

## JOURNAL PAPERS

### *IEEE Transactions on Automatic Control*

1. H. Khalil and Z. Gajic, "Near-optimum regulators for stochastic linear singularly perturbed systems," *IEEE Transactions on Automatic Control*, Vol. AC-29, 531–541, June 1984.
2. \*<sup>2</sup>T. Grodt and Z. Gajic, "The recursive reduced-order numerical solution of the singularly perturbed matrix differential Riccati equation," *IEEE Transactions on Automatic Control*, Vol. AC-33, 751–754, Aug. 1988.
3. \* Z. Gajic, D. Petkovski and N. Harkara, "The recursive algorithm for the optimal static output feedback control problem of linear singularly perturbed systems," *IEEE Transactions on Automatic Control*, Vol. AC-34, 465–468, Apr. 1989.
4. \* X. Shen and Z. Gajic, "Optimal reduced-order solution of the weakly coupled discrete Riccati equation," *IEEE Transactions Automatic Control*, Vol. AC-35, 1160–1162, Oct. 1990.
5. \* Z. Gajic and X. Shen, "Parallel reduced-order controllers for stochastic linear singularly perturbed discrete systems," *IEEE Transactions on Automatic Control*, Vol. AC-36, 87–90, Jan. 1991.
6. \* W. Su and Z. Gajic, "Reduced-order solution to the finite time optimal control problems of linear weakly coupled systems," *IEEE Transactions on Automatic Control*, Vol. AC-36, 498–501, Apr. 1991.
7. \* W. Su, Z. Gajic and X. Shen, "The recursive reduced-order solution of an open-loop control problem of linear singularly perturbed systems," *IEEE Transactions on Automatic Control*, Vol. AC-37, 279–281, Feb. 1992.
8. \* M. Qureshi and Z. Gajic, "A new version of the Chang transformation," *IEEE Transactions on Automatic Control*, Vol. AC-37, 800–801, June 1992.
9. \* W. Su, Z. Gajic and X. Shen, "The exact slow-fast decomposition of the algebraic Riccati equation of singularly perturbed systems," *IEEE Transactions on Automatic Control*, Vol. AC-37, 1456–1459, Sept. 1992.
10. \* Z. Aganovic and Z. Gajic, "The successive approximation procedure for finite-time optimal control of bilinear systems," *IEEE Transactions on Automatic Control*, Vol. AC-39, 1932–1935, Sept. 1994.
11. \* Z. Gajic and M. Lim, "A new filtering method for linear singularly perturbed systems," *IEEE Trans. Automatic Control*, Vol. AC-39, 1952–1955, Sept. 1994.
12. \* Z. Gajic and I. Borno, "Lyapunov iterations for optimal control of jump linear systems," *IEEE Transactions on Automatic Control*, Vol. AC-40, 1971–1975, Nov. 1995.
13. \* D. Popescu and Z. Gajic, "Singular perturbation analysis of cheap control problem for sampled data systems," *IEEE Transactions on Automatic Control*, Vol. 43, 2209–2214, Nov. 1999.
14. \* C. Coumarbatch and Z. Gajic, "Exact decomposition of the algebraic Riccati equation of deterministic multimodeling optimal control problems," *IEEE Transactions on Automatic Control*, Vol. 44, 790–794, May 2000.
15. N. Prljaca and Z. Gajic, "General transformation for block diagonalization of multi-time scale singularly perturbed systems," Vol. 53, 1303–1305, June 2008.

### *IEEE Transactions on Circuits and Systems*

16. M. Lim and Z. Gajic, "Reduced-ordered  $H_\infty$  optimal filtering for systems with slow and fast modes," *IEEE Transactions on Circuits and Systems—I: Fundamental Theory and Applications*, Vol. 47, 250–254, Feb. 2000.
17. \* Z. Gajic and I. Borno, "General transformation for block diagonalization of weakly coupled linear systems composed of  $N$  subsystems," *IEEE Transactions on Circuits and Systems—I: Fundamental Theory and Applications*, Vol. 47, 909–912, June 2000.

### *IEEE/ACM Transactions on Networking*

18. S. Koskie and Z. Gajic, "A Nash game algorithm for SIR-based power control in 3G wireless CDMA networks," *IEEE/ACM Transactions on Networking*, Vol. 13, 1017–1026, Oct. 2005.

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<sup>2</sup> \* indicates papers done with my graduate students

### ***IEEE Transactions on Wireless Communications***

19. L. Qian and Z. Gajic, "Covariance minimization stochastic power control in CDMA systems," *IEEE Transactions on Wireless Communications*, Vol.5, 193–202, Jan. 2006.
20. S. Sorooshiyari and Z. Gajic, "Autonomous dynamic power control for wireless networks: joint user-centric and network-centric consideration," *IEEE Transactions on Wireless Communications*, Vol. 7, 1004–1015, 2008.

### ***IEEE Journal on Selected Areas in Communications***

21. L. Song, N. Mandayam, and Z. Gajic, "Performance analysis of an up/down power control algorithm in fading channels using statistical linearization," *IEEE Journal on Selected Areas in Communications*, Vol. 19, 277–286, Feb. 2001.

### ***Automatica***

22. Z. Gajic and H. Khalil, "Multimodel strategies under random disturbances and imperfect partial observations," *Automatica*, Vol. 22, 121–125, Jan. 1986.
23. \* X. Shen and Z. Gajic, "Near optimum steady state regulators for stochastic linear weakly coupled systems," *Automatica*, Vol. 26, 919–923, Sept. 1990.
24. \* D. Petkovski, N. Harkara and Z. Gajic, "Fast suboptimal solution to the static output control problem of linear singularly perturbed systems," *Automatica*, Vol. 27, 721–724, July 1991.
25. \* Z. Gajic and X. Shen, "Study of the discrete singularly perturbed linear-quadratic control problem by a bilinear transformation," *Automatica*, Vol. 27, 1025–1028, Nov. 1991.
26. \* D. Skataric and Z. Gajic, "Linear control of nearly singularly perturbed hydro power plants," *Automatica*, Vol. 28, 159–163, Jan. 1992.
27. \* Z. Aganovic and Z. Gajic, "Optimal control of weakly coupled bilinear systems," *Automatica*, Vol. 29, 1591–1593, Dec. 1993.
28. \* I. Borno and Z. Gajic, "Parallel algorithms for optimal control of weakly coupled and singularly perturbed jump linear systems," *Automatica*, Vol. 31, 985–988, July 1995.
29. \* Z. Aganovic, Z. Gajic, and X. Shen, "New method for optimal control and filtering of weakly coupled linear discrete stochastic systems," *Automatica*, Vol. 32, 83–88, Jan. 1996.
30. V. Kecman, S. Binguac, and Z. Gajic, "Eigenvector approach for order-reduction of singularly perturbed linear-quadratic optimal control problems," *Automatica*, Vol. 35, 151–158, Jan. 1999.
31. \* Z. Gajic and R. Losada, "Solution of the state-dependent noise optimal control problem in terms of Lyapunov iterations," *Automatica*, Vol. 35, 951–954, May 1999.
32. Z. Gajic and M. Lelic, "System order reduction via balancing transformation and its improvement via the method of singular perturbations," *Automatica*, Vol. 37, 1859–1865, Nov. 2001.
33. N. Prljaca and Z. Gajic, "A method for optimal control and filtering of multi-time scale linear stochastic singularly perturbed systems," *Automatica*, Vol. 44, 2149–2156, 2008.

### ***Systems & Control Letters***

34. Z. Gajic, "On the quasi-decentralized estimation and control of linear stochastic systems," *Systems & Control Letters*, Vol. 8, 441–444, May 1987.
35. Z. Gajic, "The existence of a unique and bounded solution of the algebraic Riccati equation of the multimodel estimation and control problems," *Systems & Control Letters*, Vol. 10, 185–190, Mar. 1988.
36. \* Z. Gajic and R. Losada, "Monotonicity of algebraic Lyapunov iterations for optimal control of jump parameter linear systems," *Systems & Control Letters*, Vol. 41, 175–181, Oct. 2000.

### ***Journal on Optimization Theory and Applications***

37. B. Petrovic and Z. Gajic, "The recursive solution of linear quadratic Nash games for weakly interconnected systems," *Journal on Optimization Theory and Applications*, Vol. 56, 463–477, Mar. 1988.

38. \* Z. Aganovic and Z. Gajic, "The successive approximation procedure for steady state optimal control of bilinear systems," *Journal on Optimization Theory and Applications*, Vol. 84, 273–291, Feb. 1995.

***ASME Transactions Journal Dynamic Systems, Measurements, and Control***

39. \* Z. Aganovic, Z. Gajic, and X. Shen, "Filtering for linear stochastic systems with small measurement noise," *Transactions of ASME Journal Dynamic Systems, Measurement and Control*, Vol. 117, 425–429, Sept. 1995.
40. \* Z. Gajic and J. Boka, "Kalman filtering error due to inaccuracy in filter's initial condition," *Transactions of ASME Journal Dynamic Systems, Measurement and Control*, Vol. 119, 119–122, March 1997.
41. \*C. Coumarbatch and Z. Gajic, "Parallel optimal Kalman filtering for stochastic systems in multimodeling form," *Transactions of ASME Journal Dynamic Systems, Measurement and Control*, Vol. 122, 542–550, Sept. 2000.

***AIAA Journal of Guidance, Dynamics and Control***

42. \* W. Su and Z. Gajic, "Parallel algorithm for solving weakly coupled algebraic Riccati equation," *AIAA Journal of Guidance, Dynamics and Control*, Vol. 15, 536–538, Mar. 1992.
43. \* Z. Gajic and Z. Aganovic, "New filtering method for linear weakly coupled stochastic systems," *AIAA Journal Guidance, Control and Dynamics*, Vol. 18, 630–633, May 1995.
44. V. Kecman and Z. Gajic, "Optimal control and filtering for nonstandard singularly perturbed linear systems," *AIAA Journal Guidance, Control and Dynamics*, Vol. 22, 362–365, Feb. 1999.

***International Journal of Control***

45. Z. Gajic, "Numerical fixed point solution for near-optimum regulators of linear quadratic gaussian control problem for singularly perturbed systems," *International Journal of Control*, Vol. 43, 373–387, Feb. 1986.
46. \* N. Harkara, D. Petkovski and Z. Gajic, "The recursive algorithm for the optimal static output feedback control problem of linear weakly coupled systems," *International Journal of Control*, Vol. 50, 1–11, July 1989.
47. \* Z. Gajic and X. Shen, "Decoupling transformation for weakly coupled linear systems," *International Journal of Control*, Vol. 50, 1517–1523, Oct. 1989.
48. \* M. Qureshi, X. Shen and Z. Gajic, "Output feedback control of discrete linear singularly perturbed stochastic systems," *International Journal of Control*, Vol. 55, 361–371, Feb. 1992.

***Optimal Control Applications & Methods***

49. Z. Gajic, "Well-posedness of a model order reduction for singularly perturbed linear stochastic systems," *Optimal Control Applications & Methods*, Vol. 8, 305–309, July 1987.
50. \* X. Shen and Z. Gajic, "Approximate parallel controllers for discrete stochastic weakly coupled linear systems," *Optimal Control Applications & Methods*, Vol. 11, 345–354, Oct. 1990.
51. M. Lim and Z. Gajic, "Subsystem-level optimal control of weakly coupled linear stochastic systems composed on N subsystems," *Optimal Control Applications & Methods*, Vol. 20, 93–112, 1999.

***Control — Theory and Advanced Technology***

52. \* J. Zhuang and Z. Gajic, "Stochastic multimodel strategy with perfect measurements," *Control — Theory and Advanced Technology*, Vol. 7, 173–182, Mar. 1991.
53. \* D. Skataric, Z. Gajic, and D. Arnautovic, "Reduced-order design of optimal controllers for quasi weakly coupled linear systems," *Control — Theory and Advanced Technology*, Vol. 9, 481–490, June 1993.
54. \* S. Hogan and Z. Gajic, "Stochastic output feedback control of quasi-weakly coupled linear discrete systems," *Control — Theory and Advanced Technology*, Vol. 10, 221–234, June 1994.

***Computers & Mathematics with Applications***

55. \* I. Borno and Z. Gajic, "Parallel algorithms for solving coupled algebraic Lyapunov equations of discrete-time jump linear systems," *Computers & Mathematics with Applications*, Vol. 30, 1–4, Oct. 1995.
56. \* T. Hsieh and Z. Gajic, "An algorithm for solving the singularly perturbed  $H_\infty$  algebraic Riccati equation," *Computers & Mathematics with Applications*, Vol. 36, 69–77, July 1998.

***Journal of Automatic Control***

57. V. Bajic, D. Debeljkovic, Z. Gajic, and B. Petrovic, "Weak domain of attraction and existence of solutions convergent to the phase space of singular linear systems," *Journal of Automatic Control*, Vol. 1, 53–62, 1992.
58. D. Debeljkovic, V. Bajic, Z. Gajic, and B. Petrovic, "Boundedness and existence of Solutions of regular and irregular singular systems," *Journal of Automatic Control*, Vol. 1, 69–78, 1993.
59. I. Borno and Z. Gajic, "Steady state linear-quadratic optimal open-loop control problem," *Journal of Automatic Control*, invited paper, Vol. 5, 1–9, 1995.

***Proceedings of the Indian National Science Academy***

60. Z. Gajic, X. Shen, and M. Lim, "High accuracy techniques for singularly perturbed control systems—An overview," *Proc. Indian National Science Academy*, invited paper, Vol. 65, 117–127, March 1999.

***Dynamics of Continuous, Discrete and Impulsive Systems***

61. Z. Gajic, "Singularly perturbed dynamic systems in control technology — A special issue — Preface," *Dynamics of Continuous, Discrete and Impulsive Systems: Series B, Applications and Algorithms*, editorial, Vol. 9, U3–U4, June 2002.
62. L. Qian and Z. Gajic, "Optimal distributed power control in cellular wireless systems," *Dynamics of Continuous, Discrete and Impulsive Systems: Series B, Applications and Algorithms*, invited paper, Vol. 10, 537–559, Aug. 2003.
63. M. Ikeda and Z. Gajic, "A Brief Overview of Collected Works of Dragoslav Siljak," *Dynamics of Continuous, Discrete and Impulsive Systems: Series A, Mathematical Analysis*, Vol. 11, 149–172, April 2004.
64. S. Koskie and Z. Gajic, "Signal-to-interference-based power control in wireless networks: A Survey 1992–2005," *Dynamics of Continuous, Discrete and Impulsive Systems: Series B, Applications and Algorithms*, invited paper, Vol. 13, 187–220, 2006.

***International Journal of Wireless Information Networks***

65. ‡ D. Lelic and Z. Gajic, "Gauss-Seidel iterations for SIR-based power updates for 3G wireless CDMA communication networks," *International Journal of Wireless Information Networks*, Vol. 11, 115–121, July 2004.

***European Transactions on Telecommunications***

66. D. Skataric and Z. Gajic, and L. Qian, "New algorithms for power control in 3G wireless networks," *European Transactions on Telecommunications*, Vol. 18, 419–426, 2007.

***European Journal of Control***

67. Z. Gajic, "A discussion on an algorithm for solving a perturbed algebraic Riccati equation," invited discussion paper, Vol. 10, 586–587, Dec. 2004.

***Journal of Wireless Communications and Mobile Computing***

68. L. Qian, D. Vaman, X. Li, and Z. Gajic, "Power control and scheduling with minimum rate constraints in clustered multihop TD/CDMA ad hoc networks," *Journal of Wireless Communications and Mobile Computing*, Vol. 6, 791–808, 2006.

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‡ NSF REU student

*WSEAS Transactions on Systems*

69. N. Prljaca and Z. Gajic., “A transformation for block diagonalization of weakly coupled systems composed of N subsystems,” *WSEAS Transactions on Systems*, Vol. 6, 848–851, 2007.

*International Journal of Information & Systems Sciences*

70. S. Koskie and Z. Gajic, “Optimal SIR-based power control strategies wireless CDMA networks,” invited paper, *International Journal of Information & Systems Science*, Vol. 4, 204–218, 2008.