. Bernstein, "The Optimal Projection Equations for Model Reduction and the Relationships Among the Methods of Wilson, Skelton and Moore," *IEEE Trans. Autom. Contr.*, Vol. AC-30, pp. 1201-1211, 1985.
9. D. S. Bernstein and D. C. Hyland, "The Optimal Projection Equations for Finite-Dimensional Fixed-Order Dynamic Compensation of Infinite-Dimensional Systems," *SIAM J. Contr. Optim.*, Vol. 24, pp. 122-151, 1986.
10. D. S. Bernstein and S. W. Greeley, "Robust Controller Synthesis Using the Maximum Entropy Design Equations," *IEEE Trans. Autom. Contr.*, Vol. AC-31, pp. 362-364, 1986.
11. D. S. Bernstein, L. D. Davis, and D. C. Hyland, "The Optimal Projection Equations for Reduced-Order, Discrete-Time Modelling, Estimation and Control," *AIAA J. Guid. Contr. Dyn.*, Vol. 9, pp. 288-293, 1986.
12. D. S. Bernstein, L. D. Davis, and S. W. Greeley, "The Optimal Projection Equations for Fixed-Order, Sampled-Data Dynamic Compensation with Computation Delay," *IEEE Trans. Autom. Contr.*, Vol. AC-31, pp. 859-862, 1986.
13. W. M. Haddad and D. S. Bernstein, "The Optimal Projection Equations for Discrete-Time Reduced-Order State Estimation for Linear Systems with Multiplicative White Noise," *Sys. Contr. Lett.*, Vol. 8, pp. 381-388, 1987.
14. D. S. Bernstein and W. M. Haddad, "Optimal Output Feedback for Nonzero Set Point Regulation," *IEEE Trans. Autom. Contr.*, Vol. AC-32, pp. 641-645, 1987.
15. D. S. Bernstein and W. M. Haddad, "Optimal Projection Equations for Discrete-Time Fixed-Order Dynamic Compensation of Linear Systems with Multiplicative White Noise," *Int. J. Contr.*, Vol. 46, pp. 65-73, 1987.
16. D. C. Hyland and D. S. Bernstein, "The Majorant Lyapunov Equation: A Nonnegative Matrix Equation for Guaranteed Robust Stability and Performance of Large Scale Systems," *IEEE Trans. Autom. Contr.*, Vol. AC-32, pp. 1005-1013, 1987.
17. D. S. Bernstein, "Sequential Design of Decentralized Dynamic Compensators Using the Optimal Projection Equations," *Int. J. Contr.*, Vol. 46, pp. 1569-1577, 1987.
18. D. S. Bernstein, "Robust Static and Dynamic Output-Feedback Stabilization: Deterministic and Stochastic Perspectives," *IEEE Trans. Autom. Contr.*, Vol. AC-32, pp. 1076-1084, 1987.
19. W. M. Haddad and D. S. Bernstein, "The Optimal Projection Equations for Reduced-Order State Estimation: The Singular Measurement Noise Case," *IEEE Trans. Autom. Contr.*, Vol. AC-32, pp. 1135-1139, 1987.
20. D. S. Bernstein, "The Optimal Projection Equations for Static and Dynamic Output Feedback: The Singular Case," *IEEE Trans. Autom. Contr.*, Vol. AC-32, pp. 1139-1143, 1987.
21. W. M. Haddad and D. S. Bernstein, "Robust, Reduced-Order, Nonstrictly Proper State Estimation via the Optimal Projection Equations with Petersen-Hollot Bounds," *Sys. Contr. Lett.*, Vol. 9, pp. 423-431, 1987.
22. W. M. Haddad and D. S. Bernstein, "Optimal Output Feedback for Nonzero Set Point Regulation: The Discrete-Time Case," *Int. J. Contr.*, Vol. 47, pp. 529-536, 1988.
23. W. M. Haddad and D. S. Bernstein, "The Unified Optimal Projection Equations for Simultaneous Reduced-Order, Robust Modeling, Estimation and Control," *Int. J. Contr.*, Vol. 47, pp. 1117-1132, 1988.
24. D. S. Bernstein, "Inequalities for the Trace of Matrix Exponentials," *SIAM J. Matrix Anal. Appl.*, Vol. 9, pp. 156-158, 1988.
25. D. S. Bernstein and W. M. Haddad, "The Optimal Projection Equations with Petersen-Hollot Bounds: Robust Stability and Performance via Fixed-Order Dynamic Compensation for Systems with Structured Real-Valued Parameter Uncertainty," *IEEE Trans. Autom. Contr.*, Vol. 33, pp. 578-582, 1988.
26. W. M. Haddad and D. S. Bernstein, "Robust, Reduced-Order, Nonstrictly Proper State Estimation via the Optimal Projection Equations with Guaranteed Cost Bounds," *IEEE Trans. Autom. Contr.*, Vol. 33, pp. 591-595, 1988.
27. W. M. Haddad and D. S. Bernstein, "Robust, Reduced-Order Modeling via the Optimal Projection Equations with Petersen-Hollot Bounds," *IEEE Trans. Autom. Contr.*, Vol. 33, pp. 692-695, 1988.

28. W. M. Haddad and D. S. Bernstein, "Optimal Nonzero Set Point Regulation via Fixed-Order Dynamic Compensation," *IEEE Trans. Autom. Contr.*, Vol. 33, pp. 848-852, 1988.
29. D. S. Bernstein and D. C. Hyland, "Optimal Projection Equations for Reduced-Order Modelling, Estimation and Control of Linear Systems with Multiplicative White Noise," *J. Optim. Thy. Appl.*, Vol. 58, pp. 387-409, 1988.
30. D. S. Bernstein and W. M. Haddad, "Steady-State Kalman Filtering with an  $H_\infty$  Error Bound," *Sys. Contr. Lett.*, Vol. 12, pp. 9-16, 1989.
31. D. S. Bernstein and W. M. Haddad, "LQG Control With an  $H_\infty$  Performance Bound: A Riccati Equation Approach," *IEEE Trans. Autom. Contr.*, Vol. 34, pp. 293-305, 1989.
32. D. S. Bernstein, "Robust Stability and Performance via Fixed-Order Dynamic Compensation," *SIAM J. Contr. Optim.*, Vol. 27, pp. 389-406, 1989.
33. W. M. Haddad and D. S. Bernstein, "Combined  $L_2/H_\infty$  Model Reduction," *Int. J. Contr.*, Vol. 49, pp. 1523-1535, 1989.
34. D. S. Bernstein and W. M. Haddad, "Robust Stability and Performance Analysis for Linear Dynamic Systems," *IEEE Trans. Autom. Contr.*, Vol. 34, pp. 751-758, 1989.
35. D. S. Bernstein and W. M. Haddad, "Robust Decentralized Static Output Feedback," *Sys. Contr. Lett.*, Vol. 12, pp. 309-318, 1989.
36. A. N. Madiwale, W. M. Haddad, and D. S. Bernstein, "Robust  $H_\infty$  Control Design for Systems with Parameter Uncertainty," *Sys. Contr. Lett.*, Vol. 12, pp. 393-407, 1989.
37. D. S. Bernstein and C. V. Hollot, "Robust Stability for Sampled-Data Control Systems," *Sys. Contr. Lett.*, Vol. 13, pp. 217-226, 1989.
38. D. S. Bernstein and W. M. Haddad, "Optimal Reduced-Order State Estimation for Unstable Plants," *Int. J. Contr.*, Vol. 50, pp. 1259-1266, 1989.
39. W. M. Haddad and D. S. Bernstein, "On the Gap Between  $H_2$  and Entropy Performance Measures in  $H_\infty$  Control," *Sys. Contr. Lett.*, Vol. 14, pp. 113-120, 1990.
40. D. S. Bernstein and I. G. Rosen, "Finite-Dimensional Approximation for Optimal Fixed-Order Compensation of Distributed Parameter Systems," *Opt. Contr. Appl. Meth.*, Vol. 11, pp. 1-20, 1990.
41. D. S. Bernstein and W. M. Haddad, "Robust Stability and Performance via Fixed-Order Dynamic Compensation with Guaranteed Cost Bounds," *Math. Contr. Sig. Sys.*, Vol. 3, pp. 139-163, 1990.
42. D. S. Bernstein and W. M. Haddad, "Robust Stability and Performance Analysis for State Space Systems via Quadratic Lyapunov Bounds," *SIAM J. Matrix Anal. Appl.*, Vol. 11, pp. 239-271, 1990.
43. W. M. Haddad and D. S. Bernstein, "Generalized Riccati Equations for the Full- and Reduced-Order Mixed-Norm  $H_2/H_\infty$  Standard Problem," *Sys. Contr. Lett.*, Vol. 14, pp. 185-197, 1990.
44. W. M. Haddad and D. S. Bernstein, "Optimal Reduced-Order Observer-Estimators," *AIAA J. Guid. Contr. Dyn.*, Vol. 13, pp. 1126-1135, 1990.
45. W. M. Haddad, D. S. Bernstein, and D. Mustafa, "Mixed-Norm  $H_2/H_\infty$  Regulation and Estimation: The Discrete-Time Case," *Sys. Contr. Lett.*, Vol. 16, pp. 235-248, 1991.
46. W. M. Haddad and D. S. Bernstein, "Robust Stabilization with Positive Real Uncertainty: Beyond the Small Gain Theorem," *Sys. Contr. Lett.*, Vol. 17, pp. 191-208, 1991.
47. D. Mustafa and D. S. Bernstein, "LQG Bounds in Discrete-Time  $H_2/H_\infty$  Control," *Trans. Inst. Meas. Contr.*, Vol. 13, pp. 269-275, 1991.
48. Y. Halevi, D. S. Bernstein, and W. M. Haddad, "On Stable Full-Order and Reduced-Order LQG Controllers," *Optimal Contr. Appl. Meth.*, Vol. 12, pp. 163-172, 1991.
49. W. M. Haddad and D. S. Bernstein, "Controller Design with Regional Pole Constraints," *IEEE Trans. Autom. Contr.*, Vol. 37, pp. 54-69, 1992.
50. D. S. Bernstein and W. M. Haddad, "Robust Controller Synthesis Using Kharitonov's Theorem," *IEEE Trans. Autom. Contr.*, Vol. 37, pp. 129-132, 1992.
51. W. M. Haddad, D. S. Bernstein, H.-H. Huang, and Y. Halevi, "Fixed-Order Sampled-Data Estimation," *Int. J. Contr.*, Vol. 55, pp. 129-139, 1992.
52. D. S. Bernstein, W. M. Haddad, and D. C. Hyland, "Small Gain Versus Positive Real Modeling of Real Parameter Uncertainty," *AIAA J. Guid. Contr. Dyn.*, Vol. 15, pp. 538-540, 1992.
53. E. G. Collins, Jr., J. A. King, and D. S. Bernstein, "Application of Maximum Entropy/Optimal Projection Design Synthesis to the Benchmark Problem," *AIAA J. Guid. Contr. Dyn.*, Vol. 15, pp. 1094-1102, 1992.
54. D. Zigic, L. T. Watson, E. G. Collins, Jr., and D. S. Bernstein, "Homotopy Methods for Solving the Optimal Projection Equations for the  $H_2$  Reduced-Order Model Problem," *Int. J. Contr.*, Vol. 56, pp. 173-191, 1992.
55. D. Zigic, L. T. Watson, E. G. Collins, Jr., and D. S. Bernstein, "Homotopy Approaches to the  $H_2$  Reduced Order Model Problem," *J. Math. Sys. Est. Contr.*, Vol. 3, pp. 173-205, 1993.
56. W. M. Haddad, H.-H. Huang, and D. S. Bernstein, "Robust Stability and Performance via Fixed-Order Dynamic Compensation: The Discrete-Time Case," *IEEE Trans. Autom. Contr.*, Vol. 38, pp. 776-782, 1993.
57. Y. Halevi, W. M. Haddad, and D. S. Bernstein, "A Riccati Equation Approach to the Singular LQG Problem," *Automatica*, Vol. 29, pp. 773-778, 1993.

58. Y. W. Wang and D. S. Bernstein, "Controller Design With Regional Pole Constraints: Hyperbolic and Horizontal Strip Regions," *AIAA J. Guid. Contr. Dyn.*, Vol. 16, pp. 784-787, 1993.
59. D. S. Bernstein and D. C. Hyland, "Compartmental Modeling and Second-Moment Analysis of State Space Systems," *SIAM J. Matrix Anal. Appl.*, Vol. 14, pp. 880-901, 1993.
60. D. S. Bernstein, W. M. Haddad, D. C. Hyland, and F. Tyan, "Maximum Entropy-Type Lyapunov Functions for Robust Stability and Performance Analysis," *Sys. Contr. Lett.*, Vol. 21, pp. 73-87, 1993.
61. D. S. Bernstein and W. So, "Some Explicit Formulas for the Matrix Exponential," *IEEE Trans. Autom. Contr.*, Vol. 38, pp. 1228-1232, 1993.
62. D. S. Bernstein, "Nonquadratic Cost and Nonlinear Feedback Control," *Int. J. Robust Nonlinear Contr.*, Vol. 3, pp. 211-229, 1993; Erratum, *Int. J. Robust Nonlinear Contr.*, Vol. 5, p. 539, 1995.
63. Y. W. Wang and D. S. Bernstein, " $H_2$  Optimal Control With an  $\alpha$ -Shifted Pole Constraint," *Int. J. Contr.*, Vol. 58, pp. 1201-1214, 1993.
64. W. M. Haddad and D. S. Bernstein, "Explicit Construction of Quadratic Lyapunov Functions for the Small Gain, Positivity, Circle, and Popov Theorems and Their Application to Robust Stability, Part I: Continuous-Time Theory," *Int. J. Robust Nonlinear Contr.*, Vol. 3, pp. 313-339, 1993.
65. S. R. Hall, D. G. MacMartin, and D. S. Bernstein, "Covariance Averaging in the Analysis of Uncertain Systems," *IEEE Trans. Autom. Contr.*, Vol. 38, pp. 1858-1862, 1993.
66. W. M. Haddad, E. G. Collins, Jr., and D. S. Bernstein, "Robust Stability Analysis Using the Small Gain, Circle, Positivity, and Popov Theorems: A Comparative Study," *IEEE Trans. Contr. Sys. Tech.*, Vol. 1, pp. 290-293, 1993.
67. S. Rern, P. T. Kabamba, and D. S. Bernstein, "A Guardian Map Approach to Robust Stability of Linear Systems with Constant Real Parameter Uncertainty," *IEEE Trans. Autom. Contr.*, Vol. 39, pp. 162-164, 1994.
68. W. M. Haddad, H.-H. Huang, and D. S. Bernstein, "Sampled-Data Observers With Generalized Holds for Unstable Plants," *IEEE Trans. Autom. Contr.*, Vol. 39, pp. 229-234, 1994.
69. W. M. Haddad and D. S. Bernstein, "Explicit Construction of Quadratic Lyapunov Functions for the Small Gain, Positivity, Circle, and Popov Theorems and Their Application to Robust Stability, Part II: Discrete-Time Theory," *Int. J. Robust Nonlinear Contr.*, Vol. 4, pp. 249-265, 1994.
70. W. M. Haddad, D. S. Bernstein, and Y. W. Wang, "Dissipative  $H_2/H_\infty$  Controller Synthesis," *IEEE Trans. Autom. Contr.*, Vol. 39, pp. 827-831, 1994.
71. W. M. Haddad and D. S. Bernstein, "Parameter-Dependent Lyapunov Functions and the Discrete-Time Popov Criterion for Robust Analysis," *Automatica*, Vol. 30, pp. 1015-1021, 1994.
72. D. S. Bernstein and W. M. Haddad, "Nonlinear Controllers for Positive Real Systems with Arbitrary Input Nonlinearities," *IEEE Trans. Autom. Contr.*, Vol. 39, pp. 1513-1517, 1994.
73. J. H. Friedman and D. S. Bernstein, "Maximum Entropy Controller Synthesis for Colocated and Noncolocated Systems," *AIAA J. Guid. Contr. Dyn.*, Vol. 17, pp. 859-862, 1994.
74. W. M. Haddad, D. S. Bernstein, and V. Kapila, "Reduced-Order Multirate Estimation," *AIAA J. Guid. Contr. Dyn.*, Vol. 17, pp. 712-721, 1994.
75. W. M. Haddad, J. P. How, S. R. Hall, and D. S. Bernstein, "Extensions of Mixed- $\mu$  Bounds to Monotonic and Odd Monotonic Nonlinearities Using Absolute Stability Theory," *Int. J. Contr.*, Vol. 60, pp. 905-951, 1994.
76. Y. W. Wang, W. M. Haddad, and D. S. Bernstein, "Robust Strong Stabilization via Modified Popov Controller Synthesis," *IEEE Trans. Autom. Contr.*, Vol. 39, pp. 2284-2287, 1994.
77. Y. W. Wang and D. S. Bernstein, " $H_2$ -Suboptimal Stable Stabilization," *Automatica*, Vol. 30, pp. 1797-1800, 1994.
78. Y. W. Wang and D. S. Bernstein, " $L_2$  Controller Synthesis with  $L_\infty$ -Bounded Closed-Loop Impulse Response," *Int. J. Contr.*, Vol. 60, pp. 1295-1306, 1994.
79. W. M. Haddad and D. S. Bernstein, "Parameter-Dependent Lyapunov Functions and the Popov Criterion in Robust Analysis and Synthesis," *IEEE Trans. Autom. Contr.*, Vol. 40, pp. 536-543, 1995.
80. Y. Kishimoto and D. S. Bernstein, "Thermodynamic Modeling of Interconnected Systems I: Conservative Coupling," *J. Sound Vibr.*, Vol. 182, pp. 23-58, 1995.
81. Y. Kishimoto and D. S. Bernstein, "Thermodynamic Modeling of Interconnected Systems II: Dissipative Coupling," *J. Sound Vibr.*, Vol. 182, pp. 59-76, 1995.
82. F. Tyan, S. R. Hall, and D. S. Bernstein, "A Double-Commutator Guaranteed Cost Bound for Robust Stability and Performance," *Sys. Contr. Lett.*, Vol. 25, pp. 125-129, 1995.
83. S. L. Osburn and D. S. Bernstein, "An Exact Treatment of the Achievable Closed-Loop  $H_2$  Performance of Sampled-Data Controllers: From Continuous-Time to Open-Loop," *Automatica*, Vol. 31, pp. 617-620, 1995.
84. W. M. Haddad and D. S. Bernstein, "The Octomorphic Criterion for Multiple-Block-Structured Real Parameter Uncertainty: Real- $\mu$  Bounds Without Circles and  $D,N$ -Scales," *Sys. Contr. Lett.*, Vol. 25, pp. 175-183, 1995.
85. D. S. Bernstein, W. M. Haddad, and A. G. Sparks, "A Popov Criterion for Uncertain Linear Multivariable Systems," *Automatica*, Vol. 31, pp. 1061-1064, 1995.

86. D. S. Bernstein and S. P. Bhat, "Lyapunov Stability, Semistability, and Asymptotic Stability of Matrix Second-Order Systems," *J. Vibr. Acous.*, Vol. 117, pp. 145-153, 1995.
87. C.-J. Wan and D. S. Bernstein, "Nonlinear Feedback Control with Global Stabilization," *Dynamics and Control*, Vol. 5, pp. 321-346, 1995.
88. C.-J. Wan, V. T. Coppola, and D. S. Bernstein, "Global Asymptotic Stabilization of the Spinning Top," *Optimal Contr. Appl. Meth.*, Vol. 16, pp. 189-215, 1995.
89. F. Tyan and D. S. Bernstein, "Anti-windup Compensator Synthesis for Systems with Saturating Actuators," *Int. J. Robust Nonlinear Contr.*, Vol. 5, pp. 521-537, 1995.
90. D. S. Bernstein, "Optimal Nonlinear, But Continuous, Feedback Control of Systems with Saturating Actuators," *Int. J. Contr.*, Vol. 62, pp. 1209-1216, 1995.
91. Y. Kishimoto, D. S. Bernstein, and S. R. Hall, "Energy Flow Modeling of Interconnected Structures: A Deterministic Foundation for Statistical Energy Analysis," *J. Sound Vibr.*, Vol. 186, pp. 407-445, 1995.
92. Y. Kishimoto, D. S. Bernstein, and S. R. Hall, "Energy Flow Control of Interconnected Structures, I. Modal Subsystems," *Contr. Theory Adv. Tech.*, Vol. 10, pp. 1563-1590, 1995.
93. Y. Kishimoto, D. S. Bernstein, and S. R. Hall, "Energy Flow Control of Interconnected Structures, II. Structural Subsystems," *Contr. Theory Adv. Tech.*, Vol. 10, pp. 1591-1618, 1995.
94. A. G. Sparks and D. S. Bernstein, "Optimal Tradeoff Between  $H_2$  Performance and Tracking Accuracy in Servocompensator Synthesis," *AIAA J. Guid. Contr. Dyn.*, Vol. 18, pp. 1239-1243, 1995.
95. A. G. Sparks and D. S. Bernstein, "Real Structured Singular Value Synthesis Using the Scaled Popov Criterion," *AIAA J. Guid. Contr. Dyn.*, Vol. 18, pp. 1244-1252, 1995.
96. K.-Y. Lum, D. S. Bernstein, and V. T. Coppola "Global Stabilization of the Spinning Top with Mass Imbalance," *Dynamics and Stability of Systems*, Vol. 10, pp. 339-365, 1995.
97. W. M. Haddad and D. S. Bernstein, "The Multivariable Parabola Criterion for Robust Controller Synthesis: A Riccati Equation Approach," *J. Math. Sys. Est. Contr.*, Vol. 6, pp. 79-103, 1996.
98. W. M. Haddad, V.-S. Chellaboina, and D. S. Bernstein, "Real- $\mu$  Bounds Based on Fixed Shapes in the Nyquist Plane: Parabolas, Hyperbolas, Cissoids, Nephroids, and Octomorphs," *Sys. Contr. Lett.*, Vol. 27, pp. 55-66, 1996.
99. Y. W. Wang, W. M. Haddad, and D. S. Bernstein, "Stable Stabilization With  $H_2$  and  $H_\infty$  Performance Constraints," *J. Math. Sys. Est. Contr.*, Vol. 6, pp. 181-194, 1996.
100. J. Hong, J. C. Akers, R. Venugopal, M.-N. Lee, A. G. Sparks, P. D. Washabaugh, and D. S. Bernstein, "Modeling, Identification, and Feedback Control of Noise in an Acoustic Duct," *IEEE Trans. Contr. Sys. Tech.*, Vol. 4, pp. 283-291, 1996.
101. C.-J. Wan, D. S. Bernstein, and V. T. Coppola, "Global Stabilization of the Oscillating Eccentric Rotor," *Nonlinear Dynamics*, Vol. 10, pp. 49-62, 1996.
102. S. P. Bhat and D. S. Bernstein, "Second-Order Systems with Singular Mass Matrix and an Extension of Guyan Reduction," *SIAM J. Matrix Anal. Appl.*, Vol. 17, pp. 649-657, 1996.
103. K.-Y. Lum, V. T. Coppola, and D. S. Bernstein, "Adaptive Autocentering Control for an Active Magnetic Bearing Supporting a Rotor with Unknown Mass Imbalance," *IEEE Trans. Contr. Sys. Tech.*, Vol. 4, pp. 587-597, 1996.
104. Y. Ge, L. T. Watson, E. G. Collins, Jr., and D. S. Bernstein, "Probability-One Homotopy Algorithms for Full and Reduced Order  $H^2/H_\infty$  Controller Synthesis," *Optimal Contr. Appl. Meth.*, Vol. 17, pp. 187-208, 1996.
105. W. M. Haddad, D. S. Bernstein, and V.-S. Chellaboina, "Generalized Mixed- $\mu$  Bounds for Real and Complex Multiple-Block Uncertainty with Internal Matrix Structure," *Int. J. Contr.*, Vol. 64, pp. 789-806, 1996.
106. S. P. Bhat and D. S. Bernstein, "Example of Indeterminacy in Classical Dynamics," *Int. J. Theoretical Physics*, Vol. 36, pp. 545-550, 1997.
107. W. M. Haddad, V.-S. Chellaboina, and D. S. Bernstein, "An Implicit Small Gain Condition and an Upper Bound for the Real Structured Singular Value," *Sys. Contr. Lett.*, Vol. 29, pp. 197-205, 1997.
108. W. M. Haddad, V. Kapila, and D. S. Bernstein, "Robust  $H_\infty$  Stabilization via Parameterized Lyapunov Bounds," *IEEE Trans. Autom. Contr.*, Vol. 42, pp. 243-248, 1997.
109. A. G. Sparks and D. S. Bernstein, "Optimal Rejection of Stochastic and Deterministic Disturbances," *ASME J. Dyn. Sys. Meas. Contr.*, Vol. 119, pp. 140-143, 1997.
110. Y. Ge, L. T. Watson, E. G. Collins, Jr., and D. S. Bernstein, "Globally Convergent Homotopy Algorithms for the Combined  $H_2/H_\infty$  Model Reduction Problem," *Math. Sys. Est. Contr.*, Vol. 7, pp. 129-155, 1997.
111. F. Tyan and D. S. Bernstein, "Dynamic Output Feedback Compensation for Systems with Independent Amplitude and Rate Saturations," *Int. J. Contr.*, Vol. 67, pp. 89-116, 1997.
112. C.-J. Wan, P. Tsiotras, V. T. Coppola, and D. S. Bernstein, "Global Stabilization of the Spinning Top Using Stereographic Projection," *Dynamics and Control*, Vol. 7, pp. 215-233, 1997.
113. F. Ben-Amara, R. Venugopal, P. T. Kabamba, A. G. Ulsoy, and D. S. Bernstein, "A Comparison of Two Adaptive Algorithms for Disturbance Cancellation," *Annual Reviews in Control*, Vol. 21, pp. 67-78, 1997.
114. J. Hong and D. S. Bernstein, "Bode Integral Constraints, Colocation, and Spillover in Active Noise and Vibration Control," *IEEE Trans. Contr. Sys. Tech.*, Vol. 6, pp. 111-120, 1998.

115. R. T. Bupp and D. S. Bernstein, "Experimental Implementation of Integrator Backstepping and Passive Non-linear Controllers on the RTAC Testbed," *Int. J. Robust Nonlinear Contr.*, Vol. 8, pp. 435-457, 1998.
116. K.-Y. Lum, V. T. Coppola, and D. S. Bernstein, "Adaptive Virtual Autobalancing for a Rigid Rotor With Unknown Mass Imbalance Supported by Magnetic Bearings," *ASME Trans. J. Vibr. Acoustics*, Vol. 120, pp. 557-570, 1998.
117. S. P. Bhat and D. S. Bernstein, "Continuous Finite-Time Stabilization of the Translational and Rotational Double Integrators," *IEEE Trans. Autom. Contr.*, Vol. 43, pp. 678-682, 1998.
118. R. S. Erwin, A. G. Sparks, and D. S. Bernstein, "Fixed-Structure Robust Controller Synthesis via Decentralized Static Output Feedback," *Int. J. Robust Nonlinear Contr.*, Vol. 8, pp. 499-522, 1998.
119. A. G. Sparks and D. S. Bernstein, "Reliable State Space Upper Bounds for the Peak Structured Singular Value," *Int. J. Robust Nonlinear Contr.*, Vol. 8, pp. 611-630, 1998.
120. R. Venugopal and D. S. Bernstein, "State Space Modeling of an Acoustic Duct with an End-Mounted Speaker," *ASME Trans. J. Vibr. Acoustics*, Vol. 120, pp. 770-775, 1998.
121. A. G. Sparks and D. S. Bernstein, "Real Robustness Bounds Using Generalized Stability Multipliers," *Int. J. Contr.*, Vol. 70, pp. 651-664, 1998.
122. V. Kapila, W. M. Haddad, R. S. Erwin, and D. S. Bernstein, "Robust Controller Synthesis via Shifted Parameter-Dependent Quadratic Cost Bounds," *IEEE Trans. Autom. Contr.*, Vol. 43, pp. 1003-1007, 1998.
123. R. L. Clark and D. S. Bernstein, "Hybrid Control: Separation in Design," *J. Sound Vibr.*, Vol. 214, pp. 784-791, 1998.
124. J. Ahmed, V. T. Coppola, and D. S. Bernstein, "Asymptotic Tracking of Spacecraft Attitude Motion with Inertia Matrix Identification," *AIAA J. Guid. Contr. Dyn.*, Vol. 21, pp. 684-691, 1998.
125. V.-S. Chellaboina, W. M. Haddad, and D. S. Bernstein, "Structured Matrix Norms for Robust Stability and Performance with Block-Structured Uncertainty," *Int. J. Contr.*, Vol. 71, pp. 535-557, 1998.
126. J. R. Corrado, W. M. Haddad, and D. S. Bernstein, "Optimal  $H_2$  Synthesis of Controllers with Relative Degree Two," *Automatica*, Vol. 35, pp. 1169-1173, 1999.
127. F. Tian and D. S. Bernstein, "Global Stabilization of Systems Containing a Double Integrator Using a Saturated Linear Controller," *Int. J. Robust Nonlinear Contr.*, Vol. 9, pp. 1143-1156, 1999.
128. R. T. Bupp, D. S. Bernstein, V.-S. Chellaboina, and W. M. Haddad, "Resetting Virtual Absorbers for Vibration Control," *J. Vibration and Control*, Vol. 6, pp. 61-83, 2000.
129. R. Venugopal and D. S. Bernstein, "Adaptive Disturbance Rejection Using ARMARKOV System Representations," *IEEE Trans. Contr. Sys. Tech.*, Vol. 8, pp. 257-269, 2000.
130. S. P. Bhat and D. S. Bernstein, "A Topological Obstruction to Continuous Global Stabilization of Rotational Motion and the Unwinding Phenomenon," *Sys. Contr. Lett.*, Vol. 39, pp. 63-70, 2000.
131. J. R. Corrado, V.-S. Chellaboina, W. M. Haddad, and D. S. Bernstein, "Robust Controller Synthesis Using the Implicit Small Gain Bound," *J. Franklin Inst.*, Vol. 337, pp. 85-96, 2000.
132. S. P. Bhat and D. S. Bernstein, "Finite-Time Stability of Continuous Autonomous Systems," *SIAM J. Contr. Optim.*, Vol. 38, pp. 751-766, 2000.
133. R. T. Bupp, D. S. Bernstein, V.-S. Chellaboina, and W. M. Haddad, "Finite Settling Time Control of the Double Integrator Using a Virtual Trap-Door Absorber," *IEEE Trans. Autom. Contr.*, Vol. 45, pp. 776-780, 2000.
134. V.-S. Chellaboina, W. M. Haddad, D. S. Bernstein, and D. A. Wilson, "Induced Convolution Norms of Linear Dynamical Systems," *Math. Contr. Sig. Sys.*, Vol. 13, pp. 216-239, 2000.
135. R. S. Erwin, D. S. Bernstein, and D. A. Wilson, "Fixed-Structure Synthesis of Induced-Norm Controllers," *Int. J. Contr.*, Vol. 73, pp. 1437-1448, 2000.
136. J. R. Corrado, R. S. Erwin, D. S. Bernstein and W. M. Haddad, "Stable  $H_2$ -Optimal Controller Synthesis," *Optimal Contr. Appl. Meth.*, Vol. 21, pp. 107-124, 2000.
137. H. Sane, R. Venugopal, and D. S. Bernstein, "Disturbance Rejection Using Self-Tuning ARMARKOV Adaptive Control with Simultaneous Identification," *IEEE Trans. Contr. Sys. Tech.*, Vol. 9, pp. 101-106, 2001.
138. J. Hong and D. S. Bernstein, "Adaptive Stabilization of Nonlinear Oscillators Using Direct Adaptive Control," *Int. J. Contr.*, Vol. 74, pp. 432-444, 2001.
139. Y. Wang, D. S. Bernstein, and L. T. Watson, "Probability-one Homotopy Algorithms for Solving the Coupled Lyapunov Equations Arising in Reduced-Order  $H^2/H^\infty$  Modeling, Estimation, and Control," *Appl. Math. Comput.*, Vol. 123, pp. 155-185, 2001.
140. A. V. Roup and D. S. Bernstein, "Adaptive Stabilization of a Class of Nonlinear Systems with Nonparametric Uncertainty," *IEEE Trans. Autom. Contr.*, Vol. 46, pp. 1821-1825, 2001.
141. S. L. Lacy, R. S. Erwin, and D. S. Bernstein, "Identification of Wiener Systems with Known, Noninvertible Nonlinearities," *ASME J. Dyn. Sys. Meas. Contr.*, Vol. 123, pp. 566-571, 2001.
142. T. H. Van Pelt and D. S. Bernstein, "Nonlinear System Identification Using Hammerstein and Nonlinear Feedback Models with Piecewise Linear Static Maps," *Int. J. Contr.*, Vol. 74, pp. 1807-1823, 2001.
143. J. Ahmed and D. S. Bernstein, "Adaptive Control of a Double-Gimbal Control-Moment Gyro with Unbalanced Rotor," *AIAA J. Guid. Contr. Dyn.*, Vol. 25, pp. 105-115, 2002.

144. R. S. Erwin and D. S. Bernstein, "Fixed-Structure Discrete-Time Mixed  $H_2/H_\infty$  Controller Synthesis Using the Delta-Operator," *Int. J. Contr.*, Vol. 75, pp. 559-571, 2002.
145. D. S. Bernstein and S. L. Osburn, "Guaranteed Cost Inequalities for Robust Stability and Performance Analysis," *Int. J. Robust Nonlinear Contr.*, Vol. 12, pp. 1275-1297, 2002.
146. R. Venugopal, V. G. Rao, and D. S. Bernstein, "Lyapunov-Based Backward-Horizon Discrete-Time Adaptive Control," *Adaptive Contr. Sig. Proc.*, Vol. 17, pp. 67-84, 2003.
147. H. Sane and D. S. Bernstein, "Asymptotic Disturbance Rejection for Hammerstein Positive Real Systems," *IEEE Trans. Contr. Sys. Tech.*, Vol. 11, pp. 364-374, 2003.
148. S. L. Lacy and D. S. Bernstein, "Subspace Identification with Guaranteed Stability Using Constrained Optimization," *IEEE Trans. Autom. Contr.*, Vol. 48, pp. 1259-1263, 2003.
149. D. S. Bernstein, N. H. McClamroch, and J. Shen, "An Air Spindle Testbed for Experimental Investigation of Shape Change Actuation for Precision Attitude Control," *IEEE Contr. Sys. Mag.*, Vol. 23, pp. 44-56, October 2003.
150. S. L. Lacy and D. S. Bernstein, "Identification of FIR Wiener Systems with Unknown, Noninvertible, Polynomial Nonlinearities," *Int. J. Contr.*, Vol. 76, pp. 1500-1507, 2003.
151. S. P. Bhat and D. S. Bernstein, "Nontangency-Based Lyapunov Tests for Convergence and Stability in Systems Having a Continuum of Equilibria," *SIAM J. Contr. Optim.*, Vol. 42, pp. 1745-1775, 2003.
152. A. V. Roup, D. S. Bernstein, S. G. Nersesov, W. M. Haddad, and V. Chellaboina, "Limit Cycle Analysis of the Verge and Foliot Clock Escapement Using Impulsive Differential Equations and Poincare Maps," *Int. J. Contr.*, pp. 1685-1698, 2003.
153. S. Akhtar, R. Venugopal, and D. S. Bernstein, "Logarithmic Lyapunov Functions for Direct Adaptive Stabilization with Normalized Adaptive Laws," *Int. J. Contr.*, Vol. 77, pp. 630-638, 2004.
154. A. Roup and D. S. Bernstein, "Adaptive Stabilization of Second-Order Systems with Bounded Time-Varying Coefficients," *J. Vibr. Contr.*, Vol. 10, pp. 963-994, 2004.
155. J. Oh and D. S. Bernstein, "A Semilinear Duhem Model for Rate-Independent and Rate-Dependent Hysteresis," *IEEE Trans. Autom. Contr.*, Vol. 50, pp. 631-645, 2005.
156. S. P. Bhat and D. S. Bernstein, "Geometric Homogeneity with Applications to Finite-time Stability," *Math. Contr. Sig. Sys.*, Vol. 17, pp. 101-127, 2005.
157. D. Patt, L. Liu, J. Chandrasekar, D. S. Bernstein, and P. P. Friedmann, "The Higher-Harmonic-Control Algorithm for Helicopter Vibration Reduction Revisited," *AIAA J. Guid. Contr. Dyn.*, Vol. 28, pp. 918-930, 2005.
158. S. L. Lacy and D. S. Bernstein, "Subspace Identification for Nonlinear Systems with Measured-Input Nonlinearities," *Int. J. Contr.*, Vol. 78, pp. 906-926, 2005.
159. S. Akhtar and D. S. Bernstein, "Lyapunov-Stable Discrete-Time Model Reference Adaptive Control," *Adaptive Contr. Signal Proc.*, Vol. 19, pp. 745-767, 2005.
160. E. L. Renk, W. J. Collins, M. A. Rizzo, F. J. Lee, and D. S. Bernstein, "Optimization-Based Calibration of a Triaxial Accelerometer-Magnetometer," *IEEE Contr. Sys. Mag.*, Vol. 25, pp. 86-95, December 2005.
161. N. A. Chaturvedi, A. K. Sanyal, M. Chellappa, J. L. Valk, N. H. McClamroch, and D. S. Bernstein, "Adaptive Tracking of Angular Velocity for a Planar Rigid Body with Unknown Models for Inertia and Input Nonlinearity," *IEEE Trans. Contr. Sys. Tech.*, Vol. 14, pp. 613-627, 2006.
162. B.-E. Jun and D. S. Bernstein, "Least-correlations Estimates for Errors-in-Variables Models," *Int. J. Adaptive Contr. Sig. Proc.*, Vol. 20, pp. 337-351, 2006.
163. N. A. Chaturvedi, D. S. Bernstein, J. Ahmed, F. Bacconi, and N. H. McClamroch, "Globally Convergent Adaptive Tracking of Angular Velocity and Inertia Identification of a 3-DOF Rigid Body," *IEEE Trans. Contr. Sys. Tech.*, Vol. 14, pp. 841-853, 2006.
164. J. Chandrasekar, L. Liu, D. Patt, P. P. Friedmann, and D. S. Bernstein, "Adaptive Harmonic Steady State Control for Disturbance Rejection," *IEEE Trans. Contr. Sys. Tech.*, Vol. 14, pp. 993-1007, 2006.
165. O. Barrero Mendoza, B. De Moor, and D. S. Bernstein, "Data Assimilation for Magnetohydrodynamics Systems," *J. Comp. Appl. Math.*, Vol. 189, pp. 242-259, 2006.
166. J. Chandrasekar and D. S. Bernstein, "Correlation Bounds for Discrete-Time Systems with Banded Dynamics," *Sys. Contr. Lett.*, Vol. 56, pp. 83-86, 2007.
167. B.-E. Jun and D. S. Bernstein, "Extended Least-correlation Estimates for Errors-in-Variables Non-linear Models," *Int. J. Contr.*, Vol. 80, pp. 256-267, 2007.
168. J. B. Hoagg and D. S. Bernstein, "Direct Adaptive Command Following and Disturbance Rejection for Minimum Phase Systems with Unknown Relative Degree," *Int. J. Adaptive Contr. Sig. Proc.*, Vol. 21, pp. 49-75, 2007.
169. J. Chandrasekar and D. S. Bernstein, "Setpoint Tracking with Actuator Offset and Sensor Bias: Probing the Limits of Integral Control," *IEEE Contr. Sys. Mag.*, Vol. 27, pp. 61-68, February 2007. Errata
170. J. Oh and D. S. Bernstein, "Piecewise Linear Identification for the Rate-Independent and Rate-Dependent Duhem Hysteresis Models," *IEEE Trans. Autom. Contr.*, Vol. 52, pp. 576-582, 2007.
171. J. B. Hoagg and D. S. Bernstein, "Direct Adaptive Dynamic Compensation for Minimum-Phase Systems with Unknown Relative Degree," *IEEE Trans. Autom. Contr.*, Vol. 52, pp. 610-621, 2007.

172. J. B. Hoagg and D. S. Bernstein, "Nonminimum-Phase Zeros: Much to Do about Nothing," *IEEE Contr. Sys. Mag.*, Vol. 27, pp. 45-57, June 2007.
173. J. B. Hoagg and D. S. Bernstein, "Lyapunov-Stable Adaptive Stabilization of Nonlinear Time-Varying Systems with Matched Uncertainty," *Int. J. Contr.*, Vol. 80, pp. 872-884, 2007.
174. J. B. Hoagg, J. Chandrasekar, and D. S. Bernstein, "On the Zeros, Initial Undershoot, and Relative Degree of Lumped-Parameter Structures," *ASME J. Dyn. Sys. Meas. Contr.*, Vol. 129, pp. 493-502, 2007.
175. H. Palanthandalam-Madapusi, D. S. Bernstein, and A. J. Ridley, "Space Weather Forecasting: Identifying Periodically Switching Block-structured Models to Predict Magnetic-field Fluctuations," *IEEE Contr. Sys. Mag.*, Vol. 27, pp. 109-123, October 2007.
176. J. Chandrasekar, D. S. Bernstein, O. Barrero, and B. De Moor, "Kalman Filtering with Constrained Output Injection," *Int. J. Contr.*, Vol. 80, pp. 1863-1879, 2007.
177. H. Palanthandalam-Madapusi, D. S. Bernstein, and R. Venugopal, "Dimensional Analysis of Matrices: State-Space Models and Dimensionless Units," *IEEE Contr. Sys. Mag.*, Vol. 27, pp. 100-109, December 2007; addendum, *IEEE Contr. Sys. Mag.*, Vol. 28, pp. 16-17, December 2008.
178. J. Chandrasekar and D. S. Bernstein, "Position Control Using Acceleration-Based Identification and Feedback with Unknown Measurement Bias," *ASME Trans. Dyn. Sys. Meas. Contr.*, Vol. 130, pp. 014501-1-014501-9, 2008.
179. D. J. Pawlowski, A. J. Ridley, and I. S. Kim, and D. S. Bernstein, "Global Model Comparison with Millstone Hill During September 2005," *J. Geophysical Res.*, Vol. 113, 2008.
180. A. K. Padthe, N. A. Chaturvedi, D. S. Bernstein, S. P. Bhat, and A. M. Waas, "Feedback Stabilization of Snap-through Buckling in a Preloaded Two-Bar Linkage with Hysteresis," *Int. J. Non-Linear Mech.*, Vol. 43, pp. 277-291, 2008.
181. J. B. Hoagg, M. A. Santillo, and D. S. Bernstein, "Discrete-Time Adaptive Command Following and Disturbance Rejection with Unknown Exogenous Dynamics," *IEEE Trans. Autom. Contr.*, Vol. 53, pp. 912-928, 2008.
182. J. B. Hoagg, M. A. Santillo, and D. S. Bernstein, "Internal Model Control in the Shift and Delta Domains," *IEEE Trans. Autom. Contr.*, Vol. 53, pp. 1066-1072, 2008.
183. B. O. S. Teixeira, M. A. Santillo, R. S. Erwin, and D. S. Bernstein, "Spacecraft Tracking Using Sampled-Data Kalman Filters: An Illustrative Application of Extended and Unscented Estimators," *IEEE Contr. Sys. Mag.*, Vol. 28, pp. 78-94, August 2008.
184. B. O. S. Teixeira, J. Chandrasekar, H. Palanthandalam-Madapusi, L. A. B. Torres, L. A. Aguirre, and D. S. Bernstein, "Gain-Constrained Kalman Filtering for Linear and Nonlinear Systems," *IEEE Trans. Sig. Proc.*, Vol. 56, pp. 4113-4123, 2008.
185. A. K. Padthe, B. Drincic, J. Oh, D. D. Rizos, S. D. Fassois, and D. S. Bernstein, "Duhem Modeling of Friction-Induced Hysteresis: Experimental Determination of Gearbox Stiction," *IEEE Contr. Sys. Mag.*, Vol. 28, pp. 90-107, October 2008.
186. N. A. Chaturvedi, N. H. McClamroch, and D. S. Bernstein, "Stabilization of a 3D Axially Symmetric Pendulum," *Automatica*, Vol. 44, pp. 2258-2265, 2008.
187. J. Chandrasekar, I. S. Kim, D. S. Bernstein, and A. J. Ridley, "Reduced-Rank Unscented Kalman Filtering Using Cholesky-Based Decomposition," *Int. J. Contr.*, Vol. 81, pp. 1779-1792, 2008.
188. L. Liu, P. P. Friedmann, I. Kim, and D. S. Bernstein, "Rotor Performance Enhancement and Vibration Reduction in Presence of Dynamic Stall Using Actively Controlled Flaps," *J. American Helicopter Soc.*, Vol. 53, pp. 338-350, 2008.
189. J. Oh, B. Drincic, and D. S. Bernstein, "Nonlinear Feedback Models of Hysteresis: Backlash, Bifurcation, and Multistability," *IEEE Contr. Sys. Mag.*, Vol. 29, pp. 100-119, February 2009.
190. B. O. S. Teixeira, J. Chandrasekar, L. A. B. Torres, L. A. Aguirre, and D. S. Bernstein, "State Estimation for Linear and Non-linear Equality-Constrained Systems," *Int. J. Contr.*, Vol. 82, pp. 918-936, 2009.
191. N. A. Chaturvedi, N. H. McClamroch, and D. S. Bernstein, "Asymptotic Smooth Stabilization of the Inverted 3D Pendulum," *IEEE Trans. Autom. Contr.*, Vol. 54, pp. 1204-1215, 2009.
192. V. Chellaboina, S. P. Bhat, W. M. Haddad, and D. S. Bernstein, "Modeling and Analysis of Mass-Action Kinetics: Nonnegativity, realizability, reducibility, and semistability," *IEEE Contr. Sys. Mag.*, Vol. 29, pp. 60-78, August 2009.
193. A. Sanyal, A. Fosbury, N. Chaturvedi, and D. S. Bernstein, "Inertia-Free Spacecraft Attitude Tracking with Disturbance Rejection and Almost Global Stabilization," *AIAA J. Guid. Contr. Dyn.*, Vol. 32, pp. 1167-1178, 2009.
194. S. P. Bhat and D. S. Bernstein, "Average-Preserving Symmetries and Energy Equipartition in Linear Hamiltonian Systems," *Math. Contr. Sig. Sys.*, Vol. 21, pp. 127-146, 2009.
195. H. Palanthandalam-Madapusi, T. H. Van Pelt, and D. S. Bernstein, "Matrix Pencils and Existence Conditions for Quadratic Programming with a Sign-Indefinite Quadratic Equality Constraint," *J. Global Optim.*, Vol. 45, pp. 533-549, 2009.
196. I. S. Kim, B. O. S. Teixeira, J. Chandrasekar, and D. S. Bernstein, "Reduced-Order Kalman Filtering for Time-Varying Systems," *Asian J. Contr.*, Vol. 11, pp. 595-609, 2009.



197. H. Palanhandalam-Madapusi and D. S. Bernstein, "A Subspace Algorithm for Simultaneous Identification and Input Reconstruction," *Int. J. Adaptive Contr. Sig. Proc.*, Vol. 23, pp. 1053–1069, 2009.
198. B. O. S. Teixeira, L. A. B. Torres, L. A. Aguirre, and D. S. Bernstein, "On Unscented Kalman Filtering with State Interval Constraints," *J. Process Contr.*, Vol. 20, pp. 45–57, 2010.
199. B.-E. Jun, D. S. Bernstein, and N. H. McClamroch, "Identification of the Inertia Matrix of a Rotating Body Based on Errors-in-Variables Models," *Int. J. Adaptive Contr. Sig. Proc.*, Vol. 24, pp. 203–210, 2010.
200. M. A. Santillo and D. S. Bernstein, "Adaptive Control Based on Retrospective Cost Optimization," *AIAA J. Guid. Contr. Dyn.*, Vol. 33, pp. 289–304, 2010.
201. H. Palanhandalam-Madapusi, T. H. Van Pelt, and D. S. Bernstein, "Parameter Consistency and Quadratically Constrained Errors-in-Variables Least-Squares Identification," *Int. J. Contr.*, Vol. 83, pp. 862–877, 2010.
202. S. P. Bhat and D. S. Bernstein, "Arc-Length-Based Lyapunov Tests for Convergence and Stability with Applications to Systems Having a Continuum of Equilibria," *Math. Contr. Sig. Sys.*, Vol. 22, pp. 156–184, 2010.
203. O. M. Baksalary, D. S. Bernstein, and G. Trenkler, "On the Equality between Rank and Trace of an Idempotent Matrix," *Applied Mathematics and Computation*, Vol. 217, pp. 4076–4080, 2010.
204. S. Kirtikar, H. Palanhandalam-Madapusi, E. Zattoni, and D. S. Bernstein, " $l$ -Delay Input and Initial-State Reconstruction for Discrete-Time Linear Systems," *Circ. Sys. Sig. Processing*, Vol. 30, pp. 233–262, 2011.
205. J. Yan, J. B. Hoagg, R. E. Hindman, and D. S. Bernstein, "Longitudinal Aircraft Dynamics and the Instantaneous Acceleration Center of Rotation: The Case of the Vanishing Zeros," *IEEE Contr. Sys. Mag.*, Vol. 31, pp. 68–92, August 2011.
206. A. M. D'Amato, A. J. Ridley, and D. S. Bernstein, "Retrospective-Cost-Based Adaptive Model Refinement for the Ionosphere and Thermosphere," *Statistical Analysis and Data Mining*, Vol. 4, pp. 446–458, 2011.
207. H. J. Palanhandalam-Madapusi, A. Girard, and D. S. Bernstein, "Wind-field Reconstruction from Flight Data Using an Unbiased Minimum-variance Unscented Filter," *Trans. Inst. Meas. Contr.*, Vol. 33, pp. 718–733, 2011.
208. A. M. D'Amato, B. O. S. Teixeira, and D. S. Bernstein, "Semiparametric Identification of Wiener Systems Using a Single Harmonic Input and Retrospective Cost Optimization," *IET Contr. Theory Appl.*, Vol. 5, pp. 594–605, 2011.
209. B. Drincic, X. Tan, and D. S. Bernstein, "Why Are Some Hysteresis Loops Shaped Like a Butterfly?," *Automatica*, Vol. 47, pp. 2658–2664, 2011.
210. M. H. Holzel and D. S. Bernstein, "From Polynomial Matrices to Markov Parameters and Back: Theory and Numerical Algorithms," *Lin. Alg. Appl.*, Vol. 437, pp. 783–808, 2012.
211. J. B. Hoagg and D. S. Bernstein, "Retrospective Cost Model Reference Adaptive Control for Nonminimum-Phase Systems," *AIAA J. Guid. Contr. Dyn.*, Vol. 35, pp. 1767–1786, 2012.
212. A. Weiss, I. Kolmanovsky, D. S. Bernstein, and A. Sanyal, "Inertia-Free Spacecraft Attitude Control Using Reaction Wheels," *AIAA J. Guid. Contr. Dyn.*, Vol. 36, pp. 1425–1439, 2013.
213. A. V. Morozov, A. J. Ridley, D. S. Bernstein, N. Collins, T. J. Hoar, and J. L. Anderson "Data Assimilation and Driver Estimation for the Global IonosphereThermosphere Model Using the Ensemble Adjustment Kalman Filter," *J. Atmospheric and Solar-Terrestrial Physics*, Vol. 104, pp. 126–136, 2013.
214. J. Yan and D. S. Bernstein, "Minimal Modeling Retrospective Cost Adaptive Control of Uncertain Hammerstein Systems Using Auxiliary Nonlinearities," *Int. J. Contr.*, Vol. 87, pp. 483–505, 2014.
215. J. Yan, D. A. dos Santos, and D. S. Bernstein, "Adaptive Control with Convex Saturation Constraints," *IET Contr. Theory Appl.*, Vol. 8, pp. 1096–1104, 2014.
216. M. Al Janaideh and D. S. Bernstein, "Adaptive Control of Hammerstein Systems with Unknown Prandtl-Ishlinskii Hysteresis," *Proc. IMechE Part 1: J. Sys. Contr. Eng.*, pp. 1–9, 2014, DOI: 10.1177/0959651814551660.
217. K. F. Aljanaideh, J. R. Forbes, and D. S. Bernstein, "Do Unstable Systems Have Amplification and Phase Shift?," *IEEE Contr. Sys. Mag.*, Vol. 34, pp. 86–141, 2014.
218. M. H. Holzel and D. S. Bernstein, "A Matrix Nullspace Approach for Solving Equality-Constrained Multivariable Polynomial Least-Squares Problems," *Automatica*, Vol. 50, pp. 3030–3037, 2014.
219. A. Prach, O. Tekinalp, and D. S. Bernstein, "Infinite-Horizon Linear-Quadratic Control by Forward Propagation of the Differential Riccati Equation," *IEEE Contr. Sys. Mag.*, Vol. 35, pp. 78–93, April 2015.
220. E. D. Sumer and D. S. Bernstein, "On the Role of Subspace Zeros in Retrospective Cost Adaptive Control of Nonsquare Plants," *Int. J. Contr.*, Vol. 88, pp. 295–323, 2015.
221. A. G. Burrell, A. Goel, A. J. Ridley, and D. S. Bernstein, "Correction of the Photoelectron Heating Efficiency Within the Global Ionosphere-Thermosphere Model Using Retrospective Cost Model Refinement," *J. Atmospheric Solar-Terrestrial Physics*, Vol. 124, pp. 30–38, 2015, DOI 10.1016/j.jastp.2015.01.004.
222. K. F. Aljanaideh and D. S. Bernstein, "Time-Domain Analysis of Sensor-to-Sensor Transmissibility Operators," *Automatica*, Vol. 53, pp. 312–319, 2015.
223. K. F. Aljanaideh and D. S. Bernstein, "Time-Domain Analysis of Motion Transmissibilities in Force-Driven and Displacement-Driven Structures," *J. Sound. Vib.*, Vol. 347, pp. 169–183, 2015.
224. K. F. Aljanaideh and D. S. Bernstein, "Aircraft Sensor Health Monitoring Based on Transmissibility Operators," *AIAA J. Guid. Contr. Dyn.*, Vol. 38, pp. 1492–1495, 2015.

225. A. A. Ali, A. Goel, A. J. Ridley, and D. S. Bernstein, "Retrospective-Cost-Based Adaptive Input and State Estimation for the IonosphereThermosphere," *J. Aero. Inf. Sys.*, Vol. 12, pp. 767–783, 2015.
226. D. S. Bernstein, K. F. Aljanaideh, and A. E. Frazho, "Laurent Series and  $\ell^p$  Sequences," *Amer. Math. Monthly*, Vol. 123, p. 398, 2016.
227. A. A. Ali, J. B. Hoagg, M. Mossberg, and D. S. Bernstein, "On the Stability and Convergence of a Sliding-Window Variable-Regularization Recursive-Least-Squares Algorithm," *Int. J. Adaptive Contr. Sig. Proc.*, pp. 715–735, 2016.
228. M. Al Janaideh and D. S. Bernstein, "Adaptive Control of Hammerstein Systems with Unknown Input Non-linearity and Partially Modeled Linear Dynamics," *Int. J. Contr. Autom. Sys.*, Vol. 14, pp. 957–966, 2016.
229. S. A. U. Islam and D. S. Bernstein, "Is It Possible to Follow Position Commands Using Velocity Measurements?," *IEEE Contr. Sys. Mag.*, Vol. 36, pp. 93–98, December 2016.
230. K. F. Aljanaideh and D. S. Bernstein, "Closed-Loop Identification of Unstable Systems Using Noncausal FIR Models," *Int. J. Contr.*, Vol. 90, pp. 184–201, 2017.
231. S. Dai, Z. Ren, and D. S. Bernstein, "Adaptive Control of Nonminimum-Phase Systems Using Shifted Laurent Series," *Int. J. Contr.*, Vol. 90, pp. 409–422, 2017.
232. A. Xie and D. S. Bernstein, "On Spatial Spillover in Feedforward and Feedback Noise Control," *J. Sound Vibr.*, Vol. 391, pp. 1–19, 2017.
233. Y. Rahman and D. S. Bernstein, "Are All Full-Order Dynamic Compensators Observer-Based?," *IEEE Contr. Sys. Mag.*, Vol. 37, pp. 116–122, 2017.
234. K. F. Aljanaideh and D. S. Bernstein, "A Behavioral Equation Framework for Time-Domain Transmissibilities," *Automatica*, Vol. 78, pp. 20–24, 2017.
235. L. Han, Z. Ren, and D. S. Bernstein, "Maneuvering Target Tracking Using Retrospective-Cost-Based Input Estimation," *IEEE Trans. Aerosp. Sys.*, Vol. 52, pp. 2495–2503, 2017.
236. A. Ansari and D. S. Bernstein, "Retrospective Cost Adaptive Control of the Generic Transport Model Under Uncertainty and Failure," *J. Aero. Inf. Sys.*, Vol. 14, pp. 123–174, 2017.
237. X. Zhou, D. S. Bernstein, J. L. Stein, and T. Ersal, "Battery State of Health Monitoring by Estimation of Side Reaction Current Density via Retrospective-Cost Subsystem Identification," *J. Dyn. Sys. Meas. Contr.*, Vol. 139, No. 9, pp. 091007-1–091007-15, 2017.
238. Y. Rahman, A. Xie, and D. S. Bernstein, "Retrospective Cost Adaptive Control: Pole Placement, Frequency Response, and Connections with LQG Control," *IEEE Contr. Sys. Mag.*, Vol. 37, pp. 28–69, October 2017.
239. K. F. Aljanaideh and D. S. Bernstein, "Experimental Application of Transmissibility Operators to Fault Detection and Localization in Acoustic Systems," *J. Vibr. Acoustics*, Vol. 140, pp. 021017-1–021017-11, 2018.
240. A. Prach and D. S. Bernstein, "Output-feedback Control of Linear Time-varying and Nonlinear Systems Using the Forward Propagating Riccati Equation," *J. Vibr. Contr.*, Vol. 24, No. 7, pp. 1239–1263, 2018.
241. K. F. Aljanaideh and D. S. Bernstein, "Initial Conditions in Time- and Frequency-Domain System Identification: Implications of the Shift Operator versus the Z Transform," *IEEE Contr. Sys. Mag.*, Vol. 38, pp. 80–93, April 2018.
242. A. Goel, K. Duraisamy, and D. S. Bernstein, "Retrospective Cost Adaptive Control of Unstart in a Model Scramjet Combustor," *AIAA J.*, Vol. 56, pp. 1085–1096, 2018.
243. A. Ansari and D. S. Bernstein, "Deadbeat State Estimation and Input Reconstruction for Discrete-Time Linear Systems," *Automatica*, Vol. 203, pp. 11–19, 2019.
244. M. J. Yu and D. S. Bernstein, "Retrospective Cost Subsystem Estimation and Smoothing for Linear Systems with Structured Uncertainty," *J. Aero. Inf. Sys.*, Vol. 15, No. 10, pp. 566–584, 2018.
245. A. Prach, O. Kouba, and D. S. Bernstein, "How Slippery Is Viscous Friction?," *IEEE Contr. Sys. Mag.*, Vol. 39, pp. 73–82, June 2019.
246. S. A. U. Islam and D. S. Bernstein, "Recursive Least Squares for Real-Time Implementation," *IEEE Contr. Sys. Mag.*, Vol. 39, pp. 82–85, June 2019.
247. A. Ansari and D. S. Bernstein, "Input Estimation for Nonminimum-Phase Systems with Application to Acceleration Estimation for a Maneuvering Vehicle," *IEEE Trans. Contr. Sys. Tech.*, Vol. 27, pp. 1596–1607, 2019.
248. D. S. Bernstein, "On Feasible Body, Aerodynamic, and Navigation Euler Angles for Aircraft Flight," *AIAA J. Guid. Contr. Dyn.*, Vol. 42, No. 5, pp. 1130–1135, 2019.
249. S. A. U. Islam, E. L. Ratnam, A. Goel, and D. S. Bernstein, "Phasor-Based Adaptive Control of a Test-Feeder Distribution Network," *IEEE Contr. Sys. Mag.*, Vol. 39, pp. 56–74, August 2019.
250. K. F. Aljanaideh and D. S. Bernstein, "Transmission Matrices for Physical-System Modeling," *IEEE Contr. Sys. Mag.*, Vol. 39, pp. 88–109, October 2019.
251. A. Goel and D. S. Bernstein, "Gradient-, Ensemble-, and Adjoint-Free Data-Driven Parameter Estimation," *AIAA J. Guid. Contr. Dyn.*, Vol. 42, pp. 1743–1754, 2019.
252. S. Sanjeevini and D. S. Bernstein, "Minimal-Delay FIR Delayed Left Inverses for Systems with Zero Nonzero Zeros," *Sys. Contr. Lett.*, Vol. 133, Article 104552 (8 pages), 2019.

253. Z. Zhao, G. Cruz, and D. S. Bernstein, "Adaptive Spacecraft Attitude Control Using Single-Gimbal Control Moment Gyroscopes without Singularity Avoidance," *AIAA J. Guid. Contr. Dyn.*, Vol. 42, pp. 2342–2355, November 2019.
254. D. S. Bernstein and O. Kouba, "Counting Colorful Necklaces and Bracelets in Three Colors," *Aequationes Mathematicae*, Vol. 93, pp. 1183–1202, 2019.
255. D. S. Bernstein and V. H. Moll, "A Warning About Symbolic Integration," *Scientia, Series A: Mathematical Sciences*, Vol. 29, pp. 7–9, 2019.
256. M. Kamaldar, S. A. U. Islam, S. Sanjeevini, A. Goel, J. B. Hoagg, and D. S. Bernstein, "Adaptive Digital PID Control of Sampled-Data Systems with First-Order-Lag-Plus-Dead-Time Dynamics and Sensor, Actuator, and Feedback Nonlinearities," *Advanced Control for Applications*, Vol. 1, pp. 1–46, December 2019, DOI: 10.1002/adc2.20.
257. S. A. U. Islam, A. Goel, and D. S. Bernstein, "Real-Time Implementation of the Optimal Predictor and Optimal Filter: Accuracy versus Latency," *IEEE Contr. Sys. Mag.*, Vol. 40, pp. 84–91, April 2020.
258. K. F. Aljanaideh and D. S. Bernstein, "Output-Only Identification of Input-Output Models," *Automatica*, vol. 113, article number 108686, 13 pages, March 2020.
259. O. Kouba and D. S. Bernstein, "What Is the Adjoint of a Linear System?," *IEEE Contr. Sys. Mag.*, Vol. 40, pp. 62–70, June 2020.
260. F. Sobolic, K. F. Aljanaideh, and D. S. Bernstein, "A Numerical Investigation of Direct and Indirect Closed-Loop Architectures for Estimating Nonminimum-Phase Zeros," *Int. J. Contr.*, Vol. 93, No. 6, pp. 1251–1265, 2020.
261. A. L. Bruce, A. Goel, and D. S. Bernstein, "Recursive Least Squares with Variable-Rate Forgetting," *Automatica*, Vol. 119, pp. 1–6, Article 109052, 2020.
262. A. Goel, A. L. Bruce, and D. S. Bernstein, "Recursive Least Squares with Variable-Direction Forgetting: Compensating for the loss of persistency," *IEEE Contr. Sys. Mag.*, Vol. 40, pp. 80–102, August 2020.
263. A. Goel, B. Ponder, A. Ridley, and D. S. Bernstein, "Estimation of Thermal-Conductivity Coefficients in the Global Ionosphere-Thermosphere Model," *J. Aero. Inf. Sys.*, Vol. 17, pp. 546–553, 2020.
264. M. Kamaldar, S. Sanjeevini, and D. S. Bernstein, "Revisiting Minimal Realizations," *IEEE Contr. Sys. Mag.*, Vol. 41, pp. 70–79, 2021.
265. S. Sanjeevini and D. S. Bernstein, "Counting Zeros Using Observability and Block-Toeplitz Matrices," *IEEE Trans. Autom. Contr.*, Vol. 66, pp. 1301–1305, 2021.
266. M. Kamaldar and D. S. Bernstein, "Dynamic Output-Feedback Control of a Chain of Discrete-Time Integrators with Arbitrary Zeros and Asymmetric Input Saturation," *Automatica*, Vol. 125, pp. 1–8, Article 109387, 2021.
267. A. L. Bruce, A. Goel, and D. S. Bernstein, "Necessary and Sufficient Regressor Conditions for the Global Asymptotic Stability of Recursive Least Squares," *Sys. Contr. Lett.*, Vol. 157, pp. 1–7, Article 105005, 2021.
268. A. Goel, S. A. U. Islam, A. Ansari, O. Kouba, and D. S. Bernstein, "An Introduction to Inertial Navigation from the Perspective of State Estimation," *IEEE Contr. Sys. Mag.*, Vol. 41, pp. 104–129, October, 2021.
269. K. F. Aljanaideh, O. Furdul, and D. S. Bernstein, "On the McMillan Degree of Full-Rank Transfer Functions," *Int. J. Contr.*, Vol. 94, No. 12, pp. 3439–3447, 2021.
270. T. Nguyen, S. A. U. Islam, D. S. Bernstein, and I. Kolmanovsky, "Predictive Cost Adaptive Control: A Numerical Investigation of Persistency, Consistency, and Exigency," *IEEE Contr. Sys. Mag.*, Vol. 41, pp. 64–96, December 2021.
271. S. A. U. Islam, T. Nguyen, I. Kolmanovsky, and D. S. Bernstein, "Data-Driven Retrospective Cost Adaptive Control for Flight Control Applications," *J. Guid. Contr. Dyn.*, Vol. 44, pp. 1732–1758, October 2021.
272. M. Kamaldar, S. A. U. Islam, J. B. Hoagg, and D. S. Bernstein, "Demystifying Enigmatic Undershoot in Setpoint Command Following," *IEEE Contr. Sys. Mag.*, Vol. 42, pp. 103–125, February 2022.
273. A. Goel and D. S. Bernstein, "Injection-Constrained State Estimation," *AIAA J. Guid. Contr. Dyn.*, Vol. 45, pp. 990–1001, 2022.
274. N. Mohseni and D. S. Bernstein, "Retrospective Cost Adaptive Harmonic Disturbance Rejection Using Dereverberated Target Models," *J. Sound Vibr.*, Vol. 523, pp. 1–14, paper 116692, 2022.
275. S. Sanjeevini, S. A. U. Islam, and D. S. Bernstein, "On the Zero Dynamics of Linear Input-Output Models," *Int. J. Contr.*, Vol. 95, pp. 924–933, 2022.
276. D. S. Bernstein, "Facing Future Challenges in Feedback Control of Aerospace Systems Through Scientific Experimentation," *AIAA J. Guid. Contr. Dyn.*, Vol. 45, pp. 2202–2210, 2022.
277. B. Lai and D. S. Bernstein, "Exponential Resetting and Cyclic Resetting Recursive Least Squares," *IEEE Contr. Sys. Lett.*, Vol. 7, pp. 985–990, 2022.
278. B. M. Ponder, A. J. Ridley, A. Goel, and D. S. Bernstein, "Improving Forecasting Ability of GITM Using DataDriven Model Refinement," *Space Weather*, Vol. 21, No. 3, e2022SW003290, 2023.
279. D. S. Bernstein, A. Goel, and O. Kouba, "Deriving Eulers Equation for Rigid-Body Rotation via Lagrangian Dynamics with Generalized Coordinates," *Mathematics*, Vol. 11, No. 12, 2023.

### Available Online

280. O. Kouba and D. S. Bernstein, “The Dynamics of a Bead Sliding on a Freely Rotating Horizontal Wire: An Analytical Solution,” *Differential Equations and Dynamical Systems*, 2021, available online.
281. J. Paredes, Y. Yang, and D. S. Bernstein, “Output-Only Identification of Self-Excited Systems Using Discrete-Time Lur’e Models with Application to a Gas-Turbine Combustor,” *Int. J. Contr.*, available online.
282. J. Paredes and D. S. Bernstein, “Experimental Implementation of Retrospective Cost Adaptive Control for Suppressing Thermoacoustic Oscillations in a Rijke Tube,” *IEEE Trans. Contr. Sys. Tech.*, available online.

## Conference Papers

1. D. C. Hyland and D. S. Bernstein, "Explicit Optimality Conditions for Fixed-Order Dynamic Compensation," *Proc. IEEE Conf. Dec. Contr.*, pp. 161-165, San Antonio, TX, December 1983.
2. D. S. Bernstein and D. C. Hyland, "The Optimal Projection Equations for Fixed-Order Dynamic Compensation of Distributed Parameter Systems," *Proc. AIAA Dynamics Specialists Conf.*, pp. 396-400, Palm Springs, CA, May 1984, paper 84-1035.
3. D. S. Bernstein and D. C. Hyland, "Numerical Solution of the Optimal Model Reduction Equations," *Proc. AIAA Dynamics Specialists Conf.*, pp. 560-562, Palm Springs, CA, May 1984, paper 84-1934.
4. D. C. Hyland and D. S. Bernstein, "The Optimal Projection Approach to Model Reduction and the Relationship Between the Methods of Wilson and Moore," *Proc. IEEE Conf. Dec. Contr.*, pp. 120-126, Las Vegas, NV, December 1984.
5. D. S. Bernstein and D. C. Hyland, "The Optimal Projection Approach to Designing Optimal Finite-Dimensional Controllers for Distributed Parameter Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 556-560, Las Vegas, NV, December 1984.
6. D. S. Bernstein and D. C. Hyland, "The Optimal Projection Equations for Reduced-Order State Estimation," *Proc. Amer. Contr. Conf.*, pp. 164-167, Boston, MA, June 1985.
7. D. S. Bernstein, "The Optimal Projection Equations for Fixed-Structure Decentralized Dynamic Compensation," *Proc. IEEE Conf. Dec. Contr.*, pp. 104-107, Fort Lauderdale, FL, December 1985.
8. D. S. Bernstein, L. D. Davis, S. W. Greeley, and D. C. Hyland, "The Optimal Projection Equations for Reduced-Order, Discrete-Time Modelling, Estimation and Control," *Proc. IEEE Conf. Dec. Contr.*, pp. 573-578, Fort Lauderdale, FL, December 1985.
9. D. S. Bernstein and D. C. Hyland, "The Optimal Projection/Maximum Entropy Approach to Designing Low-Order, Robust Controllers for Flexible Structures," *Proc. IEEE Conf. Dec. Contr.*, pp. 745-752, Fort Lauderdale, FL, December 1985.
10. D. S. Bernstein, L. D. Davis, S. W. Greeley, and D. C. Hyland, "Numerical Solution of the Optimal Projection/Maximum Entropy Design Equations for Low-Order, Robust Controller Design," *Proc. IEEE Conf. Dec. Contr.*, pp. 1795-1798, Fort Lauderdale, FL, December 1985.
11. D. S. Bernstein and D. C. Hyland, "Optimal Projection/Maximum Entropy Stochastic Modelling and Reduced-Order Design Synthesis," *Model Error Concepts and Compensation: Proc. IFAC Workshop*, Boston, MA, June 1985, R. E. Skelton and D. H. Owens, Eds., pp. 47-54, Pergamon Press, Oxford, 1986.
12. D. S. Bernstein, L. D. Davis, and S. W. Greeley, "The Optimal Projection Equations for Fixed-Order, Sampled-Data Dynamic Compensation with Computation Delay," *Proc. Amer. Contr. Conf.*, pp. 1590-1597, Seattle, WA, June 1986.
13. D. S. Bernstein and S. W. Greeley, "Robust Output-Feedback Stabilization: Deterministic and Stochastic Perspectives," *Proc. Amer. Contr. Conf.*, pp. 1818-1826, Seattle, WA, June 1986.
14. D. C. Hyland and D. S. Bernstein, "MEOP Control Design Synthesis: Optimal Quantification of the Major Design Tradeoffs," in *Structural Dynamics and Control Interaction of Flexible Structures*, Part 2, pp. 1033-1070, NASA Conf. Publ. 2467, 1987.
15. W. M. Haddad and D. S. Bernstein, "The Optimal Projection Equations for Reduced-Order State Estimation: The Singular Measurement Noise Case," *Proc. Amer. Contr. Conf.*, pp. 779-785, Minneapolis, MN, June 1987.
16. D. C. Hyland and D. S. Bernstein, "The Majorant Lyapunov Equation: A Nonnegative Matrix Equation for Robust Stability and Performance of Large Scale Systems," *Proc. Amer. Contr. Conf.*, pp. 910-917, Minneapolis, MN, June 1987.
17. D. S. Bernstein, "Sequential Design of Decentralized Dynamic Compensators Using the Optimal Projection Equations: An Illustrative Example Involving Interconnected Flexible Beams," *Proc. Amer. Contr. Conf.*, pp. 986-989, Minneapolis, MN, June 1987.
18. D. S. Bernstein, "The Optimal Projection Equations For Nonstrictly Proper Fixed-Order Dynamic Compensation," *Proc. Amer. Contr. Conf.*, pp. 1991-1996, Minneapolis, MN, June 1987.
19. D. S. Bernstein and W. M. Haddad, "Optimal Output Feedback for Nonzero Set Point Regulation," *Proc. Amer. Contr. Conf.*, pp. 1997-2003, Minneapolis, MN, June 1987.
20. W. M. Haddad and D. S. Bernstein, "The Unified Optimal Projection Equations for Simultaneous Reduced-Order, Robust Modeling, Estimation and Control," *Proc. IEEE Conf. Dec. Contr.*, pp. 449-454, Los Angeles, CA, December 1987.
21. D. S. Bernstein and W. M. Haddad, "The Optimal Projection Equations with Petersen-Hollot Bounds: Robust Controller Synthesis with Guaranteed Structured Stability Radius," *Proc. IEEE Conf. Dec. Contr.*, pp. 1308-1318, Los Angeles, CA, December 1987.
22. D. S. Bernstein and W. M. Haddad, "LQG Control with an  $H_\infty$  Performance Bound: A Riccati Equation Approach," *Proc. Amer. Contr. Conf.*, pp. 796-802, Atlanta, GA, June 1988.
23. D. S. Bernstein and W. M. Haddad, "Robust Stability and Performance for Fixed-Order Dynamic Compensation via the Optimal Projection Equations with Guaranteed Cost Bounds," *Proc. Amer. Contr. Conf.*, pp. 2471-2476, Atlanta, GA, June 1988.

24. A. N. Madiwale, W. M. Haddad, and D. S. Bernstein, "Robust  $H_\infty$  Control Design for Systems with Parameter Uncertainty," *Proc. IEEE Conf. Dec. Contr.*, pp. 965-972, Austin, TX, December 1988. (Also appears in *Recent Advances in Robust Control*, pp. 237-244, P. Dorato and R. K. Yedavalli, Eds., IEEE Press, 1990.)
25. D. S. Bernstein and W. M. Haddad, "Robust Decentralized Output Feedback: The Static Controller Case," *Proc. IEEE Conf. Dec. Contr.*, pp. 1009-1013, Austin, TX, December 1988.
26. D. S. Bernstein and I. G. Rosen, "An Approximation Technique for Computing Optimal Fixed-Order Controllers for Infinite-Dimensional Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 2023-2028, Austin, TX, December 1988.
27. D. S. Bernstein and W. M. Haddad, "Robust Stability and Performance Analysis for State Space Systems via Quadratic Lyapunov Bounds," *Proc. IEEE Conf. Dec. Contr.*, pp. 2182-2187, Austin, TX, December 1988.
28. D. S. Bernstein and W. M. Haddad, "Optimal Reduced-Order State Estimation for Unstable Plants," *Proc. IEEE Conf. Dec. Contr.*, pp. 2364-2366, Austin, TX, December 1988.
29. W. M. Haddad and D. S. Bernstein, "Complete Solution to the Nonsingular  $H_2/H_\infty$  Four Block Problem," *Proc. Amer. Contr. Conf.*, pp. 187-192, Pittsburgh, PA, June 1989.
30. D. S. Bernstein and W. M. Haddad, "Steady-State Kalman Filtering with an  $H_\infty$  Error Bound," *Proc. Amer. Contr. Conf.*, pp. 847-852, Pittsburgh, PA, June 1989.
31. C. N. Nett, D. S. Bernstein, and W. M. Haddad, "Minimal Complexity Control Law Synthesis, Part 1: Problem Formulation and Reduction to Optimal Static Output Feedback," *Proc. Amer. Contr. Conf.*, pp. 2056-2064, Pittsburgh, PA, June 1989.
32. Y. Halevi, W. M. Haddad, and D. S. Bernstein, "A Riccati Equation Approach to the Singular LQG Problem," *Proc. Amer. Contr. Conf.*, pp. 2077-2078, Pittsburgh, PA, June 1989.
33. D. S. Bernstein, W. M. Haddad, and C. N. Nett, "Minimal Complexity Control Law Synthesis, Part 2: Problem Solution via  $H_2/H_\infty$  Optimal Static Output Feedback," *Proc. Amer. Contr. Conf.*, pp. 2506-2511, Pittsburgh, PA, June 1989. (Also appears in *Recent Advances in Robust Control*, pp. 288-293, P. Dorato and R. K. Yedavalli, Eds., IEEE Press, 1990.)
34. W. M. Haddad and D. S. Bernstein, "Combined  $H_2/H_\infty$  Model Reduction," *Proc. Amer. Contr. Conf.*, pp. 2660-2665, Pittsburgh, PA, June 1989.
35. D. S. Bernstein and C. V. Hollot, "Robust Stability for Sampled-Data Control Systems," *Proc. Amer. Contr. Conf.*, pp. 2834-2839, Pittsburgh, PA, June 1989. (Also appears in *Recent Advances in Robust Control*, pp. 164-169, P. Dorato and R. K. Yedavalli, Eds., IEEE Press, 1990.)
36. W. M. Haddad and D. S. Bernstein, "Optimal Reduced-Order Observer-Estimators," *Proc. AIAA Guid. Nav. Contr. Conf.*, pp. 997-1006, Boston, MA, August 1989, paper 89-3542-CP.
37. W. M. Haddad and D. S. Bernstein, "Generalized Riccati Equations for the Full- and Reduced-Order Mixed-Norm  $H_2/H_\infty$  Standard Problem," *Proc. IEEE Conf. Dec. Contr.*, pp. 397-402, Tampa, FL, December 1989.
38. W. M. Haddad, D. S. Bernstein, and C. N. Nett, "Decentralized  $H_2/H_\infty$  Controller Design: The Discrete-Time Case," *Proc. IEEE Conf. Dec. Contr.*, pp. 932-933, Tampa, FL, December 1989.
39. W. M. Haddad and D. S. Bernstein, "On the Gap Between  $H_2$  and Entropy Performance Measures in  $H_\infty$  Control," *Proc. IEEE Conf. Dec. Contr.*, pp. 1506-1507, Tampa, FL, December 1989.
40. W. M. Haddad and D. S. Bernstein, "Optimal Reduced-Order Observer-Estimators," *Proc. IEEE Conf. Dec. Contr.*, pp. 2412-2417, Tampa, FL, December 1989.
41. W. M. Haddad and D. S. Bernstein, "Regional Pole Placement via Optimal Static and Dynamic Output Feedback," *Proc. Amer. Contr. Conf.*, pp. 130-135, San Diego, CA, May 1990.
42. B. Wie and D. S. Bernstein, "A Benchmark Problem for Robust Control Design," *Proc. Amer. Contr. Conf.*, pp. 961-962, San Diego, CA, May 1990.
43. E. G. Collins, Jr., and D. S. Bernstein, "Robust Control Design for a Benchmark Problem Using a Structured Covariance Approach," *Proc. Amer. Contr. Conf.*, pp. 970-971, San Diego, CA, May 1990.
44. D. C. Hyland and D. S. Bernstein, "Power Flow, Energy Balance, and Statistical Energy Analysis for Large Scale, Interconnected Systems," *Proc. Amer. Contr. Conf.*, pp. 1929-1934, San Diego, CA, May 1990.
45. M. Jacobus, M. Jamshidi, C. Abdallah, P. Dorato, and D. S. Bernstein, "Suboptimal Strong Stabilization Using Fixed-Order Dynamic Compensation," *Proc. Amer. Contr. Conf.*, pp. 2659-2660, San Diego, CA, May 1990.
46. D. S. Bernstein and V. Zeidan, "The Singular Linear-Quadratic Regulator Problem and the Goh-Riccati Equation," *Proc. IEEE Conf. Dec. Contr.*, pp. 334-339, Honolulu, HI, December 1990.
47. D. S. Bernstein, E. G. Collins, Jr., and D. C. Hyland, "Real Parameter Uncertainty and Phase Information in the Robust Control of Flexible Structures," *Proc. IEEE Conf. Dec. Contr.*, pp. 379-380, Honolulu, HI, December 1990.
48. D. S. Bernstein and W. M. Haddad, "Robust Controller Synthesis Using Kharitonov's Theorem," *Proc. IEEE Conf. Dec. Contr.*, pp. 1222-1223, Honolulu, HI, December 1990.
49. W. M. Haddad and D. S. Bernstein, "Robust Stabilization with Positive Real Uncertainty: Beyond the Small Gain Theorem," *Proc. IEEE Conf. Dec. Contr.*, pp. 2054-2059, Honolulu, HI, December 1990.
50. W. M. Haddad, D. S. Bernstein, and H.-H. Huang, "Reduced-Order Multirate Estimation for Stable and Unstable Plants," *Proc. IEEE Conf. Dec. Contr.*, pp. 2892-2897, Honolulu, HI, December 1990.

51. M. Jacobus, M. Jamshidi, C. Abdallah, P. Dorato, and D. S. Bernstein, "Design of Strictly Positive Real, Fixed-Order Dynamic Compensators," *Proc. IEEE Conf. Dec. Contr.*, pp. 3492-3495, Honolulu, HI, December 1990.
52. D. Mustafa and D. S. Bernstein, "LQG Bounds in Discrete-Time  $H_2/H_\infty$  Control," *Proc. Symp. Robust Control System Design Using  $H_\infty$  and Related Methods*, University of Cambridge, March 1991, pp. 295-307, P. H. Hammond, Ed., Institute of Measurement and Control, 1991.
53. D. S. Bernstein, "Nonquadratic Cost and Nonlinear Feedback Control," *Proc. Amer. Contr. Conf.*, pp. 533-538, Boston, MA, June 1991.
54. D. R. Seinfeld, W. M. Haddad, D. S. Bernstein, and C. N. Nett, " $H_2/H_\infty$  Controller Synthesis: Illustrative Numerical Results via Quasi-Newton Methods," *Proc. Amer. Contr. Conf.*, pp. 1155-1156, Boston, MA, June 1991.
55. W. M. Haddad, D. S. Bernstein, and D. Mustafa, "Mixed-Norm  $H_2/H_\infty$  Regulation and Estimation: The Discrete-Time Case," *Proc. Amer. Contr. Conf.*, pp. 1159-1164, Boston, MA, June 1991.
56. B. Wie and D. S. Bernstein, "A Benchmark Problem for Robust Control Design," *Proc. Amer. Contr. Conf.*, pp. 1926-1927, Boston, MA, June 1991.
57. E. G. Collins, Jr., J. A. King, and D. S. Bernstein, "Robust Control Design for the Benchmark Problem Using the Maximum Entropy Approach," *Proc. Amer. Contr. Conf.*, pp. 1935-1936, Boston, MA, June 1991.
58. S. R. Hall, D. MacMartin, and D. S. Bernstein, "Multi-Model Fixed-Order Estimation and Control," *Proc. Amer. Contr. Conf.*, pp. 2113-2118, Boston, MA, June 1991.
59. W. M. Haddad and D. S. Bernstein, "A New Approach to Disturbance Accommodation and Servocompensator Design," *Proc. Amer. Contr. Conf.*, pp. 2220-2221, Boston, MA, June 1991.
60. W. M. Haddad and D. S. Bernstein, "Robust Stabilization with Positive Real Uncertainty: Beyond the Small Gain Theorem," *Proc. Amer. Contr. Conf.*, pp. 2725-2730, Boston, MA, June 1991.
61. D. S. Bernstein, W. M. Haddad, and D. C. Hyland, "Small Gain Versus Positive Real Modeling of Real Parameter Uncertainty," *Proc. IEEE Conf. Dec. Contr.*, pp. 539-540, Brighton, U.K., December 1991.
62. D. S. Bernstein and D. C. Hyland, "Compartmental Modeling and Second-Moment Analysis of State Space Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 1607-1612, Brighton, U.K., December 1991.
63. W. M. Haddad and D. S. Bernstein, "Parameter-Dependent Lyapunov Functions, Constant Real Parameter Uncertainty, and the Popov Criterion in Robust Analysis and Synthesis," *Proc. IEEE Conf. Dec. Contr.*, pp. 2274-2279, 2632-2633, Brighton, U.K., December 1991.
64. W. M. Haddad and D. S. Bernstein, "Explicit Construction of Quadratic Lyapunov Functions for the Small Gain, Positivity, Circle, and Popov Theorems and Their Application to Robust Stability," *Proc. IEEE Conf. Dec. Contr.*, pp. 2618-2623, Brighton, U.K., December 1991.
65. W. M. Haddad, H.-H. Huang, and D. S. Bernstein, "Robust Stability and Performance via Fixed-Order Dynamic Compensation: The Discrete-Time Case," *Proc. Amer. Contr. Conf.*, pp. 66-67, Chicago, IL, June 1992.
66. D. S. Bernstein and W. M. Haddad, "Is There More to Robust Control Theory Than Small Gain?," *Proc. Amer. Contr. Conf.*, pp. 83-84, Chicago, IL, June 1992.
67. W. M. Haddad and D. S. Bernstein, "Parameter-Dependent Lyapunov Functions and the Discrete-Time Popov Criterion for Robust Analysis and Synthesis," *Proc. Amer. Contr. Conf.*, pp. 594-598, Chicago, IL, June 1992.
68. B. Wie and D. S. Bernstein, "Benchmark Problems for Robust Control Design," *Proc. Amer. Contr. Conf.*, pp. 2047-2048, Chicago, IL, June 1992.
69. E. G. Collins, Jr., W. M. Haddad, and D. S. Bernstein, "Small Gain, Circle, Positivity, and Popov Analysis of a Maximum Entropy Controller for a Benchmark Problem," *Proc. Amer. Contr. Conf.*, pp. 2425-2426, Chicago, IL, June 1992.
70. D. S. Bernstein, W. M. Haddad, D. C. Hyland, and F. Tyan, "Maximum Entropy-Type Lyapunov Functions for Robust Stability and Performance Analysis," *Proc. Amer. Contr. Conf.*, pp. 2639-2643, Chicago, IL, June 1992.
71. S. Rern, P. T. Kabamba, and D. S. Bernstein, "A Guardian Map Approach to Robust Stability of Linear Systems with Constant Real Parameter Uncertainty," *Proc. Amer. Contr. Conf.*, pp. 2649-2652, Chicago, IL, June 1992.
72. W. M. Haddad and D. S. Bernstein, "The Parabola Test: A Unified Extension of the Circle and Popov Criteria," *Proc. Amer. Contr. Conf.*, pp. 2662-2663, Chicago, IL, June 1992.
73. Y. W. Wang and D. S. Bernstein, "Controller Design With Regional Pole Constraints: Hyperbolic and Horizontal Strip Regions," *Proc. AIAA Guid. Nav. Contr. Conf.*, Hilton Head, SC, August 1992, AIAA-1992-4401-914.
74. D. Zigic, L. T. Watson, E. G. Collins, Jr., and D. S. Bernstein, "Effect of Initial System on Homotopy Methods for the  $H_2$  Reduced-Order Model Problem," *Proc. IEEE Conf. Contr. Appl.*, pp. 252-257, Dayton, OH, September 1992.
75. C.-J. Wan and D. S. Bernstein, "A Family of Optimal Nonlinear Feedback Controllers that Globally Stabilize Angular Velocity," *Proc. IEEE Conf. Dec. Contr.*, pp. 1143-1148, Tucson, AZ, December 1992.
76. S. R. Hall, D. G. MacMartin, and D. S. Bernstein, "Covariance Averaging in the Analysis of Uncertain Systems," *IEEE Conf. Dec. Contr.*, pp. 1842-1849, Tucson, AZ, December 1992.

77. W. M. Haddad, H.-H. Huang, and D. S. Bernstein, "Sampled-Data Observers with Generalized Holds for Unstable Plants," *Proc. IEEE Conf. Dec. Contr.*, pp. 1961-1965, Tucson, AZ, December 1992.
78. F. Tyan, D. S. Bernstein, W. M. Haddad, and D. C. Hyland, "Asymptotic Analysis of the Maximum Entropy Lyapunov Equation for Robust Stability and Performance Analysis," *Proc. IEEE Conf. Dec. Contr.*, pp. 2008-2009, Tucson, AZ, December 1992.
79. W. M. Haddad and D. S. Bernstein, "New Absolute Stability Criteria for Robust Stability and Performance with Locally Slope-Restricted Monotonic Nonlinearities," *Proc. IEEE Conf. Dec. Contr.*, pp. 2611-2616, Tucson, AZ, December 1992.
80. W. M. Haddad, J. P. How, S. R. Hall, and D. S. Bernstein, "Extensions of Mixed- $\mu$  Bounds to Monotonic and Odd Monotonic Nonlinearities Using Absolute Stability Theory," *Proc. IEEE Conf. Dec. Contr.*, pp. 2813-2823, Tucson, AZ, December 1992.
81. Y. W. Wang and D. S. Bernstein, " $H_2/H_\infty$  Optimal Control Synthesis with Regional Pole Constraints," *Proc. IEEE Conf. Dec. Contr.*, pp. 3711-3716, Tucson, AZ, December 1992.
82. J. H. Friedman and D. S. Bernstein, "Maximum Entropy Controller Synthesis for Colocated and Noncolocated Systems," *Proc. 2nd Conference on Recent Advances in Active Control of Sound and Vibration*, R. A. Burdisso, Ed., pp. 327-338, Blacksburg, VA, April 1993.
83. W. M. Haddad, D. S. Bernstein, and Y. W. Wang, "Dissipative  $H_2/H_\infty$  Controller Synthesis," *Proc. Amer. Contr. Conf.*, pp. 243-244, San Francisco, CA, June 1993.
84. D. S. Bernstein and W. M. Haddad, "Nonlinear Controllers for Positive Real Systems with Arbitrary Input Nonlinearities," *Proc. Amer. Contr. Conf.*, pp. 832-836, San Francisco, CA, June 1993.
85. J. H. Friedman and D. S. Bernstein, "Maximum Entropy Controller Synthesis for Colocated and Noncolocated Systems," *Proc. Amer. Contr. Conf.*, pp. 1015-1019, San Francisco, CA, June 1993.
86. Y. Kishimoto and D. S. Bernstein, "Thermodynamic Modeling for Interconnected Systems: Conservative Coupling," *Proc. Amer. Contr. Conf.*, pp. 2050-2054, San Francisco, CA, June 1993.
87. W. M. Haddad and D. S. Bernstein, "Off-Axis Absolute Stability Criteria and  $\mu$ -Bounds Involving Non-Positive Real Plant-Dependent Multipliers for Robust Stability and Performance with Locally Slope-Restricted Monotonic Nonlinearities," *Proc. Amer. Contr. Conf.*, pp. 2790-2794, San Francisco, CA, June 1993.
88. Y. W. Wang and D. S. Bernstein, " $L_2$  Controller Synthesis With  $L_\infty$ -Bounded Closed-Loop Impulse Response," *Proc. Amer. Contr. Conf.*, pp. 3169-3173, San Francisco, CA, June 1993.
89. Y. Kishimoto, D. S. Bernstein, and S. R. Hall, "Dissipative Control of Energy Flow in Interconnected Systems," *Proc. AIAA Guid. Navig. Contr. Conf.*, pp. 657-666, Monterey, CA, August 1993, paper AIAA-93-3770-CP.
90. S. L. Osburn and D. S. Bernstein, "An Exact Treatment of the Achievable Closed-Loop  $H_2$  Performance of Sampled-Data Controllers: From Continuous-Time to Open-Loop," *Proc. IEEE Conf. Dec. Contr.*, pp. 325-330, San Antonio, TX, December 1993.
91. Y. W. Wang and D. S. Bernstein, " $H_2$ -Suboptimal Stable Stabilization," *Proc. IEEE Conf. Dec. Contr.*, pp. 1828-1829, San Antonio, TX, December 1993.
92. W. M. Haddad and D. S. Bernstein, "The Octomorphic Criterion for Multiple-Block-Structured Real Parameter Uncertainty: Real- $\mu$  Bounds Without Circles and  $D, N$ -Scales," *Proc. IEEE Conf. Dec. Contr.*, pp. 1984-1989, San Antonio, TX, December 1993.
93. D. S. Bernstein, "Optimal Nonlinear, But Continuous, Feedback Control of Systems with Saturating Actuators," *Proc. IEEE Conf. Dec. Contr.*, pp. 2533-2537, San Antonio, TX, December 1993.
94. C.-J. Wan and D. S. Bernstein, "Rotational Stabilization of a Rigid Body Using Two Torque Actuators," *Proc. IEEE Conf. Dec. Contr.*, pp. 3111-3116, San Antonio, TX, December 1993.
95. C.-J. Wan, V. T. Coppola, and D. S. Bernstein, "A Lyapunov Function for the Energy-Casimir Method," *Proc. IEEE Conf. Dec. Contr.*, pp. 3122-3123, San Antonio, TX, December 1993.
96. C.-J. Wan, P. Tsiotras, V. T. Coppola, and D. S. Bernstein, "Global Asymptotic Stabilization of the Spinning Top With Torque Actuators Using Stereographic Projection," *Proc. Amer. Contr. Conf.*, pp. 536-540, Baltimore, MD, June 1994.
97. C.-J. Wan, V. T. Coppola, and D. S. Bernstein, "Global Asymptotic Stabilization of a Spinning Top," *Proc. Amer. Contr. Conf.*, pp. 541-545, Baltimore, MD, June 1994.
98. S. L. Osburn and D. S. Bernstein, "A Generalized Eigenvalue Problem for Solving the Discrete-Time Riccati Equation with Singular Dynamics and Singular Measurement Noise," *Proc. Amer. Contr. Conf.*, pp. 1155-1156, Baltimore, MD, June 1994.
99. Y. Kishimoto, D. S. Bernstein, and S. R. Hall, "Energy Flow Control of Interconnected Systems," *Proc. Amer. Contr. Conf.*, pp. 1831-1835, Baltimore, MD, June 1994.
100. Y. Ge, L. T. Watson, R. S. Erwin, and D. S. Bernstein, "Globally Convergent Homotopy Algorithms for Full-Order LQG Control with an  $H_\infty$  Performance Bound," *Proc. Amer. Contr. Conf.*, pp. 1906-1910, Baltimore, MD, June 1994.
101. S. P. Bhat and D. S. Bernstein, "Lyapunov Stability, Semistability, and Asymptotic Stability of Matrix Second-Order Systems," *Proc. Amer. Contr. Conf.*, pp. 2355-2359, Baltimore, MD, June 1994.
102. A. G. Sparks and D. S. Bernstein, "Optimal Tradeoff Between  $H_2$  Performance and Tracking Accuracy in Servocompensator Synthesis," *Proc. Amer. Contr. Conf.*, pp. 2675-2679, Baltimore, MD, June 1994.



103. R. T. Bupp, C.-J. Wan, V. T. Coppola, and D. S. Bernstein, "Design of a Rotational Actuator for Global Stabilization of Translational Motion," *ASME Symposium on Active Control of Vibration and Noise*, pp. 449-456, Chicago, IL, November 1994.
104. F. Tyan and D. S. Bernstein, "Antiwindup Compensator Synthesis for Systems with Saturating Actuators," *Proc. IEEE Conf. Dec. Contr.*, pp. 150-155, Orlando, FL, December 1994.
105. D. S. Bernstein, W. M. Haddad, and A. G. Sparks, "A Simplified Proof of the Multivariable Popov Criterion and an Upper Bound for the Structured Singular Value with Real Parameter Uncertainty," *Proc. IEEE Conf. Dec. Contr.*, pp. 2139-2140, Orlando, FL, December 1994.
106. Y. Ge, L. T. Watson, E. G. Collins, Jr., and D. S. Bernstein, "Probability-One Homotopy Algorithms for Full and Reduced Order  $H^2/H^\infty$  Controller Synthesis," *Proc. IEEE Conf. Dec. Contr.*, pp. 2672-2677, Orlando, FL, December 1994.
107. A. G. Sparks and D. S. Bernstein, "The Scaled Popov Criterion and Bounds for the Real Structured Singular Value," *Proc. IEEE Conf. Dec. Contr.*, pp. 2998-3002, Orlando, FL, December 1994.
108. A. G. Sparks and D. S. Bernstein, "Asymptotic Regulation with  $H_2$  Disturbance Rejection," *Proc. IEEE Conf. Dec. Contr.*, pp. 3614-3615, Orlando, FL, December 1994.
109. C.-J. Wan, D. S. Bernstein, and V. T. Coppola, "Global Stabilization of the Oscillating Eccentric Rotor," *Proc. IEEE Conf. Dec. Contr.*, pp. 4024-4029, Orlando, FL, December 1994.
110. R. T. Bupp, D. S. Bernstein, and V. T. Coppola, "Vibration Suppression of Multi-Modal Translational Motion Using a Rotational Actuator," *Proc. IEEE Conf. Dec. Contr.*, pp. 4030-4034, Orlando, FL, December 1994.
111. J. C. Akers and D. S. Bernstein, "Measurement Noise Error Bounds for the Eigensystem Realization Algorithm," *Proc. 36th Structures, Structural Dynamics, and Materials Conference*, pp. 1198-1208, New Orleans, LA, April 1995.
112. S. L. Osburn and D. S. Bernstein, "An Empirical Investigation of the Achievable Performance of Sampled-Data Controllers with Exponential Sampling and Reconstruction," *Proc. Amer. Contr. Conf.*, pp. 1493-1497, Seattle, WA, June 1995.
113. K.-Y. Lum, D. S. Bernstein, and V. T. Coppola, "Global Stabilization of the Spinning Top with Mass Imbalance," *Proc. Amer. Contr. Conf.*, pp. 1826-1830, Seattle, WA, June 1995.
114. S. P. Bhat and D. S. Bernstein, "Lyapunov Analysis of Finite-Time Differential Equations," *Proc. Amer. Contr. Conf.*, pp. 1831-1832, Seattle, WA, June 1995.
115. W. M. Haddad, V. Kapila, and D. S. Bernstein, "Robust  $H_\infty$  Stabilization via Parameterized Lyapunov Bounds," *Proc. Amer. Contr. Conf.*, pp. 2374-2378, Seattle, WA, June 1995.
116. A. G. Sparks and D. S. Bernstein, "Reliable State Space Upper Bounds for the Peak Structured Singular Value," *Proc. Amer. Contr. Conf.*, pp. 2419-2423, Seattle, WA, June 1995.
117. J. C. Akers and D. S. Bernstein, "Measurement Noise Error Bounds for the Eigensystem Realization Algorithm," *Proc. Amer. Contr. Conf.*, pp. 2566-2570, Seattle, WA, June 1995.
118. W. M. Haddad and D. S. Bernstein, "Generalized Mixed- $\mu$  Bounds for Real and Complex Multiple-Block Uncertainty with Internal Matrix Structure," *Proc. Amer. Contr. Conf.*, pp. 2843-2847, Seattle, WA, June 1995.
119. W. M. Haddad and D. S. Bernstein, "Real- $\mu$  Bounds Based on Fixed Shapes in the Nyquist Plane: Parabolas, Cissoids, Octomorphs, Nephroids, and Hyperbolas," *Proc. Amer. Contr. Conf.*, pp. 2855-2859, Seattle, WA, June 1995.
120. V.-S. Chellaboina, W. M. Haddad, and D. S. Bernstein, "Structured Matrix Norms for Robust Stability with Block-Structured Uncertainty," *Proc. Amer. Contr. Conf.*, pp. 2865-2869, Seattle, WA, June 1995.
121. R. T. Bupp, J. R. Corrado, D. S. Bernstein, and V. T. Coppola, "Nonlinear Modification of Positive-Real LQG Compensators for Enhanced Disturbance Rejection and Energy Dissipation," *Proc. Amer. Contr. Conf.*, pp. 3224-3228, Seattle, WA, June 1995.
122. J. Hong, J. C. Akers, R. Venugopal, M.-N. Lee, A. G. Sparks, P. D. Washabaugh, and D. S. Bernstein, "Modeling, Identification, and Feedback Control of Noise in an Acoustic Duct," *Proc. Amer. Contr. Conf.*, pp. 3669-3673, Seattle, WA, June 1995.
123. K.-Y. Lum, S. P. Bhat, V. T. Coppola, and D. S. Bernstein, "Adaptive Virtual Autobalancing for a Magnetic Rotor with Unknown Mass Imbalance," *Proc. Amer. Contr. Conf.*, pp. 3796-3800, Seattle, WA, June 1995.
124. F. Tyan and D. S. Bernstein, "Dynamic Output Feedback Compensation for Systems with Input Saturation," *Proc. Amer. Contr. Conf.*, pp. 3916-3920, Seattle, WA, June 1995.
125. R. T. Bupp and D. S. Bernstein, "A Benchmark Problem for Nonlinear Control Design: Problem Statement, Experimental Testbed, and Passive Nonlinear Compensation," *Proc. Amer. Contr. Conf.*, pp. 4363-4367, Seattle, WA, June 1995.
126. J. Hong and D. S. Bernstein, "A Comparison of the Fundamental Properties of Feedback and Feedforward Control: Bode Integral Constraints and Spillover," *Proc. Active 95*, pp. 929-940, Newport Beach, CA, July 1995.
127. S. P. Bhat and D. S. Bernstein, "Second-Order Systems with Singular Mass Matrix and an Extension of Guyan Reduction," *Acoustics, Vibrations, and Rotating Machines, Proc. 1995 Design Engineering Technical Conferences*, Vol. 3, Part B, DE-Vol. 84-2, pp. 943-948, Boston, MA, September 1995, ASME.

128. K.-Y. Lum, S. P. Bhat, V. T. Coppola, and D. S. Bernstein, "Adaptive Virtual Autobalancing for a Magnetic Rotor with Unknown Mass Imbalance, I. Static Balancing," *Acoustics, Vibrations, and Rotating Machines, Proc. 1995 Design Engineering Technical Conferences*, Vol. 3, Part B, DE-Vol. 84-2, pp. 1419-1425, Boston, MA, September 1995, ASME.
129. K.-Y. Lum, S. P. Bhat, V. T. Coppola, and D. S. Bernstein, "Adaptive Virtual Autobalancing for a Magnetic Rotor with Unknown Mass Imbalance, II. Dynamic Balancing," *Acoustics, Vibrations, and Rotating Machines, Proc. 1995 Design Engineering Technical Conferences*, Vol. 3, Part B, DE-Vol. 84-2, pp. 1427-1434, Boston, MA, September 1995, ASME.
130. T. H. Van Pelt and D. S. Bernstein, " $H_2$  Optimal Tuning of Passive Isolators and Absorbers," *Vibration Control, Analysis, and Identification, Proc. 1995 Design Engineering Technical Conferences*, Vol. 3, Part C, DE-Vol. 84-3, pp. 35-40, Boston, MA, September 1995, ASME.
131. Y. Kishimoto, D. S. Bernstein, and S. R. Hall, "Energy Flow Control of Interconnected Structures, I. Modal Subsystems," *Vibration Control, Analysis, and Identification, Proc. 1995 Design Engineering Technical Conferences*, Vol. 3, Part C, DE-Vol. 84-3, pp. 161-172, Boston, MA, September 1995, ASME.
132. Y. Kishimoto, D. S. Bernstein, and S. R. Hall, "Energy Flow Control of Interconnected Structures, II. Structural Subsystems," *Vibration Control, Analysis, and Identification, Proc. 1995 Design Engineering Technical Conferences*, Vol. 3, Part C, DE-Vol. 84-3, pp. 173-184, Boston, MA, September 1995, ASME.
133. J. Hong and D. S. Bernstein, "A Comparison of the Feedforward and Feedback Paradigms for Active Noise Control: Bode Integral Constraints and Spillover," *Vibration Control, Analysis, and Identification, Proc. 1995 Design Engineering Technical Conferences*, Vol. 3, Part C, DE-Vol. 84-3, pp. 325-332, Boston, MA, September 1995, ASME.
134. K.-Y. Lum, S. P. Bhat, V. T. Coppola, and D. S. Bernstein, "Adaptive Virtual Autobalancing for a Magnetic Rotor with Unknown Dynamic Imbalance," *Proc. IEEE Conf. Dec. Contr.*, pp. 2159-2164, New Orleans, LA, December 1995.
135. A. G. Sparks and D. S. Bernstein, "A Comparison of Scaled Popov and Maximum Entropy Controller Synthesis for Flexible Structures," *Proc. IEEE Conf. Dec. Contr.*, pp. 3337-3342, New Orleans, LA, December 1995.
136. A. G. Sparks and D. S. Bernstein, "Real Structured Singular Value Bounds Using Rational Multipliers and Scaling," *Proc. IEEE Conf. Dec. Contr.*, pp. 4343-4348, New Orleans, LA, December 1995.
137. J. C. Akers and D. S. Bernstein, "Recursive On-Line Modal Identification Using Combined Toeplitz-Hankel Models," *Proc. 14th Int. Modal Analysis Conf.*, pp. 190-196, Dearborn, MI, February 1996.
138. K.-Y. Lum, V. T. Coppola, and D. S. Bernstein, "Adaptive Virtual Autobalancing and Adaptive Autocentering for On-Line Balancing of Magnetic Rotors," *Proc. 14th Int. Modal Analysis Conf.*, pp. 1396-1402, Dearborn, MI, February 1996.
139. J. C. Akers and D. S. Bernstein, "An Adaptive Toeplitz/ERA Identification Algorithm," *Proc. 37th Structures, Structural Dynamics, and Materials Conference*, pp. 1024-1034, Salt Lake City, UT, April 1996.
140. R. S. Erwin, A. G. Sparks, and D. S. Bernstein, "Decentralized Real Structured Singular Value Synthesis," *Proc. 13th IFAC World Congress*, Vol. C: *Control Design I*, pp. 79-84, San Francisco, CA, July 1996.
141. S. L. Osburn, J. Ahmed, V. T. Coppola and D. S. Bernstein, "Noncommutative Algebra and Symbolic Differentiation for Fixed-Structure Controller Synthesis," *Proc. 13th IFAC World Congress*, Vol. D: *Control Design II, Optimization*, pp. 255-260, San Francisco, CA, July 1996.
142. F. Tyan and D. S. Bernstein, "Shifted Quadratic Guaranteed Cost Bounds for Robust Stability and Performance," *Proc. 13th IFAC World Congress*, Vol. G: *Education, Robust Control I*, pp. 285-290, San Francisco, CA, July 1996.
143. A. G. Sparks and D. S. Bernstein, "Robust Controller Synthesis Using Scaled Popov Bounds with Uncertain  $A$ ,  $B$ , and  $C$  Matrices," *Proc. 13th IFAC World Congress*, Vol. G: *Education, Robust Control I*, pp. 333-338, San Francisco, CA, July 1996.
144. F. Ben-Amara, R. Venugopal, P. T. Kabamba, A. G. Ulsoy, and D. S. Bernstein, "A Comparison of Two Adaptive Algorithms for Disturbance Cancellation," *Proc. 13th IFAC World Congress*, San Francisco, CA, Vol. K: *Adaptive Control*, pp. 13-24, June 1996.
145. K.-Y. Lum, V. T. Coppola, and D. S. Bernstein, "Adaptive Autocentering Control for an Active Magnetic Bearing Supporting a Rotor with Unknown Mass Imbalance," *Proc. 13th IFAC World Congress*, Vol. K: *Adaptive Control*, pp. 415-420, San Francisco, CA, July 1996.
146. R. T. Bupp, D. S. Bernstein, V.-S. Chellaboina, and W. M. Haddad, "Finite-Time Stabilization of the Double Integrator Using a Virtual Trap-Door Absorber," *Proc. Conf. Contr. Appl.*, pp. 179-184, Dearborn, MI, September 1996.
147. S. P. Bhat and D. S. Bernstein, "Continuous, Bounded, Finite-Time Stabilization of the Translational and Rotational Double Integrators," *Proc. Conf. Contr. Appl.*, pp. 184-190, Dearborn, MI, September 1996.
148. R. T. Bupp and D. S. Bernstein, "Experimental Comparison of Passive Nonlinear Controllers for the RTAC Testbed," *Proc. Conf. Contr. Appl.*, pp. 279-284, Dearborn, MI, September 1996.
149. S. L. Osburn and D. S. Bernstein, "Achievable Performance of Sampled-Data Controllers with Input and Output Delays," *Proc. Conf. Contr. Appl.*, pp. 904-909, Dearborn, MI, September 1996.
150. J. Hong and D. S. Bernstein, "Bode Integral Constraints and Spillover in Active Noise and Vibration Control," *Proc. Conf. Contr. Appl.*, pp. 928-933, Dearborn, MI, September 1996.

151. R. Venugopal and D. S. Bernstein, "State Space Modeling of an Acoustic Duct with an End-Mounted Speaker," *Proc. Conf. Contr. Appl.*, pp. 954-959, Dearborn, MI, September 1996.
152. R. Venugopal and D. S. Bernstein, "State Space Modeling and Active Control of Slosh," *Proc. Conf. Control Appl.*, pp. 1072-1077, Dearborn, MI, September 1996.
153. J. C. Akers and D. S. Bernstein, "ARMAKOV Least-Squares Identification," *Proc. Amer. Contr. Conf.*, pp. 186-190, Albuquerque, NM, June 1997.
154. J. C. Akers and D. S. Bernstein, "Time-Domain Identification Using ARMAKOV/Toeplitz Models," *Proc. Amer. Contr. Conf.*, pp. 191-195, Albuquerque, NM, June 1997.
155. V. Kapila, W. M. Haddad, R. S. Erwin, and D. S. Bernstein, "Robust Controller Synthesis via Shifted Parameter-Dependent Quadratic Cost Bounds," *Proc. Amer. Contr. Conf.*, pp. 1220-1224, Albuquerque, NM, June 1997.
156. J. R. Corrado, R. S. Erwin, D. S. Bernstein and W. M. Haddad, "Stable  $H_2$ -Optimal Controller Synthesis," *Proc. Amer. Contr. Conf.*, pp. 1246-1250, Albuquerque, NM, June 1997.
157. R. Venugopal and D. S. Bernstein, "Adaptive Disturbance Rejection Using ARMAKOV/Toeplitz Models," *Proc. Amer. Contr. Conf.*, pp. 1657-1661, Albuquerque, NM, June 1997.
158. W. M. Haddad, V.-S. Chellaboina, J. R. Corrado, and D. S. Bernstein, "Robust Fixed-Structure Controller Synthesis Using the Implicit Small Gain Bound," *Proc. Amer. Contr. Conf.*, pp. 1667-1671, Albuquerque, NM, June 1997.
159. S. P. Bhat and D. S. Bernstein, "Finite-Time Stability of Homogeneous Systems," *Proc. Amer. Contr. Conf.*, pp. 2513-2514, Albuquerque, NM, June 1997.
160. W. M. Haddad, V.-S. Chellaboina, and D. S. Bernstein, "An Implicit Small Gain condition and an Upper Bound for the Real Structured Singular Value," *Proc. Amer. Contr. Conf.*, pp. 2594-2598, Albuquerque, NM, June 1997.
161. R. T. Bupp, D. S. Bernstein, V.-S. Chellaboina, and W. M. Haddad, "Resetting Virtual Absorbers for Vibration Control," *Proc. Amer. Contr. Conf.*, pp. 2647-2651, Albuquerque, NM, June 1997.
162. D. S. Bernstein, "Four and a Half Control Experiments and What I Learned from Them: A Personal Journey," *Proc. Amer. Contr. Conf.*, pp. 2718-2725, Albuquerque, NM, June 1997.
163. S. G. Dharmasnam, R. S. Erwin, D. S. Bernstein, and D. A. Wilson, "Synthesis of Suboptimal Generalized LQG and Hankel-Norm Controllers," *Proc. Amer. Contr. Conf.*, pp. 3078-3082, Albuquerque, NM, June 1997.
164. R. S. Erwin and D. S. Bernstein, "Fixed-Structure Discrete-Time  $H_2$ -Optimal Controller Synthesis Using the Delta-Operator," *Proc. Amer. Contr. Conf.*, pp. 3185-3189, Albuquerque, NM, June 1997.
165. S. P. Bhat and D. S. Bernstein, "An Example of Indeterminacy in Classical Dynamics," *Proc. Amer. Contr. Conf.*, pp. 3470-3472, Albuquerque, NM, June 1997.
166. R. S. Erwin and D. S. Bernstein, "Fixed-Structure Discrete-Time Mixed  $H_2/H_\infty$  Controller Synthesis Using the Delta-Operator," *Proc. Amer. Contr. Conf.*, pp. 3526-3530, Albuquerque, NM, June 1997.
167. J. Ahmed, V. T. Coppola, and D. S. Bernstein, "Global Asymptotic Tracking of Spacecraft Attitude Motion with Inertia Matrix Identification," *Proc. AIAA Guid. Nav. Contr. Conf.*, New Orleans, LA, August 1997, AIAA-1997-3530.
168. J. Hong, I. A. Cummings, P. D. Washabaugh, and D. S. Bernstein, "Stabilization of a Mass and Spring System with Electromagnetic Actuation," *Proc. Conf. Contr. Appl.*, pp. 189-194, Hartford, CT, October 1997.
169. J. Ahmed, R. H. Miller, E. H. Hoopman, V. T. Coppola, T. Andrusiak, D. Acton, and D. S. Bernstein, "An Actively Controlled Control Moment Gyro/GyroPendulum Testbed," *Proc. Conf. Contr. Appl.*, pp. 250-252, Hartford, CT, October 1997.
170. T. H. Van Pelt, R. Venugopal, and D. S. Bernstein, "Experimental Comparison of Adaptive Cancellation Algorithms for Active Noise Control," *Proc. Conf. Contr. Appl.*, pp. 559-564, Hartford, CT, October 1997.
171. R. S. Erwin and D. S. Bernstein, "Discrete-Time  $H_2/H_\infty$  Control of an Acoustic Duct:  $\delta$ -domain Design and Experimental Results," *Proc. IEEE Conf. Dec. Contr.*, pp. 281-282, San Diego, CA, December 1997.
172. J. C. Akers and D. S. Bernstein, "Time-Domain Identification Using ARMAKOV/Toeplitz Models With Quasi-Newton Update," *Proc. IEEE Conf. Dec. Contr.*, pp. 738-743, San Diego, CA, December 1997.
173. S. L. Osburn and D. S. Bernstein, "A Review and Comparison of Guaranteed Cost Bounds for Robust Stability and Performance," *Proc. IEEE Conf. Dec. Contr.*, pp. 787-788, San Diego, CA, December 1997.
174. R. Venugopal and D. S. Bernstein, "Adaptive Disturbance Rejection Using ARMAKOV System Representations," *Proc. IEEE Conf. Dec. Contr.*, pp. 1884-1889, San Diego, CA, December 1997.
175. J. Ahmed, V. T. Coppola, and D. S. Bernstein, "Asymptotic Tracking of Spacecraft Attitude Motion with Inertia Identification," *Proc. IEEE Conf. Dec. Contr.*, pp. 2471-2476, San Diego, CA, December 1997.
176. H. Sane, D. S. Bernstein, and K. Grosh, "State Space and Transfer Function Modeling of Evanescent Waves in Two-Dimensional Acoustics," *Proc. NOISE-CON 98*, pp. 295-300, Ypsilanti, MI, April 1998.
177. R. Venugopal and D. S. Bernstein, "Adaptive Disturbance Rejection Using ARMAKOV System Representations," *Proc. NOISE-CON 98*, pp. 307-312, Ypsilanti, MI, April 1998.
178. R. Venugopal and D. S. Bernstein, "Adaptive Tracking Using ARMAKOV/Toeplitz Models," *Proc. Amer. Contr. Conf.*, pp. 144-148, Philadelphia, PA, June 1998.

179. J. R. Corrado, W. M. Haddad, and D. S. Bernstein, "Optimal  $H_2$  Synthesis of Controllers with Relative Degree Two," *Proc. Amer. Contr. Conf.*, pp. 665-666, Philadelphia, PA, June 1998.
180. E. M. Atkins, R. H. Miller, T. H. Van Pelt, K. Shaw, W. B. Ribbens, P. D. Washabaugh and D. S. Bernstein, "SOLUS: An Autonomous Aircraft for Flight Control and Trajectory Planning Research," *Proc. Amer. Contr. Conf.*, pp. 689-693, Philadelphia, PA, June 1998.
181. H. Sane, D. S. Bernstein, and K. Grosh, "State Space and Transfer Function Modeling of Evanescent Waves in Two-Dimensional Acoustics," *Proc. Amer. Contr. Conf.*, pp. 1080-1084, Philadelphia, PA, June 1998.
182. H. Sane and D. S. Bernstein, "Active Noise Control Using an Acoustic Servovalve," *Proc. Amer. Contr. Conf.*, pp. 2621-2625, Philadelphia, PA, June 1998.
183. J. Hong, I. A. Cummings, D. S. Bernstein, and P. D. Washabaugh, "Stabilization of an Electromagnetically Controlled Oscillator," *Proc. Amer. Contr. Conf.*, pp. 2775-2779, Philadelphia, PA, June 1998.
184. S. P. Bhat and D. S. Bernstein, "A Topological Obstruction to Continuous Global Stabilization of Rotational Motion and the Unwinding Phenomenon," *Proc. Amer. Contr. Conf.*, pp. 2785-2789, Philadelphia, PA, June 1998.
185. R. L. Clark and D. S. Bernstein, "Hybrid Control for Vibration and Acoustics," *Proc. Amer. Contr. Conf.*, pp. 3055-3059, Philadelphia, PA, June 1998.
186. R. S. Erwin and D. S. Bernstein, "Extended Matrix Pencils for the Delta-Operator Riccati Equation," *Proc. Amer. Contr. Conf.*, pp. 3091-3095, Philadelphia, PA, June 1998.
187. T. H. Van Pelt and D. S. Bernstein, "Least Squares Identification Using  $\mu$ -Markov Parameterizations," *Proc. IEEE Conf. Dec. Contr.*, pp. 618-619, Tampa, FL, December 1998.
188. S. L. Osburn and D. S. Bernstein, "Robust Stability and Performance Analysis with Skew-Symmetric Uncertainties Using the Shifted Bounded Real Bound," *Proc. IEEE Conf. Dec. Contr.*, pp. 4392-4393, Tampa, FL, December 1998.
189. S. L. Lacy, R. Venugopal, and D. S. Bernstein, "ARMAKOV Adaptive Control of Self-Excited Oscillations of a Ducted Flame," *Proc. IEEE Conf. Dec. Contr.*, pp. 4527-4528, Tampa, FL, December 1998.
190. J. Ahmed and D. S. Bernstein, "Adaptive Control of a Dual-Axis CMG with an Unbalanced Rotor," *Proc. IEEE Conf. Dec. Contr.*, pp. 4531-4536, Tampa, FL, December 1998.
191. D. S. Bernstein, "Concretizing Control Education," *Proc. Amer. Contr. Conf.*, pp. 1455-1459, San Diego, CA, June 1999.
192. V. Rao and D. S. Bernstein, "Naive Control of the Double Integrator: A Comparison of a Dozen Diverse Controllers Under Off-Nominal Conditions," *Proc. Amer. Contr. Conf.*, pp. 1477-1481, San Diego, CA, June 1999.
193. J. Ahmed and D. S. Bernstein, "Globally Convergent Adaptive Control of Spacecraft Angular Velocity Without Inertia Modeling," *Proc. Amer. Contr. Conf.*, pp. 1540-1544, San Diego, CA, June 1999.
194. S. P. Bhat and D. S. Bernstein, "Lyapunov Analysis of Semistability," *Proc. Amer. Contr. Conf.*, pp. 1608-1612, San Diego, CA, June 1999.
195. H. Sane, R. Venugopal, and D. S. Bernstein, "Robustness of ARMAKOV Adaptive Control Disturbance Rejection Algorithm," *Proc. Amer. Contr. Conf.*, pp. 2035-2039, San Diego, CA, June 1999.
196. H. Sane, R. Venugopal, and D. S. Bernstein, "Disturbance Rejection Using Self-Tuning ARMAKOV Adaptive Control with Simultaneous Identification," *Proc. Amer. Contr. Conf.*, pp. 2040-2044, San Diego, CA, June 1999.
197. I. A. Cummings, R. Venugopal, J. Ahmed, and D. S. Bernstein, "Generalizations of the Karplus-Strong Transfer Function for Digital Music Sound Synthesis," *Proc. Amer. Contr. Conf.*, pp. 2210-2214, San Diego, CA, June 1999.
198. S. L. Osburn and D. S. Bernstein, "Robust Stability and Performance Analysis Using Shifted Quadratic and Nonquadratic Guaranteed Cost Bounds," *Proc. Amer. Contr. Conf.*, pp. 3357-3361, San Diego, CA, June 1999.
199. V.-S. Chellaboina, W. M. Haddad, D. S. Bernstein, and D. A. Wilson, "Induced Convolution Norms of Linear Dynamical Systems," *Proc. Amer. Contr. Conf.*, pp. 3805-3810, San Diego, CA, June 1999.
200. S. L. Osburn, J. R. Corrado, R. S. Erwin, D. S. Bernstein, and W. M. Haddad, "Control Design for the ACTEX Flight Experiment Using the Robust, Fixed-Structure Toolbox," *Proc. AIAA Guid. Nav. Contr. Conf.*, pp. 18-26, Portland, OR, August 1999, AIAA-1999-3952.
201. V.-S. Chellaboina, W. M. Haddad, D. S. Bernstein, and D. A. Wilson, "Induced Convolution Operator Norms for Discrete-Time Linear Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 487-492, Phoenix, AZ, December 1999.
202. J. Ahmed and D. S. Bernstein, "Adaptive Force Balancing of an Unbalanced Rotor," *Proc. Conf. Dec. Contr.*, pp. 773-778, Phoenix, AZ, December 1999.
203. J. Hong and D. S. Bernstein, "Experimental Application of Direct Adaptive Control Laws for Adaptive Stabilization and Command Following," *Proc. Conf. Dec. Contr.*, pp. 779-783, Phoenix, AZ, December 1999.
204. D. S. Bernstein and S. P. Bhat, "Nonnegativity, Reducibility, and Semistability of Mass Action Kinetics," *Proc. IEEE Conf. Dec. Contr.*, pp. 2206-2211, Phoenix, AZ, December 1999.

205. A. Roup and D. S. Bernstein, "On the Dynamics of the Escapement Mechanism of a Mechanical Clock," *Proc. IEEE Conf. Dec. Contr.*, pp. 2599-2604, Phoenix, AZ, December 1999.
206. S. L. Osburn and D. S. Bernstein, "Guaranteed Cost Bounds for Robust Stability and Performance Analysis of Discrete-Time Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 5002-5006, Phoenix, AZ, December 1999.
207. T. H. Van Pelt and D. S. Bernstein, "Nonlinear System Identification Using Hammerstein and Nonlinear Feedback Models with Piecewise Linear Static Maps-Part I: Theory," *Proc. Amer. Contr. Conf.*, pp. 225-229, Chicago, IL, June 2000.
208. T. H. Van Pelt and D. S. Bernstein, "Nonlinear System Identification Using Hammerstein and Nonlinear Feedback Models with Piecewise Linear Static Maps - Part II: Numerical Examples," *Proc. Amer. Contr. Conf.*, pp. 235-239, Chicago, IL, June 2000.
209. S. L. Osburn and D. S. Bernstein, "LMI Robustness Analysis for  $H_2$  Performance of Exactly Discretized Sampled-Data Models," *Proc. Amer. Contr. Conf.*, pp. 662-666, Chicago, IL, June 2000.
210. R. Venugopal, V. Rao, and D. S. Bernstein, "Optimal Backward Horizon Adaptive Stabilization," *Proc. Amer. Contr. Conf.*, pp. 1654-1658, Chicago, IL, June 2000.
211. H. Sane, H. J. Sussmann, and D. S. Bernstein, "Output Feedback Adaptive Stabilization of Second-Order Systems," *Proc. Amer. Contr. Conf.*, pp. 3138-3142, Chicago, IL, June 2000.
212. A. V. Roup and D. S. Bernstein, "Stabilization of a Class of Nonlinear Systems Using Direct Adaptive Control," *Proc. Amer. Contr. Conf.*, pp. 3148-3152, Chicago, IL, June 2000.
213. D. S. Bernstein, "A Plant Taxonomy for Designing Control Experiments," *Proc. Amer. Contr. Conf.*, pp. 3969-3974, Chicago, IL, June 2000.
214. S. L. Lacy, D. S. Bernstein, and S. P. Bhat, "Hysteretic Systems and Step-Convergent Semistability," *Proc. Amer. Contr. Conf.*, pp. 4139-4143, Chicago, IL, June 2000.
215. J. Tierno, K. Kim, S. L. Lacy, and D. S. Bernstein, "Describing Function Analysis of an Anti-Backlash Controller," *Proc. Amer. Contr. Conf.*, pp. 4164-4168, Chicago, IL, June 2000.
216. R. Venugopal, H. S. Sane, D. P. Scharf, D. S. Bernstein, and D. C. Hyland, "Disturbance Rejection Using Decentralized Self-Tuning ARMARKOV Adaptive Control with Simultaneous Identification," *Proc. AIAA Guid. Nav. Contr. Conf.*, Denver, CO, August, 2000, AIAA-2000-3951.
217. S. L. Osburn and D. S. Bernstein, "Guaranteed Cost Inequalities for Robust Stability and Performance Analysis," *Proc. IEEE Conf. Dec. Contr.*, pp. 2769 - 2774, Sydney, Australia, December 2000.
218. H. Sane and D. S. Bernstein, "Asymptotic Disturbance Rejection for Hammerstein Systems with Passive Linear Dynamics," *Proc. Amer. Contr. Conf.*, pp. 1449-1454, Arlington, VA, June 2001.
219. A. V. Roup, D. S. Bernstein, S. G. Nersesov, W. M. Haddad, and V. Chellaboina, "Limit Cycle Analysis of the Verge and Foliot Clock Escapement Using Impulsive Differential Equations and Poincare Maps," *Proc. Amer. Contr. Conf.*, pp. 3245-3250, Arlington, VA, June 2001.
220. T. H. Van Pelt and D. S. Bernstein, "Quadratically Constrained Least Squares Identification," *Proc. Amer. Contr. Conf.*, pp. 3684-3689, Arlington, VA, June 2001.
221. D. S. Bernstein, N. H. McClamroch, and A. M. Bloch, "A Triaxial Air Bearing Testbed for Spacecraft Dynamics and Control Experiments," *Proc. Amer. Contr. Conf.*, pp. 3967-3972, Arlington, VA, June 2001.
222. S. P. Bhat and D. S. Bernstein, "Nontangency-Based Lyapunov Tests for Stability and Convergence," *Proc. Amer. Contr. Conf.*, pp. 4840-4845, Arlington, VA, June 2001.
223. S. L. Lacy, R. S. Erwin, and D. S. Bernstein, "Identification of Wiener Systems with Known, Noninvertible Nonlinearities," *Proc. Amer. Contr. Conf.*, pp. 4890-4895, Arlington, VA, June 2001.
224. R. Venugopal and D. S. Bernstein, "Fixed-Gain/Adaptive Control for Simultaneous Rejection of Broadband and Sinusoidal Disturbances," *Proc. Guid., Nav., Contr. Conf.*, Montreal, Canada, August 2001, AIAA-2001-4095.
225. H. Sane, D. S. Bernstein, and H. Sussmann, "Lyapunov-Based Output-Feedback Adaptive Stabilization of Minimum Phase Second-Order Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 1181-1186, Orlando, FL, December 2001.
226. S. Cho, J. Shen, N. H. McClamroch, and D. S. Bernstein, "Equations of Motion for the Triaxial Attitude Control Testbed," *Proc. IEEE Conf. Dec. Contr.*, pp. 3429-3434, Orlando, FL, December 2001.
227. A. Roup and D. S. Bernstein, "Adaptive Stabilization of Second-Order Systems with Bounded Time-Varying Coefficients," *Proc. IEEE Conf. Dec. Contr.*, pp. 3471-3472, Orlando, FL, December 2001.
228. S. L. Lacy and D. S. Bernstein, "Subspace Identification for Nonlinear Systems That are Linear in Unmeasured States," *Proc. IEEE Conf. Dec. Contr.*, pp. 3518-3523, Orlando, FL, December 2001.
229. J. Shen, N. H. McClamroch, and D. S. Bernstein, "Air Spindle Attitude Control via Proof Mass Actuators," *Proc. IEEE Conf. Dec. Contr.*, pp. 4616-4621, Orlando, FL, December 2001.
230. H. S. Sane and D. S. Bernstein, "Robust Nonlinear Control of the Electromagnetically Controlled Oscillator," *Proc. Amer. Contr. Conf.*, pp. 809-814, Anchorage, AK, May 2002.
231. S. L. Lacy and D. S. Bernstein, "Identification of FIR Wiener Systems with Unknown, Noninvertible, Polynomial Nonlinearities," *Proc. Amer. Contr. Conf.*, pp. 893-898, Anchorage, AK, May 2002.
232. J. Shen, N. H. McClamroch, and D. S. Bernstein, "Attitude Control of a Tilted Air Spindle Testbed Using Proof Mass Actuators," *Proc. Amer. Contr. Conf.*, pp. 934-939, Anchorage, AK, May 2002.

233. D. S. Bernstein, "Introducing Signals, Systems, and Control in K-12," *Proc. Amer. Contr. Conf.*, pp. 1650-1651, Anchorage, AK, May 2002.
234. S. L. Lacy and D. S. Bernstein, "Subspace Identification with Guaranteed Stability Using Constrained Optimization," *Proc. Amer. Contr. Conf.*, pp. 3307-3312, Anchorage, AK, May 2002.
235. I. I. Hussein, S. L. Lacy, and D. S. Bernstein, "Data Compression for Subspace-Based Identification Using Periodic and Nonperiodic Inputs," *Proc. Amer. Contr. Conf.*, pp. 3313-3318, Anchorage, AK, May 2002.
236. H. S. Sane, A. V. Roup, D. S. Bernstein, and H. J. Sussmann, "Adaptive Stabilization and Disturbance Rejection for First-Order Systems," *Proc. Amer. Contr. Conf.*, pp. 4021-4026, Anchorage, AK, May 2002.
237. S. L. Lacy and D. S. Bernstein, "Identification of an Electromagnetic Actuator," *Proc. Conf. Dec. Contr.*, pp. 4521-4526, Las Vegas, NV, December 2002.
238. D. S. Bernstein and S. P. Bhat, "Energy Equipartition and the Emergence of Damping in Lossless Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 2913-2918, Las Vegas, NV, December 2002.
239. S. Akhtar, R. Venugopal, and D. S. Bernstein, "Discrete-Time Direct Adaptive Stabilization," *Proc. Amer. Contr. Conf.*, pp. 214-219, Denver, CO, June 2003.
240. A. V. Roup and D. S. Bernstein, "Adaptive Stabilization of Second-Order Nonminimum-Phase Systems," *Proc. Amer. Contr. Conf.*, pp. 225-230, Denver, CO, June 2003.
241. A. V. Roup and D. S. Bernstein, "Adaptive Stabilization and Disturbance Rejection for SISO Minimum-Phase Relative Degree One Systems," *Proc. Amer. Contr. Conf.*, pp. 1584-1589, Denver, CO, June 2003.
242. S. P. Bhat and D. S. Bernstein, "Arc-Length-Based Lyapunov Tests for Convergence and Stability in Systems Having a Continuum of Equilibria," *Proc. Amer. Contr. Conf.*, pp. 2961-2966, Denver, CO, June 2003.
243. D. S. Bernstein and S. P. Bhat, "Linear Output-Reversible Systems," *Proc. Amer. Contr. Conf.*, pp. 3240-3241, Denver, CO, June 2003.
244. S. L. Lacy and D. S. Bernstein, "Identification of Systems with Limit Cycles," *Proc. Amer. Contr. Conf.*, pp. 3863-3868, Denver, CO, June 2003.
245. J. B. Hoagg, S. L. Lacy, R. Venugopal, and D. S. Bernstein, "Adaptive Control of a Flexible Membrane Using Acoustic Excitation and Optical Sensing," *AIAA Guid. Nav. Contr. Conf.*, Austin, TX, August 2003, AIAA-2003-5430.
246. A. Sanyal, M. Chellapa, J. L. Valk, J. Shen, J. Ahmed, and D. S. Bernstein, "Globally Convergent Adaptive Tracking of Spacecraft Angular Velocity with Inertia Identification," *Proc. IFAC SYSID Conf.*, pp. 971-976, Rotterdam, Netherlands, August 2003.
247. J. Oh and D. S. Bernstein, "A Semilinear Duhem Model for Rate-Independent Hysteresis," *Proc. IFAC SYSID Conf.*, pp. 1578-1583, Rotterdam, Netherlands, August 2003.
248. A. Sanyal, M. Chellapa, J. L. Valk, J. Shen, J. Ahmed, and D. S. Bernstein, "Globally Convergent Adaptive Tracking of Spacecraft Angular Velocity with Inertia Identification," *Proc. IEEE Conf. Dec. Contr.*, pp. 2704-2709, Maui, HI, December 2003.
249. J. Oh and D. S. Bernstein, "A Semilinear Duhem Model for Rate-Independent Hysteresis," *Proc. IEEE Conf. Dec. Contr.*, pp. 6236-6241, Maui, HI, December 2003.
250. S. Lacy, D. S. Bernstein, and R. S. Erwin, "Finite-Horizon Input Selection for System Identification," *Proc. IEEE Conf. Dec. Contr.*, pp. 6485-6490, Maui, HI, December 2003.
251. D. Patt, L. Liu, J. Chandrasekar, D. S. Bernstein, and P. P. Friedmann, "The HHC Algorithm for Helicopter Vibration Reduction Revisited," *Proc. 45th AIAA/ASME/ASCE/AHS/ASC SDM Conference*, pp. 1-29, Palm Springs, CA, April 2004, AIAA 2004-1948.
252. J. B. Hoagg, S. L. Lacy, R. S. Erwin, and D. S. Bernstein, "First-Order-Hold Sampling of Positive Real Systems and Subspace Identification of Positive Real Models," *Proc. Amer. Contr. Conf.*, pp. 861-866, Boston, MA, June 2004.
253. J. B. Hoagg, S. L. Lacy, R. S. Erwin, and D. S. Bernstein, "Subspace Identification with Lower Bounded Modal Frequencies," *Proc. Amer. Contr. Conf.*, pp. 867-872, Boston, MA, June 2004.
254. J. Chandrasekar, L. Liu, D. Patt, P. P. Friedmann, and D. S. Bernstein, "Adaptive Harmonic Steady State Control for Disturbance Rejection," *Proc. Amer. Contr. Conf.*, pp. 1247-1252, Boston, MA, June 2004.
255. J. Oh and D. S. Bernstein, "Identification of Rate-Dependent Hysteresis Using the Semilinear Duhem Model," *Proc. Amer. Contr. Conf.*, pp. 4776-4781, Boston, MA, June 2004.
256. H. Palanthandalam-Madapusi, J. B. Hoagg, and D. S. Bernstein, "Basis-Function Optimization for Subspace-Based Nonlinear Identification of Systems with Measured-Input Nonlinearities," *Proc. Amer. Contr. Conf.*, pp. 4788-4793, Boston, MA, June 2004.
257. J. Chandrasekar, L. Liu, D. Patt, P. P. Friedmann, and D. S. Bernstein, "Active Noise Cancellation for Systems with Uncertain Dynamics Using Adaptive Harmonic Steady State Control," *Proc. ACTIVE 04*, Williamsburg, VA, September 2004.
258. S. Akhtar and D. S. Bernstein, "Optimal Adaptive Feedback Disturbance Rejection," *Proc. ACTIVE 04*, Williamsburg, VA, September 2004.
259. J. B. Hoagg and D. S. Bernstein, "Discrete-Time Adaptive Feedback Disturbance Rejection Using a Retrospective Performance Measure," *Proc. ACTIVE 04*, Williamsburg, VA, September 2004.

260. L. Liu, D. Patt, P. P. Friedmann, and D. S. Bernstein, "Active Noise Reduction in Helicopters Using Trailing Edge Flaps," *Proc. ACTIVE 04*, Williamsburg, VA, September 2004.
261. B.-E. Jun and D. S. Bernstein, "Least-Correlation Estimates for Errors-in-Variables Models," *Proc. Conf. IEEE Indust. Elec. Soc.*, pp. 2917-2922, November 2004, Busan, Korea.
262. B.-E. Jun and D. S. Bernstein, "Least-Correlation Estimates for Errors-in-Variables Nonlinear Models," *Proc. Conf. IEEE Indust. Elec. Soc.*, pp. 2453-2458, November 2004, Busan, Korea.
263. J. B. Hoagg and D. S. Bernstein, "Direct Adaptive Stabilization of Minimum-Phase Systems with Bounded Relative Degree," *Proc. IEEE Conf. Dec. Contr.*, pp. 183-188, Paradise Island, The Bahamas, December 2004.
264. J. Shen, A. K. Sanyal, N. A. Chaturvedi, D. S. Bernstein, and N. H. McClamroch, "Dynamics and Control of a 3D Pendulum," *Proc. IEEE Conf. Dec. Contr.*, pp. 323-328, Paradise Island, The Bahamas, December 2004.
265. S. P. Bhat and D. S. Bernstein, "Average-Preserving Symmetries and Equipartition in Linear Hamiltonian Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 2155-2160, Paradise Island, The Bahamas, December 2004.
266. J. B. Hoagg and D. S. Bernstein, "Robust Stabilization of Discrete-Time Systems," *Proc. Conf. Dec. Contr.*, pp. 2346-2351, Paradise Island, The Bahamas, December 2004.
267. J. Chandrasekar, O. Barrero, A. J. Ridley, D. S. Bernstein, and De Moor, "State Estimation for Linearized MHD Flow," *Proc. Conf. Dec. Contr.*, pp. 2584-2589, Paradise Island, The Bahamas, December 2004.
268. J. Chandrasekar, J. B. Hoagg, and D. S. Bernstein, "On the Zeros of Asymptotically Stable Serially Connected Structures," *Proc. IEEE Conf. Dec. Contr.*, pp. 2638-2643, Paradise Island, The Bahamas, December 2004.
269. H. Palanthandalam-Madapusi, S. Gillijns, A. J. Ridley, and D. S. Bernstein, "Electric Potential Estimation with Line-of-Sight Measurements Using Basis Function Optimization," *Proc. IEEE Conf. Dec. Contr.*, pp. 3625-3630, Paradise Island, The Bahamas, December 2004.
270. J. Oh and D. S. Bernstein, "Step-Convergence Analysis of Nonlinear Feedback Hysteresis Models," *Proc. Amer. Contr. Conf.*, Portland, OR, pp. 697-702, June 2005.
271. P. D. Olivier and D. S. Bernstein, "Optimization-Based Correction of a Segmented Optical Telescope Using Image-Plane Sensing," *Proc. Amer. Contr. Conf.*, Portland, OR, pp. 1491-1496, June 2005.
272. E. L. Renk, W. J. Collins, M. A. Rizzo, F. J. Lee, and D. S. Bernstein, "Calibrating a Triaxial Accelerometer-Magnetometer," *Proc. Amer. Contr. Conf.*, Portland, OR, pp. 1957-1962, June 2005.
273. J. Chandrasekar and D. S. Bernstein, "Position Control of a Two-Bar Linkage with Acceleration-Based Identification and Feedback," *Proc. Amer. Contr. Conf.*, Portland, OR, pp. 1987-1992, June 2005.
274. S. L. Lacy, H. Palanthandalam-Madapusi, J. B. Hoagg, and D. S. Bernstein, "Subspace-Based Identification for Linear and Nonlinear Systems," *Proc. Amer. Contr. Conf.*, Portland, OR, pp. 2320-2334, June 2005.
275. N. A. Chaturvedi, F. Bacconi, A. K. Sanyal, D. S. Bernstein, and N. H. McClamroch, "Stabilization of a 3D Asymmetric Rigid Pendulum," *Proc. Amer. Contr. Conf.*, Portland, OR, pp. 3030-3035, June 2005.
276. S. Akhtar and D. S. Bernstein, "Lyapunov-Stable Discrete-Time Model Reference Adaptive Control," *Proc. Amer. Contr. Conf.*, Portland, OR, pp. 3174-3179, June 2005.
277. J. B. Hoagg and D. S. Bernstein, "Lyapunov-Stable High-Gain Adaptive Stabilization of Nonlinear Systems with Matched Uncertainty," *Proc. Amer. Contr. Conf.*, Portland, OR, pp. 3180-3185, June 2005.
278. D. S. Bernstein, J. Chandrasekar, and A. J. Ridley, "Partial-State Estimation Using an Adaptive Disturbance Rejection Algorithm," *Proc. Amer. Contr. Conf.*, Portland, OR, pp. 3447-3452, June 2005.
279. O. Barrero, D. S. Bernstein, and B. De Moor, "Spatially Localized Kalman Filtering for Data Assimilation," *Proc. Amer. Contr. Conf.*, Portland, OR, pp. 3468-3473, June 2005.
280. J. Chandrasekar, A. J. Ridley, and D. S. Bernstein, "An SDRE-Based Asymptotic Observer for Nonlinear Discrete-Time Systems," *Proc. Amer. Contr. Conf.*, Portland, OR, pp. 3630-3635, June 2005.
281. J. B. Hoagg, S. L. Lacy, and D. S. Bernstein, "Broadband Adaptive Disturbance Rejection for a Deployable Optical Telescope," *Proc. Amer. Contr. Conf.*, Portland, OR, pp. 4953-4958, June 2005.
282. H. Palanthandalam-Madapusi, A. J. Ridley, and D. S. Bernstein, "Identification and Prediction of Ionospheric Dynamics Using a Hammerstein-Wiener Model with Radial Basis Functions," *Proc. Amer. Contr. Conf.*, Portland, OR, pp. 5052-5057, June 2005.
283. M. A. Santillo, N. Chaturvedi, F. Bacconi, N. H. McClamroch, and D. S. Bernstein, "Experiments on Stabilization of the Hanging Equilibrium of a 3D Asymmetric Pendulum," *Proc. Conf. Contr. Appl.*, pp. 308-311, Toronto, Canada, August 2005.
284. R. Renk, H. Palanthandalam-Madapusi and D. S. Bernstein, "Linear and Hammerstein Subspace Identification of a Human Controlling a Ball and Beam Using the Quanser Engineering Trainer Haptic Interface," *Proc. Conf. Contr. Appl.*, pp. 1618-1623, Toronto, Canada, August 2005.
285. H. Palanthandalam-Madapusi, E. L. Renk, and D. S. Bernstein, "Data-Based Model Refinement for Linear and Hammerstein Systems Using Subspace Identification and Adaptive Disturbance Rejection," *Proc. Conf. Contr. Appl.*, pp. 1630-1635, Toronto, Canada, August 2005.
286. J. B. Hoagg and D. S. Bernstein, "Direct Adaptive Command Following and Disturbance Rejection for Minimum Phase Systems with Unknown Relative Degree," *Proc. Conf. Dec. Contr.*, pp. 2242-2247, Seville, Spain, December 2005.

287. S. Akhtar and D. S. Bernstein, "Discrete-Time Adaptive Stabilization and Disturbance Rejection for Minimum Phase Plants," *Proc. IEEE Conf. Dec. Contr.*, pp. 2236-2241, Seville, Spain, December 2005.
288. N. A. Chaturvedi, F. Bacconi, D. S. Bernstein, and N. Harris McClamroch, "Stabilization of a 3D Axially Symmetric Rigid Pendulum," *Proc. IEEE Conf. Dec. Contr.*, pp. 5287-5292, Seville, Spain, December 2005.
289. A. Padthe, J. Oh, and D. S. Bernstein, "Counterclockwise Dynamics of a Rate-Independent Semilinear Duhem Model," *Proc. IEEE Conf. Dec. Contr.*, pp. 8000-8005, Seville, Spain, December 2005.
290. J. Oh, A. Padthe, D. S. Bernstein, D. Rizos, and S. D. Fassois, "Duhem Models for Hysteresis in Sliding and Presliding Friction," *Proc. IEEE Conf. Dec. Contr.*, pp. 8132-8137, Seville, Spain, December 2005.
291. H. Palanhandalam-Madapusi, D. S. Bernstein, and A. J. Ridley, "Subspace Identification of Periodically Switching Hammerstein-Wiener Models for Magnetospheric Dynamics," *Proc. 14th IFAC Symposium on System Identification*, pp. 535-540, Newcastle, Australia, March 2006.
292. S. Gillijns, B. De Moor, and D. S. Bernstein, "The Reduced Rank Transform Square Root Filter for Data Assimilation," *Proc. 14th IFAC Symposium on System Identification*, pp. 1252-1257, Newcastle, Australia, March 2006.
293. L. Liu, P. P. Friedmann, I. Kim, and D. S. Bernstein, "Simultaneous Vibration Reduction and Performance Enhancement in Rotorcraft Using Actively Controlled Flaps," *Proc. 47th Structures, Structural Dynamics, and Materials Conference*, May 2006, AIAA-2006-1861.
294. L. Liu, P. P. Friedmann, I. Kim, and D. S. Bernstein, "Simultaneous Vibration Reduction and Performance Enhancement in Rotorcraft Using Actively Controlled Flaps," *Proc. 62nd American Helicopter Society Annual Forum*, Phoenix, AZ, May 2006.
295. I. Kim, J. Chandrasekar, A. J. Ridley, and D. S. Bernstein, "Data Assimilation Using the Global Ionosphere-Thermosphere Model," *Proc. ICCS*, pp. 489-496, Reading, UK, May 2006.
296. J. B. Hoagg and D. S. Bernstein, "Deadbeat Internal Model Control for Command Following and Disturbance Rejection for Discrete-Time Systems," *Proc. Amer. Contr. Conf.*, pp. 194-199, Minneapolis, MN, June 2006.
297. J. B. Hoagg and D. S. Bernstein, "On the Zeros, Initial Undershoot, and Relative Degree of Lumped-Mass Structures," *Proc. Amer. Contr. Conf.*, pp. 394-399, Minneapolis, MN, June 2006.
298. J. B. Hoagg, Seth L. Lacy, V. Babuska, and D. S. Bernstein, "Sequential Multisine Excitation Signals for System Identification of Large Space Structures," *Proc. Amer. Contr. Conf.*, pp. 418-423, Minneapolis, MN, June 2006.
299. N. A. Chaturvedi, M. A. Santillo, N. H. McClamroch, and D. S. Bernstein, "Experimental Results for Almost Global Asymptotic and Locally Exponential Stabilization of the Natural Equilibria of a 3D Pendulum," *Proc. Amer. Contr. Conf.*, pp. 1802-1807, Minneapolis, MN, June 2006.
300. S. Akhtar, J. B. Hoagg, and D. S. Bernstein, "Discrete-Time Trailing Horizon Direct Adaptive Disturbance Rejection," *Proc. Amer. Contr. Conf.*, pp. 2688-2693, Minneapolis, MN, June 2006.
301. H. J. Palanhandalam-Madapusi, S. Gillijns, B. De Moor, and D. S. Bernstein, "Subsystem Identification for Nonlinear Model Updating," *Proc. Amer. Contr. Conf.*, pp. 3056-3061, Minneapolis, MN, June 2006.
302. A. Padthe, J. Oh, and D. S. Bernstein, "On the LuGre Model and Friction-Induced Hysteresis," *Proc. Amer. Contr. Conf.*, pp. 3247-3252, Minneapolis, MN, June 2006.
303. M. Rizzo, M. A. Santillo, A. Padthe, J. B. Hoagg, S. Akhtar, D. S. Bernstein, and K. G. Powell, "CFD-Based Identification for Adaptive Flow Control Using ARMARKOV Disturbance Rejection," *Proc. Amer. Contr. Conf.*, pp. 3783-3788, Minneapolis, MN, June 2006.
304. S. Gillijns, O. Barrero Mendoza, J. Chandrasekar, B. De Moor, D. S. Bernstein, and A. J. Ridley, "What Is the Ensemble Kalman Filter and How Well Does it Work?," *Proc. Amer. Contr. Conf.*, pp. 4448-4453, Minneapolis, MN, June 2006.
305. J. Chandrasekar and D. S. Bernstein, "Spatially Constrained Output Injection for State Estimation with Banded Closed-Loop Dynamics," *Proc. Amer. Contr. Conf.*, pp. 4454-4459, Minneapolis, MN, June 2006.
306. J. B. Hoagg and D. S. Bernstein, "Discrete-Time Adaptive Command Following and Disturbance Rejection with Unknown Exogenous Dynamics," *Proc. Conf. Dec. Contr.*, pp. 471-476, San Diego, CA, December 2006.
307. M. A. Santillo, J. B. Hoagg, and D. S. Bernstein, "CFD-Based Adaptive Flow Control for Steady Flow Field Modification," *Proc. IEEE Conf. Dec. Contr.*, pp. 3106-3110, San Diego, CA, December 2006.
308. R. S. Erwin, M. A. Santillo, and D. S. Bernstein, "Spacecraft Trajectory Estimation Using a Sampled-Data Extended Kalman Filter with Range-Only Measurements," *Proc. IEEE Conf. Dec. Contr.*, pp. 3144-3149, San Diego, CA, December 2006.
309. A. K. Padthe, N. A. Chaturvedi, D. S. Bernstein, and A. M. Waas, "Hysteresis Analysis and Feedback Stabilization of Snap-through Buckling," *Proc. Amer. Contr. Conf.*, pp. 729-734, New York, NY, July 2007.
310. M. A. Santillo, J. Hoagg, D. S. Bernstein, and K. D. Powell, "Adaptive Disturbance Rejection for Flow in a Duct with Time-Varying Upstream Velocity," *Proc. Amer. Contr. Conf.*, pp. 2226-2231, New York, NY, July 2007.
311. M. A. Santillo, N. A. Chaturvedi, N. H. McClamroch, and D. S. Bernstein, "3D Pendulum Experimental Setup for Earth-based Testing of the Attitude Dynamics of an Orbiting Spacecraft," *Proc. Amer. Contr. Conf.*, pp. 2479-2485, New York, NY, July 2007.



312. N. A. Chaturvedi, N. H. McClamroch, and D. S. Bernstein, "Stabilization of a Specified Equilibrium in the Inverted Equilibrium Manifold of the 3D Pendulum," *Proc. Amer. Contr. Conf.*, pp. 2485-2490, New York, NY, July 2007.
313. H. J. Palanthandalam-Madapusi, D. S. Bernstein, and R. Venugopal, "What Are the Physical Dimensions of the  $A$  Matrix?," *Proc. Amer. Contr. Conf.*, pp. 2491-2496, New York, NY, July 2007.
314. A. K. Padthe and D. S. Bernstein, "Duhem Feedback and Friction-Induced Hysteresis," *Proc. Amer. Contr. Conf.*, pp. 4315-4320, New York, NY, July 2007.
315. J. Chandrasekar, A. J. Ridley, and D. S. Bernstein, "A Comparison of the Extended and Unscented Kalman Filters for Discrete-Time Systems with Nondifferentiable Dynamics," *Proc. Amer. Contr. Conf.*, pp. 4431-4436, New York, NY, July 2007.
316. J. Chandrasekar, I. S. Kim, A. J. Ridley, and D. S. Bernstein, "Reduced-Order Covariance-Based Unscented Kalman Filtering with Complementary Steady-State Correlation," *Proc. Amer. Contr. Conf.*, pp. 4452-4457, New York, NY, July 2007.
317. I. S. Kim, J. Chandrasekar, H. J. Palanthandalam-Madapusi, A. J. Ridley, and D. S. Bernstein, "State Estimation for Large-Scale Systems Based on Reduced-Order Error-Covariance Propagation," *Proc. Amer. Contr. Conf.*, pp. 5700-5705, New York, NY, July 2007.
318. H. J. Palanthandalam-Madapusi and D. S. Bernstein, "Unbiased Minimum-Variance Filtering for Input Reconstruction," *Proc. Amer. Contr. Conf.*, pp. 5712-5717, New York, NY, July 2007.
319. B.-E. Jun, D. S. Bernstein, and N. H. McClamroch, "Identification of the Inertia Matrix of a Rotating Body Based on Errors-in-Variables Models," *Proc. NOLCOS*, Vol. 7, Part 1, August 2007.
320. A. Padthe and D. S. Bernstein, "A Delay-Duhem Model for Jump-Resonance Hysteresis," *Proc. Conf. Dec. Contr.*, pp. 1609-1614, New Orleans, LA, December 2007.
321. H. J. Palanthandalam-Madapusi, B. Edamana, D. S. Bernstein, W. Manchester, and A. J. Ridley, "NARMAX Identification for Space Weather Prediction Using Polynomial Radial Basis Functions," *Proc. IEEE Conf. Dec. Contr.*, pp. 3622-3627, New Orleans, LA, December 2007.
322. H. J. Palanthandalam-Madapusi and D. S. Bernstein, "A Subspace Identification Algorithm for Simultaneous Identification and Input Reconstruction," *Proc. IEEE Conf. Dec. Contr.*, pp. 4956-4961, New Orleans, LA, December 2007.
323. J. Chandrasekar, I. S. Kim, and D. S. Bernstein, "Reduced-Order Kalman Filtering for Time-Varying Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 6214-6219, New Orleans, LA, December 2007.
324. B. O. S. Teixeira, J. Chandrasekar, L. A. B. Torres, L. A. Aguirre, and D. S. Bernstein, "State Estimation for Equality-Constrained Linear Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 6220-6225, New Orleans, LA, December 2007.
325. B. O. S. Teixeira, J. Chandrasekar, L. A. B. Torres, L. A. Aguirre, and D. S. Bernstein, "Unscented Kalman Filtering for Equality-Constrained Nonlinear Systems," *Proc. Amer. Contr. Conf.*, pp. 39-44, Seattle, WA, June 2008.
326. J. Chandrasekar, I. S. Kim, D. S. Bernstein, and A. J. Ridley, "Reduced-Rank Unscented Kalman Filtering Using Cholesky-Based Decomposition," *Proc. Amer. Contr. Conf.*, pp. 1274-1279, Seattle, WA, June 2008.
327. I. S. Kim, D. J. Pawlowski, A. J. Ridley, and D. S. Bernstein, "Localized Data Assimilation in the Ionosphere-Thermosphere Using a Sampled-Data Unscented Kalman Filter," *Proc. Amer. Contr. Conf.*, pp. 1849-1854, Seattle, WA, June 2008.
328. H. J. Palanthandalam-Madapusi, A. Girard, and D. S. Bernstein, "UAV-based Wind-field Estimation Using the Unscented Kalman Filter with Input Reconstruction," *Proc. IEEE Conf. Dec. Contr.*, pp. 1863-1868, Seattle, WA, June 2008.
329. H. J. Palanthandalam-Madapusi, A. J. Ridley, and D. S. Bernstein, "Magnetic-field Estimation Using Measurements from a Floating Buoy," *Proc. IEEE Conf. Dec. Contr.*, pp. 2346-2351, Seattle, WA, June 2008.
330. B. O. S. Teixeira, A. J. Ridley, L. A. B. Torres, L. A. Aguirre, and D. S. Bernstein, "Data Assimilation for Magnetohydrodynamics with a Zero-Divergence Constraint on the Magnetic Field," *Proc. Amer. Contr. Conf.*, pp. 2534-2539, Seattle, WA, June 2008.
331. J. Chandrasekar, I. S. Kim, D. S. Bernstein, and A. J. Ridley, "Cholesky-Based Reduced-Rank Square-Root Kalman Filtering," *Proc. Amer. Contr. Conf.*, pp. 3987-3992, Seattle, WA, June 2008.
332. B. L. Pence, M. A. Santillo, and D. S. Bernstein, "Markov-Parameter-Based Adaptive Control of 3-Axis Angular Velocity in a 6DOF Stewart Platform," *Proc. Amer. Contr. Conf.*, pp. 4767-4772, Seattle, WA, June 2008.
333. M. A. Santillo and D. S. Bernstein, "Inherent Robustness of Minimal Modeling Discrete-Time Adaptive Control to Flight Anomalies," *Proc. Guid. Nav. Contr. Conf.*, Honolulu, HI, August 2008, AIAA-2008-7289.
334. M. A. Santillo and D. S. Bernstein, "A Retrospective Correction Filter for Discrete-time Adaptive Control of Nonminimum Phase Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 690-695, Cancun, Mexico, December 2008.
335. A. M. D'Amato, B. O. S. Teixeira, H. J. Palanthandalam-Madapusi, A. J. Ridley, and D. S. Bernstein, "Recursive Estimation of Terrestrial Magnetic and Electrical Potentials," *Proc. IEEE Conf. Dec. Contr.*, pp. 1648-1653, Cancun, Mexico, December 2008.
336. I. S. Kim, B. O. S. Teixeira, A. J. Ridley, and D. S. Bernstein, "Ensemble-On-Demand Kalman Filter for Large-Scale Systems with Time-Sparse Measurements," *Proc. IEEE Conf. Dec. Contr.*, pp. 3199-3204, Cancun, Mexico, December 2008.

337. B. O. S. Teixeira, L. A. B. Torres, L. A. Aguirre, and D. S. Bernstein, "Unscented Filtering for Interval-Constrained Nonlinear Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 5116-5121, Cancun, Mexico, December 2008.
338. Y.-C. Cho, M. S. Fledderjohn, M. S. Holzel, B. Jayaraman, M. A. Santillo, D. S. Bernstein, and W. Shyy, "Adaptive Flow Control of Low Reynolds Number Aerodynamics using a Dielectric Barrier Discharge Actuator," *Proc. 47th AIAA Aerospace Sciences Meeting*, Orlando, FL, January 2009, AIAA-2009-378.
339. A. M. D'Amato, B. J. Arritt, J. A. Banik, E. V. Ardelean, and D. S. Bernstein, "Structural Health Determination and Model Refinement for a Deployable Composite Boom," *AIAA SDM Conf.*, Palm Springs, CA, April 2009, AIAA-2009-2373.
340. M. S. Holzel, S. Lacy, V. Babuska, and D. S. Bernstein, "Direct Frequency Response Function Based, Uncertainty Accommodating Optimal Controller Design," *Proc. Amer. Contr. Conf.*, pp. 1046-1051, St. Louis, MO, June 2009.
341. B. Drincic and D. S. Bernstein, "Why Are Some Hysteresis Loops Shaped Like a Butterfly?," *Proc. Amer. Contr. Conf.*, pp. 3977-3982, St. Louis, MO, June 2009.
342. M. A. Santillo, A. M. D'Amato, and D. S. Bernstein, "System Identification Using a Retrospective Correction Filter for Adaptive Feedback Model Updating," *Proc. Amer. Contr. Conf.*, pp. 4392-4397, St. Louis, MO, June 2009.
343. A. Sanyal, A. Fosbury, N. Chaturvedi, and D. S. Bernstein, "Inertia-free Spacecraft Attitude Trajectory Tracking with Internal-Model-Based Disturbance Rejection and Almost Global Stabilization," *Proc. Amer. Contr. Conf.*, pp. 4830-4835, St. Louis, MO, June 2009.
344. H. Fu, J. Yan, M. A. Santillo, H. Palanhandalam-Madapusi, and D. S. Bernstein, "Fault Detection for Aircraft Control Surfaces Using Approximate Input Reconstruction," *Proc. Amer. Contr. Conf.*, pp. 4962-4967, St. Louis, MO, June 2009.
345. A. M. D'Amato and D. S. Bernstein, "Linear Fractional Transformation Identification Using Retrospective Cost Optimization," *Proc. SYSID*, pp. 450-455, Saint-Malo, France, July 2009.
346. A. M. D'Amato, A. Brzezinski, M. S. Holzel, J. Ni, and D. S. Bernstein, "Sensor-Only Noncausal Blind Identification of Pseudo Transfer Functions," *Proc. SYSID*, pp. 1698-1703, Saint-Malo, France, July 2009.
347. M. S. Holzel, M. A. Santillo, J. B. Hoagg, and D. S. Bernstein, "Adaptive Control of the NASA Generic Transport Model Using Retrospective Cost Optimization," *Proc. AIAA Guid. Nav. Contr. Conf.*, Chicago, IL, August 2009, AIAA-2009-5616.
348. H. Fu, S. Kirtikar, H. Palanhandalam-Madapusi, E. Zattoni, and D. S. Bernstein, "Approximate Input Reconstruction for Diagnosing Aircraft Control Surfaces," *Proc. AIAA Guid. Nav. Contr. Conf.*, Chicago, IL, August 2009, AIAA-2009-5758.
349. M. S. Fledderjohn, Y.-C. Cho, J. B. Hoagg, M. A. Santillo, W. Shyy, and D. S. Bernstein, "Retrospective Cost Adaptive Flow Control Using a Dielectric Barrier Discharge Actuator," *Proc. AIAA Guid. Nav. Contr. Conf.*, Chicago, IL, August 2009, AIAA-2009-5857.
350. S. Kirtikar, H. Palanhandalam-Madapusi, E. Zattoni, and D. S. Bernstein, " $l$ -Delay Input Reconstruction for Discrete-Time Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 1848-1853, Shanghai, China, December 2009.
351. M. A. Santillo, M. S. Holzel, J. B. Hoagg, and D. S. Bernstein, "Adaptive Control Using Retrospective Cost Optimization with RLS-Based Estimation for Concurrent Markov-Parameter Updating," *Proc. IEEE Conf. Dec. Contr.*, pp. 3466-3471, Shanghai, China, December 2009.
352. A. M. D'Amato, A. J. Ridley, and D. S. Bernstein, "A Nonlinear Observer for Semidetachable Chemical Reactions with Application to Kinetic-Rate-Constant Estimation," *Proc. IEEE Conf. Dec. Contr.*, pp. 7569-7574, Shanghai, China, December 2009.
353. B. Drincic and D. S. Bernstein, "A Multiplay Model for Rate-Independent and Rate-Dependent Hysteresis with Nonlocal Memory," *Proc. IEEE Conf. Dec. Contr.*, pp. 8381-8386, Shanghai, China, December 2009.
354. A. M. D'Amato, A. R. Wu, K. S. Mitchell, S. L. Kukreja, and D. S. Bernstein, "Damage Localization for Structural Health Monitoring Using Retrospective Cost Model Refinement," *Proc. AIAA SDM Conf.*, Orlando, FL, April 2010, AIAA-2010-2628.
355. Y.-C. Cho, J. B. Hoagg, D. S. Bernstein, and W. Shyy, "Retrospective Cost Adaptive Flow Control of Low-Reynolds Number Aerodynamics Using a Dielectric Barrier Discharge Actuator," *Proc. 5th AIAA Flow Contr. Conf.*, Chicago, IL, July 2010, AIAA-2010-4841.
356. M. A. Santillo, J. B. Hoagg, and D. S. Bernstein, "Adaptive Static-Output-Feedback Stabilization Using Retrospective Cost Optimization," *Proc. Amer. Contr. Conf.*, pp. 1677-1682, Baltimore, MD, June 2010.
357. M. S. Holzel, A. A. Ali, and D. S. Bernstein, "Input Richness and Zero Buffering in Time-Domain Identification," *Proc. Amer. Contr. Conf.*, pp. 2929-2934, Baltimore, MD, June 2010.
358. M. S. Fledderjohn, M. S. Holzel, A. V. Morozov, J. B. Hoagg, and D. S. Bernstein, "On the Accuracy of Least Squares Algorithms for Estimating Zeros," *Proc. Amer. Contr. Conf.*, pp. 3729-3734, Baltimore, MD, June 2010.
359. M. S. Fledderjohn, M. S. Holzel, H. Palanhandalam-Madapusi, R. J. Fuentes, and D. S. Bernstein, "A Comparison of Least Squares Algorithms for Estimating Markov Parameters," *Proc. Amer. Contr. Conf.*, pp. 3735-3740, Baltimore, MD, June 2010.

360. A. M. D'Amato, B. O. S. Teixeira, and D. S. Bernstein, "Semiparametric Identification of Wiener Systems Using a Single Harmonic Input and Retrospective Cost Optimization," *Proc. Amer. Contr. Conf.*, pp. 4498–4503, Baltimore, MD, June 2010.
361. J. B. Hoagg and D. S. Bernstein, "Cumulative Retrospective Cost Adaptive Control with RLS-Based Optimization," *Proc. Amer. Contr. Conf.*, pp. 4016–4021, Baltimore, MD, June 2010.
362. E. D. Sumer, J. Lu, D. Filev, and D. S. Bernstein, "Adaptive Road-Following Preview Control Using Radius of Curvature Data," *Proc. Amer. Contr. Conf.*, pp. 4806–4811, Baltimore, MD, June 2010.
363. A. M. D'Amato, J. B. Hoagg, and D. S. Bernstein, "Hybrid Retrospective-Cost-Based Adaptive Control Using Concurrent Parameter Estimation," *Proc. Amer. Contr. Conf.*, pp. 4812–4817, Baltimore, MD, June 2010.
364. A. Brzezinski, S. Kukreja, J. Ni, and D. S. Bernstein, "Sensor-Only Fault Detection Using Pseudo-Transfer-Function Identification," *Proc. Amer. Contr. Conf.*, pp. 5433–5438, Baltimore, MD, June 2010.
365. R. J. Fuentes, J. B. Hoagg, B. J. Anderton, A. M. D'Amato, and D. S. Bernstein, "Investigation of Cumulative Retrospective Cost Adaptive Control for Missile Application," AIAA Guid. Nav. Contr. Conf., Toronto, August 2010, AIAA 2010-7577.
366. A. M. D'Amato, S. L. Kukreja, and D. S. Bernstein, "Data-Based Model Refinement Using Retrospective Cost Optimization," AIAA Guid. Nav. Contr. Conf., Toronto, August 2010, AIAA-2010-7889-784.
367. A. V. Morozov, J. B. Hoagg, and D. S. Bernstein, "A Computational Study of the Performance and Robustness Properties of Retrospective Cost Adaptive Control," AIAA Guid. Nav. Contr. Conf., Toronto, August 2010, AIAA-2010-8011-911.
368. A. Weiss, X. Yang, I. Kolmanovsky, and D. S. Bernstein, "Inertia-Free Spacecraft Attitude Control with Reaction-Wheel Actuation," AIAA Guid. Nav. Contr. Conf., Toronto, August 2010, AIAA-2010-8297-163.
369. B. J. Coffey, J. B. Hoagg, and D. S. Bernstein, "Retrospective Cost Adaptive Control of the NASA GTM Model," AIAA Guid. Nav. Contr. Conf., Toronto, August 2010, AIAA-2010-8404-212.
370. A. A. Ali, J. B. Hoagg, M. Mossberg, and D. S. Bernstein, "Recursive Quadratic Optimization with Variable Regularization," *Proc. IEEE Conf. Dec. Contr.*, pp. 496–501, Atlanta, GA, December 2010.
371. J. B. Hoagg and D. S. Bernstein, "Retrospective Cost Adaptive Control for Nonminimum-Phase Discrete-Time Systems Part 1: The Ideal Controller and Error System," *Proc. IEEE Conf. Dec. Contr.*, pp. 893–898, Atlanta, GA, December 2010.
372. J. B. Hoagg and D. S. Bernstein, "Retrospective Cost Adaptive Control for Nonminimum-Phase Discrete-Time Systems Part 2: The Adaptive Controller and Stability Analysis," *Proc. IEEE Conf. Dec. Contr.*, pp. 899–904, Atlanta, GA, December 2010.
373. A. V. Morozov, J. B. Hoagg, and D. S. Bernstein, "Retrospective Adaptive Control of a Planar Multilink Arm with Nonminimum-Phase Zeros," *Proc. IEEE Conf. Dec. Contr.*, pp. 3706–3711, Atlanta, GA, December 2010.
374. E. Zattoni, G. Marro, and D. S. Bernstein, "A Markov-parameter-based Method for Online Reconstruction of Unknown State and Input in Discrete-Time Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 6022–6027, Atlanta, GA, December 2010.
375. A. M. D'Amato, K. S. Mitchell, B. O. S. Teixeira, and D. S. Bernstein, "Semiparametric Identification of Hammerstein Systems Using Input Reconstruction and a Single Harmonic Input," *Proc. IEEE Conf. Dec. Contr.*, pp. 6365–6370, Atlanta, GA, December 2010.
376. A. M. D'Amato, A. J. Ridley, and D. S. Bernstein, "Adaptive Model Refinement for the Ionosphere and Thermosphere," *Proc. 2010 Conference on Intelligent Data Understanding*, Mountain View, CA, October 2010. Available at <https://c3.ndc.nasa.gov/dashlink/resources/240/>.
377. A. Morozov, A. M. D'Amato, J. B. Hoagg, and D. S. Bernstein, "Retrospective Cost Adaptive Control for Nonminimum-Phase Systems with Uncertain Nonminimum-Phase Zeros Using Convex Optimization," *Proc. Amer. Contr. Conf.*, pp. 1188–2293, San Francisco, CA, June 2011.
378. A. A. Ali, A. M. D'Amato, M. S. Holzel, S. L. Kukreja, and D. S. Bernstein, "Consistent Identification of Hammerstein Systems Using an Ersatz Nonlinearity," *Proc. Amer. Contr. Conf.*, pp. 1242–1246, San Francisco, CA, June 2011.
379. B. J. Coffey, J. B. Hoagg, and D. S. Bernstein, "Cumulative Retrospective Cost Adaptive Control with Amplitude and Rate Saturation," *Proc. Amer. Contr. Conf.*, pp. 2344–2349, San Francisco, CA, June 2011.
380. B. Drincic and D. S. Bernstein, "A Sudden-Release Frictionless Bristle Model that Exhibits Stick-Slip Friction," *Proc. Amer. Contr. Conf.*, pp. 2456–2461, San Francisco, CA, June 2011.
381. J. B. Hoagg and D. S. Bernstein, "Retrospective Cost Model Reference Adaptive Control for Nonminimum-Phase Discrete-Time Systems, Part 2: Stability Analysis," *Proc. Amer. Contr. Conf.*, pp. 2927–2932, San Francisco, CA, June 2011.
382. J. B. Hoagg and D. S. Bernstein, "Retrospective Cost Model Reference Adaptive Control for Nonminimum-Phase Discrete-Time Systems, Part 1: The Adaptive Controller," *Proc. Amer. Contr. Conf.*, pp. 2933–2938, San Francisco, CA, June 2011.
383. J. B. Hoagg, A. A. Ali, M. Mossberg, and D. S. Bernstein, "Sliding-Window Recursive Quadratic Optimization with Variable Regularization," *Proc. Amer. Contr. Conf.*, pp. 3275–3280, San Francisco, CA, June 2011.

384. A. M. D'Amato, E. D. Sumer, and D. S. Bernstein, "Retrospective Cost Adaptive Control for Systems with Unknown Nonminimum-Phase Zeros," AIAA Guid. Nav. Contr. Conf., Portland, OR, August 2011, AIAA-2011-6203.
385. A. M. D'Amato, E. D. Sumer, K. S. Mitchell, A. V. Morozov, J. B. Hoagg, and D. S. Bernstein, "Adaptive Output Feedback Control of the NASA GTM Model with Unknown Nonminimum-Phase Zeros," AIAA Guid. Nav. Contr. Conf., Portland, OR, August 2011, AIAA-2011-6204.
386. A. M. D'Amato, J. Springmann, A. A. Ali, J. W. Cutler, A. J. Ridley, and D. S. Bernstein, "Adaptive State Estimation for Nonminimum-Phase Systems with Uncertain Harmonic Inputs," AIAA Guid. Nav. Contr. Conf., Portland, OR, August 2011, AIAA-2011-6315.
387. G. Cruz, X. Yang, A. Weiss, I. Kolmanovsky, and D. S. Bernstein, "Torque-saturated, Inertia-free Spacecraft Attitude Control," AIAA Guid. Nav. Contr. Conf., Portland, OR, August 2011, AIAA-2011-6507.
388. G. Marro, E. Zattoni, and D. S. Bernstein, "Geometric Insight and Structure Algorithms for Unknown-State, Unknown-Input Reconstruction in Linear Multivariable Systems," *Proc. 18th IFAC World Congress*, pp. 11320–11325, Milan, Italy, August 2011.
389. K.-Y. Lum and D. S. Bernstein, "A Correlation Least-Squares Method for Hammerstein Model Identification with ARX and  $\mu$ -Markov Structures," *Proc. 18th IFAC World Congress*, pp. 11183–11189, Milan, Italy, August 2011.
390. A. Weiss, I. Kolmanovsky, and D. S. Bernstein, "Inertia-Free Attitude Control of Spacecraft with Unknown Time-Varying Mass Distribution," *Proc. 62nd IAC*, Cape Town, South Africa, October 2011, IAC-11-C1.5.9.
391. A. M. D'Amato, E. D. Sumer, and D. S. Bernstein, "Frequency-Domain Stability Analysis of Retrospective-Cost Adaptive Control for Systems with Unknown Nonminimum-Phase Zeros," *Proc. IEEE Conf. Dec. Contr.*, pp. 1098–1103, Orlando, FL, December 2011.
392. A. M. Morozov, A. A. Ali, A. M. D'Amato, A. J. Ridley, S. L. Kukreja, and D. S. Bernstein, "Retrospective-Cost-Based Model Refinement for System Emulation and Subsystem Identification," *Proc. IEEE Conf. Dec. Contr.*, pp. 2142–2147, Orlando, FL, December 2011.
393. A. Brzezinski, S. Kukreja, J. Ni, and D. S. Bernstein, "Identification of Sensor-Only MIMO Pseudo Transfer Functions," *Proc. IEEE Conf. Dec. Contr.*, pp. 2154–2159, Orlando, FL, December 2011.
394. E. D. Sumer, A. M. D'Amato, A. M. Morozov, J. B. Hoagg, and D. S. Bernstein, "Robustness of Retrospective Cost Adaptive Control to Markov-Parameter Uncertainty," *Proc. IEEE Conf. Dec. Contr.*, pp. 6085–6090, Orlando, FL, December 2011.
395. M. H. Holz and D. S. Bernstein, "SVD-Based Computation of Zeros of Polynomial Matrices," *Proc. IEEE Conf. Dec. Contr.*, pp. 6962–6966, Orlando, FL, December 2011.
396. M. W. Isaacs, J. B. Hoagg, A. Morozov, and D. S. Bernstein, "A Numerical Study on Controlling a Nonlinear Multilink Arm Using a Retrospective Cost Model Reference Adaptive Controller," *Proc. IEEE Conf. Dec. Contr.*, pp. 8008–8013, Orlando, FL, December 2011.
397. A. K. Padthe, P. P. Friedmann, and D. S. Bernstein, "Actuator Saturation in Individual Blade Control of Rotorcraft," AIAA SDM Conference, April 2012, AIAA-2012-1477.
398. A. M. D'Amato and D. S. Bernstein, "Adaptive Forward-Propagating Input Reconstruction for Nonminimum-Phase Systems," *Proc. Amer. Conf. Contr.*, pp. 598–603, Montreal, Canada, June 2012.
399. E. D. Sumer, M. H. Holz, A. M. D'Amato, and D. S. Bernstein, "FIR-Based Phase Matching for Robust Retrospective-Cost Adaptive Control," *Proc. Amer. Conf. Contr.*, pp. 2707–2712, Montreal, Canada, June 2012.
400. A. Weiss, I. Kolmanovsky, and D. S. Bernstein, "Forward-Integration Riccati-Based Output-Feedback Control of Linear Time-Varying Systems," *Proc. Amer. Conf. Contr.*, pp. 6708–6714, Montreal, Canada, June 2012.
401. E. D. Sumer and D. S. Bernstein, "Adaptive Control of Flexible Structures with Uncertain Dynamics and Uncertain Disturbance Spectra," AIAA Guid. Nav. Contr. Conf., Minneapolis, MN, August 2012, AIAA-2012-4437-323.
402. J. Yan, A. M. D'Amato, and D. S. Bernstein, "Retrospective-Cost Adaptive Control of Uncertain Hammerstein Systems Using a NARMAX Controller Structure," AIAA Guid. Nav. Contr. Conf., Minneapolis, MN, August 2012, AIAA-2012-4448-132.
403. M. Al Janaideh, J. Yan, A. M. D'Amato, and D. S. Bernstein, "Retrospective-Cost Adaptive Control of Uncertain Hammerstein-Wiener Systems with Memoryless and Hysteretic Nonlinearities," AIAA Guid. Nav. Contr. Conf., Minneapolis, MN, August 2012, AIAA-2012-4449-671.
404. R. Gupta, A. M. D'Amato, A. A. Ali, and D. S. Bernstein, "Retrospective-Cost-Based Adaptive State Estimation and Input Reconstruction for a Maneuvering Aircraft with Unknown Acceleration," AIAA Guid. Nav. Contr. Conf., Minneapolis, MN, August 2012, AIAA-2012-4600-398.
405. G. Cruz, A. M. D'Amato, and D. S. Bernstein, "Retrospective Cost Adaptive Control of Spacecraft Attitude," AIAA Guid. Nav. Contr. Conf., Minneapolis, MN, August 2012, AIAA-2012-4624-236.
406. A. M. D'Amato and D. S. Bernstein, "Adaptive Control of a Seeker-Guided 2D Missile with Unmodeled Aerodynamics," AIAA Guid. Nav. Contr. Conf., Minneapolis, MN, August 2012, AIAA-2012-4617-516.
407. K. Agarwal, A. A. Ali, A. M. D'Amato, A. J. Ridley, and D. S. Bernstein, "Retrospective-Cost-Based Adaptive State Estimation and Input Reconstruction for the Global Ionosphere-Thermosphere Model," AIAA Guid. Nav. Contr. Conf., Minneapolis, MN, August 2012, AIAA-2012-4601-996.

408. A. A. Ali, K. Agarwal, A. M. D'Amato, A. J. Ridley, and D. S. Bernstein, "Retrospective-Cost Subsystem Identification for the Global Ionosphere-Thermosphere Model," AIAA Guid. Nav. Contr. Conf., Minneapolis, MN, August 2012, AIAA-2012-4602-712.
409. E. D. Sumer and D. S. Bernstein, "Retrospective Cost Adaptive Control with Error-Dependent Regularization for MIMO Systems with Uncertain Nonminimum-Phase Transmission Zeros," AIAA Guid. Nav. Contr. Conf., Minneapolis, MN, August 2012, AIAA-2012-4670-123.
410. K. F. Aljanaideh, B. J. Coffey, D. S. Dionne, S. L. Kukreja, and D. S. Bernstein, "Sensor-to-Sensor Identification for the SOFIA Testbed," AIAA Guid. Nav. Contr. Conf., Minneapolis, MN, August 2012, AIAA-2012-4814-770.
411. K. Agarwal, A. Weiss, I. Kolmanovsky, and D. S. Bernstein, "Inertia-Free Spacecraft Attitude Control with Control-Moment-Gyro Actuation," AIAA Guid. Nav. Contr. Conf., Minneapolis, MN, August 2012, AIAA-2012-5003-282.
412. A. Weiss, I. Kolmanovsky, and D. S. Bernstein, "Forward-Integration Riccati-Based Output-Feedback Control of Magnetically Actuated Spacecraft," AIAA Guid. Nav. Contr. Conf., Minneapolis, MN, August 2012, AIAA-2012-5042-137.
413. A. M. D'Amato, J. Forman, T. Ersal, A. A. Ali, J. Stein, H. Peng, and D. S. Bernstein, "Noninvasive Battery-Health Diagnostics Using Retrospective-Cost Identification of Inaccessible Subsystems," *Proc. DSCC*, Fort Lauderdale, FL, October 2012, DSCC2012-MOVIC2012-8649, pp. 1–9.
414. J. Yan, A. M. D'Amato, and D. S. Bernstein, "Setpoint Control of the Uncertain Electromagnetically Controlled Oscillator," *Proc. DSCC*, Fort Lauderdale, FL, October 2012, DSCC2012-MOVIC2012-8551, pp. 1–9.
415. M. Al Janaideh, D. Sumer, J. Yan, A. M. D'Amato, B. Drincic, K. F. Aljanaideh, and D. S. Bernstein, "Adaptive Control of Uncertain Hammerstein Systems with Uncertain Hysteretic Input Nonlinearities," *Proc. DSCC*, Fort Lauderdale, FL, October 2012, DSCC2012-MOVIC2012-8573, pp. 1–10.
416. J. Yan, A. M. D'Amato, K. Butts, I. Kolmanovsky, and D. S. Bernstein, "Adaptive Control of the Air Flow System in a Diesel Engine," *Proc. DSCC*, Fort Lauderdale, FL, October 2012, DSCC2012-MOVIC2012-8597, pp. 1–9.
417. E. D. Sumer, J. B. Hoagg, and D. S. Bernstein, "Broadband Disturbance Rejection Using Retrospective Cost Adaptive Control," *Proc. DSCC*, Fort Lauderdale, FL, October 2012, DSCC2012-MOVIC2012-8580, pp. 1–10.
418. E. D. Sumer and D. S. Bernstein, "Adaptive Decentralized Noise and Vibration Control with Conflicting Performance Objectives," *Proc. DSCC*, Fort Lauderdale, FL, October 2012, DSCC2012-MOVIC2012-8752, pp. 1-10.
419. A. Weiss, I. Kolmanovsky, M. Baldwin, R. S. Erwin, and D. S. Bernstein, "Forward-Integration Riccati-Based Feedback Control for Rendezvous Maneuvers on Elliptic Orbits," *Proc. IEEE Conf. Dec. Contr.*, pp. 1752–1757, Maui, HI, December 2012.
420. S. G. Nersesov, W. M. Haddad, and D. S. Bernstein, "Poincare Recurrence and Output Reversibility in Linear Dynamical Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 2587–2592, Maui, HI, December 2012.
421. K. F. Aljanaideh, A. A. Ali, M. H. Holzel, S. Kukreja, and D. S. Bernstein, "Sensor-to-Sensor Identification of Hammerstein Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 2846–2851, Maui, HI, December 2012.
422. J. Yan, A. M. D'Amato, E. D. Sumer, J. B. Hoagg, and D. S. Bernstein, "Adaptive Control of Uncertain Hammerstein Systems with Monotonic Input Nonlinearities Using Auxiliary Nonlinearities," *Proc. IEEE Conf. Dec. Contr.*, pp. 4811–4816, Maui, HI, December 2012.
423. E. D. Sumer and D. S. Bernstein, "Robust Sampled-Data Adaptive Control of the Rohrs Counterexamples," *Proc. IEEE Conf. Dec. Contr.*, pp. 7273–7278, Maui, HI, December 2012.
424. A. K. Padthe, P. P. Friedmann, and D. S. Bernstein, "Retrospective Cost Adaptive Control for Helicopter Vibration Reduction," *Proc. AHS International 69th Annual Forum*, Phoenix, AZ, May 21–23, 2013, AHS2013-000179.
425. A. M. D'Amato, A. A. Ali, A. Ridley, and D. S. Bernstein, "Retrospective Cost Optimization for Adaptive State Estimation, Input Estimation, and Model Refinement," *Procedia Computer Science*, Vol. 18, pp. 1919–1928, 2013.
426. K. F. Aljanaideh, B. J. Coffey, and D. S. Bernstein, "Closed-Loop Identification of Unstable Systems Using Noncausal FIR Models," *Proc. Amer. Contr. Conf.*, pp. 1672–1677, Washington, DC, June 2013.
427. M. Al Janaideh and D. S. Bernstein, "Inversion-Free Adaptive Control of Uncertain Systems with Shape-Memory-Alloy Actuation," *Proc. Amer. Contr. Conf.*, pp. 3585–3590, Washington, DC, June 2013.
428. B. J. Coffey, K. F. Aljanaideh, and D. S. Bernstein, "Identification of Hammerstein Systems Using Input Amplitude Multiplexing," *Proc. Amer. Contr. Conf.*, pp. 3936–3941, Washington, DC, June 2013.
429. G. Cruz and D. S. Bernstein, "Adaptive Spacecraft Attitude Control with Reaction Wheel Actuation," *Proc. Amer. Contr. Conf.*, pp. 4839–4844, Washington, DC, June 2013.
430. J. Yan and D. S. Bernstein, "Adaptive Control of Uncertain Hammerstein Systems with Non-monotonic Input Nonlinearities Using Auxiliary Nonlinearities," *Proc. Amer. Contr. Conf.*, pp. 4922–4927, Washington, DC, June 2013.
431. E. D. Sumer and D. S. Bernstein, "Aliasing Effects in Direct Digital Adaptive Control of Plants with High-Frequency Dynamics and Disturbances," *Proc. Amer. Contr. Conf.*, pp. 4934–4939, Washington, DC, June 2013.

432. M. Cambolor, A. Xie, G. Cruz, S. Esteban, T. Lee, and D. S. Bernstein, "A Numerical Comparison of Inertia-Free Attitude Control Laws for a Spacecraft with a Discrete Flexible Mode," AIAA Guid. Nav. Contr. Conf., Boston, MA, August 2013, AIAA-2013-4562.
433. G. Cruz and D. S. Bernstein, "Retrospective Cost Adaptive Attitude Control of Spacecraft with Magnetic Actuators," AIAA Guid. Nav. Contr. Conf., Boston, MA, August 2013, AIAA-2013-4563.
434. M.-J. Yu, Y. Rahman, E. M. Atkins, I. Kolmanovsky, and D. S. Bernstein, "Minimal Modeling Adaptive Control of the NASA Generic Transport Model with Unknown Control-Surface Faults," AIAA Guid. Nav. Contr. Conf., Boston, MA, August 2013, AIAA-2013-4693.
435. J. Yan and D. S. Bernstein, "Retrospective Cost Adaptive NARMAX Control of Uncertain Hammerstein Systems with Ersatz Nonlinearities," AIAA Guid. Nav. Contr. Conf., Boston, MA, August 2013, AIAA-2013-4851.
436. F. Sobolic and D. S. Bernstein, "Aerodynamic-Free Adaptive Control of the NASA Generic Transport Model," AIAA Guid. Nav. Contr. Conf., Boston, MA, August 2013, AIAA-2013-4999.
437. M.-J. Yu, J. Zhong, E. M. Atkins, I. V. Kolmanovsky, and D. S. Bernstein, "Trim-Commanded Adaptive Control for Waypoint-Defined Trajectory Following," AIAA Guid. Nav. Contr. Conf., Boston, MA, August 2013, AIAA-2013-5000.
438. Y. Rahman, J. Zhong, A. Morozov, and D. S. Bernstein, "On the Accuracy of State Estimators for Constant and Time-Varying Parameter Estimation," AIAA Guid. Nav. Contr. Conf., Boston, MA, August 2013, AIAA-2013-5192.
439. J. Zhong, Y. Rahman, J. Yan, and D. S. Bernstein, "Retrospective Cost Model Refinement for On-line Estimation of Constant and Time-Varying Flight Parameters," AIAA Guid. Nav. Contr. Conf., Boston, MA, August 2013, AIAA-2013-5193.
440. K. F. Aljanaideh and D. S. Bernstein, "Nonparametric Identification of Hammerstein Systems Using Orthogonal Basis Functions as Ersatz Nonlinearities," *Proc. DSCC*, Palo Alto, CA, October 2013, DSCC2013-3966.
441. J. Yan and D. S. Bernstein, "Adaptive Control with Convex Saturation Constraints," *Proc. DSCC*, Palo Alto, CA, October 2013, DSCC2013-3877.
442. X. Zhou, T. Ersal, J. L. Stein, and D. S. Bernstein, "Battery Health Diagnostics using Retrospective-Cost System Identification: Sensitivity to Noise and Initialization Errors," *Proc. DSCC*, Palo Alto, CA, October 2013, DSCC2013-3953.
443. M. Al Janaideh and D. S. Bernstein, "Adaptive Stabilization and Command Following Using a Prandtl-Ishlinskii/NARMAX Controller," *Proc. Amer. Contr. Conf.*, pp. 20–25, Portland, OR, June 2014.
444. Y. Rahman, K. Aljanaideh, E. D. Sumer, and D. S. Bernstein, "Adaptive Control of Aircraft Lateral Motion with an Unknown Transition to Nonminimum-Phase Dynamics," *Proc. Amer. Contr. Conf.*, pp. 2359–2364, Portland, OR, June 2014.
445. K. McDonough, M.-J. Yu, D. S. Bernstein, and I. Kolmanovsky, "Retrospective Cost Model Refinement for Aircraft Fault Signature Detection," *Proc. Amer. Contr. Conf.*, pp. 2486–2491, Portland, OR, June 2014.
446. M. Cambolor, G. Cruz, S. Esteban, F. A. Leve, and D. S. Bernstein, "Retrospective Cost Adaptive Spacecraft Attitude Control Using Control Moment Gyros," *Proc. Amer. Contr. Conf.*, pp. 2492–2497, Portland, OR, June 2014.
447. M. Al Janaideh and D. S. Bernstein, "A Numerical Investigation of Phase and Magnitude Compensation in Adaptive Control of Uncertain Hammerstein Systems with Hysteretic Nonlinearities," *Proc. Amer. Contr. Conf.*, pp. 4741–4746, Portland, OR, June 2014.
448. A. Prach, O. Tekinalp, and D. S. Bernstein, "A Numerical Comparison of Frozen-Time and Forward-Propagating Riccati Equations for Stabilization of Periodically Time-Varying Systems," *Proc. Amer. Contr. Conf.*, pp. 5633–5638, Portland, OR, June 2014.
449. X. Zhou, T. Ersal, J. L. Stein, and D. S. Bernstein, "Battery State of Health Monitoring by Side Reaction Current Density Estimation via Retrospective-Cost Subsystem Identification," DSCC2014-6254, pp. 1–10, *Proc. DSCC*, San Antonio, TX, October 2014.
450. M.-J. Yu, A. Ansari, and D. S. Bernstein, "Adaptive Trim Control for an Aircraft with an Unknown Flight Envelope," *Proc. IEEE Conf. Dec. Contr.*, pp. 523–528, Los Angeles, CA, December 2014.
451. M. Al Janaideh and D. S. Bernstein, "Adaptive Control of Uncertain Hammerstein Systems with Hysteretic Nonlinearities," *Proc. IEEE Conf. Dec. Contr.*, pp. 545–550, Los Angeles, CA, December 2014.
452. A. Prach, O. Tekinalp, and D. S. Bernstein, "Faux Riccati Techniques for Observer-Based Compensation of Discrete-Time Nonlinear Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 854–859, Los Angeles, CA, December 2014.
453. S. Dai, T. Lee, and D. S. Bernstein, "Adaptive Control of a Quadrotor UAV Transporting a Cable-Suspended Load with Unknown Mass," *Proc. IEEE Conf. Dec. Contr.*, pp. 6149–6154, Los Angeles, CA, December 2014.
454. A. Ansari and D. S. Bernstein, "Adaptive Control of an Aircraft with Uncertain Nonminimum-Phase Dynamics," *Proc. Amer. Contr. Conf.*, pp. 844–849, Chicago, IL, July 2015.
455. F. Sobolic and D. S. Bernstein, "An Inner-Loop/Outer-Loop Architecture for an Adaptive Missile Autopilot," *Proc. Amer. Contr. Conf.*, pp. 850–855, Chicago, IL, July 2015.

456. X. Zhou, T. Ersal, J. Stein, and D. S. Bernstein, "A Subsystem Identification Technique towards Battery State of Health Monitoring under State of Charge Estimation Errors," *Proc. Amer. Contr. Conf.*, pp. 1812–1817, Chicago, IL, July 2015.
457. A. Goel, A. Xie, K. Duraisamy, and D. S. Bernstein, "Retrospective Cost Adaptive Thrust Control of a 1D Scramjet with Mach Number Disturbance," *Proc. Amer. Contr. Conf.*, pp. 5551–5556, Chicago, IL, July 2015.
458. L. Han, A. Xie, Z. Ren, and D. S. Bernstein, "Maneuvering Target Tracking with Unknown Acceleration Using Retrospective-Cost-Based Adaptive Input and State Estimation," *Proc. Chinese Contr. Conf.*, pp. 5029–5034, Hangzhou, China, July 2015.
459. A. Prach, O. Tekinalp, and D. S. Bernstein, "Nonlinear Aircraft Flight Control Using the Forward Propagating Riccati Equation," AIAA Scitech, San Diego, CA, January 2016, AIAA-2016-1383.
460. M. Al Janaideh and D. S. Bernstein, "Adaptive Control of Mass-Spring Systems with Unknown Hysteretic Contact Friction," *Proc. Amer. Contr. Conf.*, pp. 667–672, Boston, MA, July 2016.
461. Y. Rahman, A. Xie, J. B. Hoagg, and D. S. Bernstein, "A Tutorial and Overview of Retrospective-Cost-Based Adaptive Control," *Proc. Amer. Contr. Conf.*, pp. 3386–3409, Boston, MA, July 2016.
462. A. Xie and D. S. Bernstein, "Experimental Investigation of Spatial Spillover in Adaptive Active Feedback Noise Control of Broadband Disturbances in a 3D Acoustic Space," *Proc. Amer. Contr. Conf.*, pp. 3410–3415, Boston, MA, July 2016.
463. F. Sobolic, A. Goel, and D. S. Bernstein, "Retrospective Cost Adaptive Control Using Concurrent Controller Optimization and Target-Model Identification," *Proc. Amer. Contr. Conf.*, pp. 3416–3421, Boston, MA, July 2016.
464. A. Prach, E. Kayacan, and D. S. Bernstein, "Experimental Application of the Forward Propagating Riccati Equation to Nonlinear Control of the Quanser 3 DOF Hover Testbed," *Proc. Amer. Contr. Conf.*, pp. 3710–3715, Boston, MA, July 2016.
465. F. Sobolic and D. S. Bernstein, "Kalman-Filter-Based System Identification via Retrospective Estimation of the Process Noise Covariance," *Proc. Amer. Contr. Conf.*, pp. 4545–4550, Boston, MA, July 2016.
466. G. Cruz and D. S. Bernstein, "Noncolocated Adaptive Attitude Control of a Planar Two-Body Linkage with Nonminimum-Phase Dynamics," *Proc. Amer. Contr. Conf.*, pp. 4954–4959, Boston, MA, July 2016.
467. A. Ansari and D. S. Bernstein, "Aircraft Sensor Fault Detection Using State and Input Estimation," *Proc. Amer. Contr. Conf.*, pp. 5951–5956, Boston, MA, July 2016.
468. K. F. Aljanaideh and D. S. Bernstein, "Experimental Application of Transmissibility Operators for Sensor Fault Detection," *Proc. Amer. Contr. Conf.*, pp. 6833–6838, Boston, MA, July 2016.
469. A. Ansari and D. S. Bernstein, "Adaptive Non-Bayesian State Estimation," *Proc. Amer. Contr. Conf.*, pp. 6977–6982, Boston, MA, July 2016.
470. A. Goel, K. Duraisamy, and D. S. Bernstein, "Estimating the Viscosity in the Burgers Equation Using Retrospective-Cost Model Refinement," *Proc. Amer. Contr. Conf.*, pp. 6983–6988, Boston, MA, July 2016.
471. S. A. Chee, J. R. Forbes, and D. S. Bernstein, "Gravity-Gradient-Stabilized Spacecraft Attitude Estimation Using Rate-Gyroscope Measurements," *Proc. Amer. Contr. Conf.*, pp. 7067–7072, Boston, MA, July 2016.
472. S. Dai, Z. Ren, D. S. Bernstein, and Q. Li, "Continuous-Time Retrospective Cost Adaptive Control for Nonminimum-Phase Systems," *Proc. Chinese Contr. Conf.*, pp. 3310–3315, Chengdu, China, July 2016.
473. S. Dai, Z. Ren, and D. S. Bernstein, "Adaptive Error Correction for Discrete-Time Systems with Amplitude and Rate Saturation," *Proc. Chinese Contr. Dec. Conf.*, pp. 20–25, Chengdu, China, 2016.
474. F. Sobolic and D. S. Bernstein, "Adaptive Control with Concurrent Closed-Loop Identification of Time-Varying Nonminimum-Phase Zeros," *Proc. IEEE Conf. Dec. Contr.*, pp. 371–376, Las Vegas, NV, December 2016.
475. Y. Rahman and D. S. Bernstein, "Adaptive Control of Plants That Are Practically Impossible to Control by Fixed-Gain Control Laws," *Proc. IEEE Conf. Dec. Contr.*, pp. 383–388, Las Vegas, NV, December 2016.
476. A. Ansari and D. S. Bernstein, "Adaptive Input Estimation for Nonminimum-Phase Discrete-Time Systems," *Proc. IEEE Conf. Dec. Contr.*, pp. 1159–1164, Las Vegas, NV, December 2016.
477. M.-J. Yu and D. S. Bernstein, "Combined State and Parameter Estimation and Identifiability of State Space Realizations," *Proc. IEEE Conf. Dec. Contr.*, pp. 3054–3059, Las Vegas, NV, December 2016.
478. S. A. U. Islam, Y. Rahman, and D. S. Bernstein, "Adaptive Decentralized Control with Nonminimum-Phase Closed-Loop Channel Zeros," *Proc. IEEE Conf. Dec. Contr.*, pp. 6883–6888, Las Vegas, NV, December 2016.
479. A. Ansari and D. S. Bernstein, "Estimation of Angular Velocity and Rate-Gyro Noise for Sensor Health Monitoring," *Proc. Amer. Contr. Conf.*, pp. 128–133, Seattle, WA, May 2017.
480. A. Ansari, A. Prach, and D. S. Bernstein, "Adaptive Trim and Trajectory Following for a Tilt-Rotor Tricopter," *Proc. Amer. Contr. Conf.*, pp. 1109–1114, Seattle, WA, May 2017.
481. A. Prach, J.-J. Cabibihan, N. V. Thakor, and D. S. Bernstein, "Pareto-Front Analysis of a Monotonic PI Control Law for Slip Suppression in a Robotic Manipulator," *Proc. Int. Conf. Robotics Biomimetics*, pp. 2728–2733, Macau, China, December 2017.
482. A. Ansari and D. S. Bernstein, "Retrospective Cost Adaptive Control of the Generic Transport Model Under Abrupt Faults," *Proc. AIAA Guid. Nav. Contr. Conf.*, 6.2018-1125, Kissimmee, FL, January 2018.

483. A. Ansari, N. Zhang, and D. S. Bernstein, "Retrospective Cost Adaptive PID Control of Quadcopter/Fixed-Wing Mode Transition in a VTOL Aircraft," *Proc. AIAA Guid. Nav. Contr. Conf.*, 6.2018-1838, Kissimmee, FL, January 2018.
484. S. Sanjeevini, K. F. Aljanaideh, A. Xie, and D. S. Bernstein, "Experimental Identification of the Spatial Spillover Operator for Systems with Insuppressible Disturbances," *Proc. Amer. Contr. Conf.*, pp. 278–282, Milwaukee, WI, June 2018.
485. Y. Rahman, K. F. Aljanaideh, and D. S. Bernstein, "Retrospective Cost Adaptive Control Using Composite FIR/IIR Controllers," *Proc. Amer. Contr. Conf.*, pp. 893–898, Milwaukee, WI, June 2018.
486. S. A. U. Islam and D. S. Bernstein, "Output-Feedback Adaptive Control of Discrete-Time Systems with Unknown, Unmatched, Inaccessible Nonlinearities," *Proc. Amer. Contr. Conf.*, pp. 1695–1700, Milwaukee, WI, June 2018.
487. Z. Zhao, G. Cruz, T. Lee, and D. S. Bernstein, "Adaptive Attitude Control of a Dual-Rigid-Body Spacecraft with Unmodeled Nonminimum-Phase Dynamics," *Proc. Amer. Contr. Conf.*, pp. 2503–2508, Milwaukee, WI, June 2018.
488. A. Goel, A. Ridley, and D. S. Bernstein, "Estimation of the Eddy Diffusion Coefficient Using Total Electron Content Data," *Proc. Amer. Contr. Conf.*, pp. 3298–3303, Milwaukee, WI, June 2018.
489. A. Goel and D. S. Bernstein, "Parameter Estimation for Nonlinearly Parameterized Gray-Box Models," *Proc. Amer. Contr. Conf.*, pp. 5280–5285, Milwaukee, WI, June 2018.
490. K. F. Aljanaideh, and D. S. Bernstein, "System Identification Using Composite FIR/IIR Models," *Proc. Amer. Contr. Conf.*, pp. 5639–5644, Milwaukee, WI, June 2018.
491. A. Goel and D. S. Bernstein, "Data-Driven Parameter Estimation for Models with Nonlinear Parameter Dependence," *Proc. IEEE Conf. Dec. Contr.*, pp. 1470–1475, Miami, FL, December 2018.
492. K. F. Aljanaideh, S. Sanjeevini, and D. S. Bernstein, "Time-Domain Errors-in-Variables Identification of Transmissibilities," *Proc. IEEE Conf. Dec. Contr.*, pp. 3012–3017, Miami, FL, December 2018.
493. A. Goel and D. S. Bernstein, "A Targeted Forgetting Factor for Recursive Least Squares," *Proc. IEEE Conf. Dec. Contr.*, pp. 3899–3903, Miami, FL, December 2018.
494. A. Goel, A. Ansari, and D. S. Bernstein, "Adaptive Squaring-Based Control Allocation for Wide Systems with Application to Lateral Flight Control," *Proc. IEEE Conf. Dec. Contr.*, pp. 5140–5145, Miami, FL, December 2018.
495. K. F. Aljanaideh and D. S. Bernstein, "Reconstruction of Aircraft Lateral Dynamics Using Two Transmissibility Operators," *Proc. IEEE Conf. Dec. Contr.*, pp. 7153–7157, Miami, FL, December 2018.
496. A. Goel, K. Duraisamy, and D. S. Bernstein, "Output-Constrained Adaptive Control for Unstart Prevention in a 2D Scramjet Combustor," *Proc. AIAA Scitech*, pp. 1–11, San Diego, CA, January 2019, AIAA 2019-0927.
497. A. Xie and D. S. Bernstein, "Adaptive Feedback Noise Control for Wide, Square, and Tall Systems," *Proc. Amer. Contr. Conf.*, pp. 435–440, Philadelphia, PA, July 2019.
498. S. A. U. Islam, A. Xie, and D. S. Bernstein, "Adaptive Control of Systems with Unknown Nonminimum-Phase Zeros Using Cancellation-Based Pseudo-Identification," *Proc. Amer. Contr. Conf.*, pp. 441–446, Philadelphia, PA, July 2019.
499. A. L. Bruce, V. M. Zeidan, and D. S. Bernstein, "What Is the Koopman Operator? A Simplified Treatment for Discrete-Time Systems," *Proc. Amer. Contr. Conf.*, pp. 1912–1917, Philadelphia, PA, July 2019.
500. A. Ansari and D. S. Bernstein, "Deadbeat Input Reconstruction for Discrete-Time Linear Time-Varying Systems," *Proc. Amer. Contr. Conf.*, pp. 5123–5127, Philadelphia, PA, July 2019.
501. A. L. Bruce and D. S. Bernstein, "A Modified RLS Algorithm with Forgetting and Bounded Covariance," *Proc. Amer. Contr. Conf.*, pp. 5340–5345, Philadelphia, PA, July 2019.
502. K. Aljanaideh and D. S. Bernstein, "An Emergent Nonlinear Thermodynamic Energy-Flow Model for Collections of Coupled Oscillators," *Proc. Amer. Contr. Conf.*, pp. 5391–5395, Philadelphia, PA, July 2019.
503. A. Ansari and D. S. Bernstein, "Satellite Drag Estimation Using Retrospective Cost Input Estimation," *Proc. Amer. Contr. Conf.*, pp. 5804–5809, Philadelphia, PA, July 2019.
504. S. Sanjeevini and D. S. Bernstein, "Finite-Delay Input Reconstruction for Left-Invertible Discrete-Time Systems with Zero Nonzero Zeros," *Proc. Amer. Contr. Conf.*, pp. 5810–5815, Philadelphia, PA, July 2019.
505. S. A. U. Islam, A. L. Bruce, T. Nguyen, I. V. Kolmanovsky, and D. S. Bernstein, "Adaptive Flight Control with Unknown Time-Varying Unstable Zero Dynamics," *Proc. AIAA Scitech*, pp. 1–13, Orlando, FL, January 2020, AIAA 2020-0839.
506. A. Goel and D. S. Bernstein, "Adaptive State Estimation with Subspace-Constrained State Correction," *Proc. Amer. Contr. Conf.*, pp. 719–724, Denver, CO, July 2020.
507. S. A. U. Islam, T. Nguyen, I. V. Kolmanovsky, and D. S. Bernstein, "Adaptive Control of Discrete-Time Systems with Unknown, Unstable Zero Dynamics," *Proc. Amer. Contr. Conf.*, pp. 1387–1392, Denver, CO, July 2020.
508. N. Mohseni, T. W. Nguyen, S. A. U. Islam, I. V. Kolmanovsky, and D. S. Bernstein, "Active Noise Control for Harmonic and Broadband Disturbances Using RLS-Based Model Predictive Control," *Proc. Amer. Contr. Conf.*, pp. 1393–1398, Denver, CO, July 2020.



509. A. L. Bruce, A. Goel, and D. S. Bernstein, "Recursive Least Squares with Matrix Forgetting," *Proc. Amer. Contr. Conf.*, pp. 1406–1410, Denver, CO, July 2020.
510. N. Mohseni and D. S. Bernstein, "Optimal Sample-Error/Ripple Tradeoff for Sampled-Data Systems with Harmonic Disturbances," *Proc. Amer. Contr. Conf.*, pp. 1785–1790, Denver, CO, July 2020.
511. A. L. Bruce, N. Mohseni, A. Goel, and D. S. Bernstein, "Adaptive Quasi-Static Control of Multistable Systems," *Proc. Amer. Contr. Conf.*, pp. 2055–2060, Denver, CO, July 2020.
512. T. W. Nguyen, S. A. U. Islam, A. L. Bruce, A. Goel, D. S. Bernstein, and I. V. Kolmanovsky, "Output-Feedback RLS-Based Model Predictive Control," *Proc. Amer. Contr. Conf.*, pp. 2395–2400, Denver, CO, July 2020.
513. J. Paredes, S. A. U. Islam, and D. S. Bernstein, "A Time-Delayed Lur'e Model with Biased Self-Excited Oscillations," *Proc. Amer. Contr. Conf.*, pp. 2699–2704, Denver, CO, July 2020.
514. A. Goel, S. A. U. Islam, and D. S. Bernstein, "Adaptive Control of MIMO Systems Using Sparsely Parameterized Controllers," *Proc. Amer. Contr. Conf.*, pp. 5340–5345, Denver, CO, July 2020.
515. S. A. U. Islam, A. Xie, and D. S. Bernstein, "Closed-Loop Performance versus Target-Model Matching in Retrospective Cost Adaptive Control," *Proc. Amer. Contr. Conf.*, pp. 2432–2437, New Orleans, LA, May 2021.
516. N. Mohseni and D. S. Bernstein, "Retrospective Cost Adaptive Harmonic Disturbance Rejection Using Closed-Loop Dereverberated Target Models," *Proc. Amer. Contr. Conf.*, pp. 2445–2450, New Orleans, LA, May 2021.
517. A. Goel, J. A. Paredes, H. Dadhaniya, S. A. U. Islam, A. M. Salim, S. Ravela, and D. S. Bernstein, "Experimental Implementation of an Adaptive Digital Autopilot," *Proc. Amer. Contr. Conf.*, pp. 3728–3733, New Orleans, LA, May 2021.
518. J. Paredes and D. S. Bernstein, "Identification of Self-Excited Systems Using Discrete-Time, Time-Delayed Lur'e Models," *Proc. Amer. Contr. Conf.*, pp. 3929–3934, New Orleans, LA, May 2021.
519. B. Lai, S. A. U. Islam, and D. S. Bernstein, "Regularization-Induced Bias and Consistency in Recursive Least Squares," *Proc. Amer. Contr. Conf.*, pp. 3977–3982, New Orleans, LA, May 2021.
520. T. Nguyen, I. V. Kolmanovsky, and D. S. Bernstein, "Sampled-Data Output-Feedback Model Predictive Control of Nonlinear Plants Using Online Linear System Identification," *Proc. Amer. Contr. Conf.*, pp. 4682–4687, New Orleans, LA, May 2021.
521. R. Ramesh, S. Obidov, J. Paredes, D. S. Bernstein, and M. Gamba, "Design and Characterization of the Dual Independent Swirl Combustor Facility (DISCo)," *Proc. AIAA Propulsion and Energy Forum*, pp. 1–18, August 2021, doi 10.2514/6.2021-3479.
522. S. A. U. Islam, K. Aljanaideh, T. W. Nguyen, I. V. Kolmanovsky, and D. S. Bernstein, "The Free Response of an Identified Model of a Linear System with a Completely Unknown Harmonic Disturbance Exactly Forecasts the Free-Plus-Forced Response of the True System Thereby Enabling Adaptive MPC for Harmonic Disturbance Rejection," *Proc. IEEE Conf. Dec. Contr.*, Austin, TX, pp. 3036–3041, December 2021.
523. A. L. Bruce and D. S. Bernstein, "Sequential Gradient-Descent Optimization of Data-Dependent, Rank-Deficient Cost Functions with a Unique Common Global Minimizer," *Proc. IEEE Conf. Dec. Contr.*, Austin, TX, pp. 3743–3748, December 2021.
524. J. A. Paredes, R. Ramesh, S. Obidov, M. Gamba, and D. S. Bernstein, "Experimental Investigation of Adaptive Feedback Control on a Dual-Swirl-Stabilized Gas Turbine Model Combustor," *Proc. AIAA SciTech Forum*, doi 10.2514/6.2022-2058, January 2022.
525. A. Anandakumar, D. S. Bernstein, and A. Goel, "Adaptive Energy Control of Longitudinal Aircraft Dynamics," *Proc. AIAA SciTech Forum*, doi 10.2514/6.2022-0965, January 2022.
526. S. A. U. Islam and D. S. Bernstein, "Minimum Time-of-Flight Interceptor Guidance Using Real-Time-Implementable Model-Predictive Guidance," *Proc. AIAA SciTech Forum*, doi 10.2514/6.2022-1377, January 2022.
527. J. Spencer, J. Lee, J. A. Paredes, A. Goel, and D. S. Bernstein, "An Adaptive PID Autotuner for Multicopters with Experimental Results," *Proc. International Conference on Robotics and Automation (ICRA)*, pp. 7846–7853, 2022.
528. J. Paredes, S. A. U. Islam, and D. S. Bernstein, "Adaptive Stabilization of Thermoacoustic Oscillations in a Rijke Tube," *Proc. Amer. Contr. Conf.*, pp. 28–33, Atlanta, GA, June 2022.
529. S. Sanjeevini and D. S. Bernstein, "Decomposition of the Retrospective Performance Variable in Adaptive Input Estimation," *Proc. Amer. Contr. Conf.*, pp. 242–247, Atlanta, GA, June 2022.
530. N. Mohseni, D. S. Bernstein, and M. B. Quadrelli, "Adaptive Force Control for Small Celestial Body Sampling," *Proc. Amer. Contr. Conf.*, pp. 2515–2520, Atlanta, GA, June 2022.
531. N. Mohseni and D. S. Bernstein, "Predictive Cost Adaptive Control of Flexible Structures with Harmonic and Broadband Disturbances," *Proc. Amer. Contr. Conf.*, pp. 3198–3203, Atlanta, GA, June 2022.
532. N. Mohseni and D. S. Bernstein, "Recursive Least Squares with Variable-Rate Forgetting Based on the F-Test," *Proc. Amer. Contr. Conf.*, pp. 3937–3942, Atlanta, GA, June 2022.
533. S. Verma, S. Sanjeevini, E. D. Sumer, A. Girard, and D. S. Bernstein, "On the Accuracy of Numerical Differentiation Using High-Gain Observers and Adaptive Input Estimation," *Proc. Amer. Contr. Conf.*, pp. 4068–4073, Atlanta, GA, June 2022.

534. B. Lai and D. S. Bernstein, "Exponential Resetting and Cyclic Resetting Recursive Least Squares," *Proc. Amer. Contr. Conf.*, pp. 289–294, San Diego, CA, May 2023.
535. M. Kamaldar and D. S. Bernstein, "On the Lack of Robustness of Observers for Systems with Uncertain, Unstable Dynamics," *Proc. Amer. Contr. Conf.*, pp. 1643–1648, San Diego, CA, May 2023.
536. B. Lai and D. S. Bernstein, "Adaptive Static-Output-Feedback Stabilization with Warm-Start," *Proc. Amer. Contr. Conf.*, pp. 2399–2404, San Diego, CA, May 2023.
537. M. A. Ahrazolu, S. A. U. Islam, A. Goel, and D. S. Bernstein, "Vibrational Stabilization of the Kapitza Pendulum Using Model Predictive Control with Constrained Base Displacement," *Proc. Amer. Contr. Conf.*, pp. 2640–2645, San Diego, CA, May 2023.
538. J. Lee, J. Spencer, S. Shao, J. A. Paredes, D. S. Bernstein, and A. Goel, "Experimental Flight Testing of a Fault-Tolerant Adaptive Autopilot for Fixed-Wing Aircraft," *Proc. Amer. Contr. Conf.*, pp.2981–2986, San Diego, CA, May 2023.
539. R. J. Richards, N. Mohseni, S. A. U. Islam, and D. S. Bernstein, "Predictive Cost Adaptive Control for Harmonic Disturbance Rejection in Systems with Underdamped, Undermodeled, and Undersampled Dynamics," *Proc. Amer. Contr. Conf.*, pp. 2999–3004, San Diego, CA, May 2023.
540. N. Mohsemi and D. S. Bernstein, "Retrospective-Cost-Based Model Reference Adaptive Control of Nonminimum-Phase Systems," *Proc. Amer. Contr. Conf.*, pp. 4247–4252, San Diego, CA, May 2023.
541. S. Sanjeevini and D. S. Bernstein, "Random-Walk Elimination in Numerical Integration of Sensor Data Using Adaptive Input Estimation," *Proc. Amer. Contr. Conf.*, pp. 4791–4795, San Diego, CA, May 2023.

## Book Chapters, Tutorials, Problems, Book Reviews, Comments, Patents, Books, and Bibliographies

1. D. S. Bernstein and D. C. Hyland, "Optimal Projection for Uncertain Systems (OPUS): A Unified Theory of Reduced-Order, Robust Control Design," in *Large Space Structures: Dynamics and Control*, S. N. Atluri and A. K. Amos, Eds., pp. 263–302, Springer-Verlag, New York, 1988.
2. D. S. Bernstein, "Commuting Matrix Exponentials," Problem 88-1, *SIAM Review*, Vol. 30, p. 123, 1988. (Also appears in *Problems in Applied Mathematics*, pp. 296–298, M. S. Klamkin, Ed., SIAM, 1990.)
3. D. S. Bernstein, "Orthogonal Matrices and the Matrix Exponential," Problem 90-18, *SIAM Review*, Vol. 32, p. 673, 1990.
4. W. M. Haddad and D. S. Bernstein, "Optimal Reduced-Order Subspace-Observer Design With a Frequency-Domain Error Bound," in *Advances in Control and Dynamic Systems*, Vol. 2, Part 2, pp. 23–38, C. T. Leondes, Ed., Academic Press, 1990.
5. D. S. Bernstein and D. C. Hyland, "Optimal Projection Approach to Robust, Fixed-Structure Control Design," in *Mechanics and Control of Large Flexible Structures*, pp. 237–293, J. L. Junkins, Ed., AIAA, 1990.
6. W. M. Haddad and D. S. Bernstein, "Explicit Construction of Quadratic Lyapunov Functions for the Small Gain, Positivity, Circle, and Popov Theorems and Their Application to Robust Stability," in *Control of Uncertain Dynamic Systems*, S. P. Bhattacharyya and L. H. Keel, Eds., pp. 149–173, CRC Press, Boca Raton, FL, 1991.
7. D. S. Bernstein and D. C. Hyland, "Compartmental Analysis and Power Flow Analysis for State Space Systems," in *Control of Uncertain Dynamic Systems*, S. P. Bhattacharyya and L. H. Keel, Eds., pp. 175–202, CRC Press, Boca Raton, FL, 1991.
8. D. S. Bernstein, "Review of *Minimum Entropy  $H_\infty$  Control*," *IEEE Trans. Autom. Contr.*, Vol. 37, pp. 1276–1277, 1992.
9. B. Wie and D. S. Bernstein, "Benchmark Problems for Robust Control Design," *AIAA J. Guid. Contr. Dyn.*, Vol. 15, pp. 1057–1059, 1992.
10. D. S. Bernstein, "Some Open Problems in Matrix Theory Arising in Linear Systems and Control," *Lin. Alg. Appl.*, Vols. 162–164, pp. 409–432, 1992.
11. D. S. Bernstein and A. N. Michel, "A Chronological Bibliography on Saturating Actuators," *Int. J. Robust Nonlinear Contr.*, Vol. 5, pp. 375–380, 1995.
12. D. S. Bernstein, "Some Matrix Integral Identities," Problem 96-5, *SIAM Review*, Vol. 38, pp. 147–148, 1996.
13. F. Tyan and D. S. Bernstein, "Dynamic Output Feedback Compensation for Systems with Input Saturation," in *Control of Uncertain Systems with Bounded Inputs*, pp. 129–164, Lecture Notes in Control and Information Sciences, Vol. 227, S. Tarbouriech and G. Garcia, Eds., Springer, 1997.
14. D. S. Bernstein, "A Student's Guide to Classical Control," *IEEE Contr. Sys. Mag.*, Vol. 17, pp. 96–100, August 1997.
15. D. S. Bernstein, "Control Experiments and What I Learned From Them: A Personal Journey," *IEEE Contr. Sys. Mag.*, Vol. 18, pp. 81–88, April 1998.
16. R. T. Bupp, D. S. Bernstein, and V. T. Coppola, "A Benchmark Problem for Nonlinear Control Design," *Int. J. Robust Nonlinear Contr.*, Vol. 8, pp. 307–310, 1998.
17. D. S. Bernstein, "A Student's Guide to Research," *IEEE Contr. Sys. Mag.*, Vol. 19, pp. 102–108, February 1999.
18. D. S. Bernstein, "Enhancing Control Education," *IEEE Contr. Sys. Mag.*, Vol. 19, pp. 40–43, October 1999.
19. D. S. Bernstein, "On Bridging the Theory/Practice Gap," *IEEE Contr. Sys. Mag.*, Vol. 19, pp. 64–70, December 1999.
20. F. Tyan and D. S. Bernstein, "Reply to 'Comments on the Examples in "Dynamic Output Feedback Compensation for Systems with Independent Amplitude and Rate Saturations," '," *Int. J. Contr.*, Vol. 72, pp. 1231–1233, 1999.
21. D. S. Bernstein, "The Frequency Domain," *IEEE Contr. Sys. Mag.*, Vol. 20, pp. 8–14, April 2000.
22. D. S. Bernstein, "Peer Review," *IEEE Contr. Sys. Mag.*, Vol. 20, pp. 8–11, June 2000.
23. D. S. Bernstein, "A Plant Taxonomy for Designing Control Experiments," *IEEE Contr. Sys. Mag.*, Vol. 21, pp. 7–14, June 2001.
24. D. S. Bernstein, "Sensor Performance Specifications," *IEEE Contr. Sys. Mag.*, Vol. 21, pp. 9–18, August 2001.
25. R. Venugopal and D. S. Bernstein, *United States Patent 6,208,739 Noise and Vibration Suppression Method and System*, March 27, 2001.
26. V. Rao and D. S. Bernstein, "Naive Control of the Double Integrator," *IEEE Contr. Sys. Mag.*, Vol. 21, pp. 86–97, October 2001.
27. D. S. Bernstein and L. G. Bushnell, "The History of Control: From Idea to Technology," *IEEE Contr. Sys. Mag.*, Vol. 22, pp. 21–23, April 2002.
28. D. S. Bernstein, "Feedback Control: An Invisible Thread in the History of Technology," *IEEE Contr. Sys. Mag.*, Vol. 22, pp. 53–68, April 2002.

29. D. S. Bernstein, "What Makes Some Control Problems Hard?," *IEEE Contr. Sys. Mag.*, Vol. 22, pp. 8–19, August 2002.
30. D. S. Bernstein, "Introducing Signals, Systems, and Control in K-12," *IEEE Contr. Sys. Mag.*, Vol. 23, pp. 10–12, April 2003.
31. D. S. Bernstein and J. Apkarian, "Experiments for Control Research," *IEEE Contr. Sys. Mag.*, Vol. 23, pp. 10–13, October 2003.
32. D. S. Bernstein, "Setting Up and Running a Control Research Laboratory," *IEEE Contr. Sys. Mag.*, Vol. 23, pp. 14–19, October 2003.
33. D. S. Bernstein, "Review of *Modeling and Simulation for Automatic Control*," *IEEE Contr. Sys. Mag.*, Vol. 23, pp. 87–88, October 2003.
34. D. S. Bernstein, "Review of *When Least Is Best*," *IEEE Contr. Sys. Mag.*, Vol. 24, pp. 84–87, June 2004.
35. D. S. Bernstein, *Matrix Mathematics: Theory, Facts, and Formulas with Application to Linear Systems Theory*. Princeton University Press, 2005.
36. D. S. Bernstein, "The Quanser DC Motor Control Trainer," *IEEE Contr. Sys. Mag.*, Vol. 25, pp. 90–93, June 2005.
37. D. S. Bernstein, "Review of *Bicycling Science*," *IEEE Contr. Sys. Mag.*, Vol. 25, pp. 81–83, August 2005.
38. D. E. Davison, J. Chen, S. R. Ploen, and D. S. Bernstein, "What Is Your Favorite Book on Classical Control?," *IEEE Contr. Sys. Mag.*, Vol. 27, pp. 89–94, 99, June 2007.
39. K. H. Lundberg and D. S. Bernstein, "ODEs with Differentiated Inputs: Specifying Preinitial Conditions," *IEEE Contr. Sys. Mag.*, Vol. 27, pp. 95–97, June 2007.
40. J. Chen, K. H. Lundberg, D. E. Davison, and D. S. Bernstein, "The Final Value Theorem Revisited: Infinite Limits and Irrational Functions," *IEEE Contr. Sys. Mag.*, Vol. 27, pp. 97–99, June 2007.
41. D. S. Bernstein, "Ivory Ghost," *IEEE Contr. Sys. Mag.*, Vol. 27, pp. 16–17, October 2007.
42. D. S. Bernstein, "Newton's Frames," *IEEE Contr. Sys. Mag.*, Vol. 28, pp. 17–18, February 2008.
43. D. S. Bernstein, *Matrix Mathematics: Theory, Facts, and Formulas*. Princeton University Press, Second Edition, 2009.
44. A. Brzezinski, E. Wu, and D. S. Bernstein, "Problem 44-3: Curiously Commuting Vectors," *IMAGE*, Vol. 45, pp. 42, 43, 2010.
45. D. S. Bernstein, A. M. D'Amato, J. B. Hoagg, and M. A. Santillo, "Comments on Output feedback adaptive command following and disturbance rejection for nonminimum phase uncertain dynamical systems'," *Int. J. Adaptive Contr. Sig. Proc.*, Vol. 25, pp. 374–378, 2011.
46. M. Santillo and D. S. Bernstein, *United States Patent 8,260,440 Adaptive Control Based on Retrospective Cost Optimization*, October, 2012.
47. K. Aljanaideh and D. S. Bernstein, "Problem 50-1: An Adjugate Identity," *IMAGE*, Vol. 51, p. 35, 2013.
48. D. S. Bernstein and M. Lin, "Problem 51-1: A Norm Identity," *IMAGE*, Vol. 52, pp. 41–43, 2014.
49. A. Prach and D. S. Bernstein, "Problem 52-6: An Additive Decomposition Involving Rank-One Matrices," *IMAGE*, Vol. 53, pp. 50, 51, 2014.
50. D. S. Bernstein and K. Aljanaideh, "Problem 54-3: When Is the Adjugate a One-to-One Operator?," *IMAGE*, Vol. 55, pp. 36, 37, 2015.
51. M. Cambor, A. Weiss, G. Cruz, Y. Rahman, S. Esteban, I. Kolmanovsky, and D. S. Bernstein, "A Comparison of Nonlinear PI and PID Inertia-Free Spacecraft Attitude Control Laws," in *Advances in Estimation, Navigation, and Spacecraft Control, Selected Papers of the Itzhack Y. Bar-Itzhack Memorial Symposium on Estimation, Navigation, and Spacecraft Control*, edited by D. Choukroun, Y. Oshman, J. Thienel, and M. Idan, pp. 517–541, 2015.
52. D. S. Bernstein, *Scalar, Vector, and Matrix Mathematics: Theory, Facts, and Formulas*. Princeton University Press, Revised and Expanded Edition, 2018.
53. E. Blasch, D. S. Bernstein, and M. Rangaswamy, "Introduction to Dynamic Data Driven Applications Systems," in *Handbook of Dynamic Data Driven Applications Systems*, E. Blasch, S. Ravela, and A. Aved, editors, pp. 1–25, Springer, 2019.
54. D. S. Bernstein, "Problem 60-1: Skew-Symmetric Forms and Determinants," *IMAGE*, Vol. 62, pp. 47, 48, 2019.
55. S. Sanjeevini, O. Kouba, and D. S. Bernstein, "Problem 62-3: A Convex Rank Sequence," *IMAGE*, Vol. 63, pp. 35, 36, 2019.
56. D. S. Bernstein, A. Goel, S. A. U. Islam, and T. Nguyen "Problem 64-1: A Matrix Limit," *IMAGE*, Vol. 66, pp. 35–37, 2020.