

PUBLISHED WRITINGS OF ZIGANG PAN

Articles in Edited (Refereed) Volumes:

- [A3] T. Başar, G. Didinsky, and Z. Pan, “A new class of identifiers for robust parameter identification and control in uncertain systems,” in *Robust Control via Variable Structure and Lyapunov Techniques* (F. Garofalo and L. Glielmo, eds.), vol. 217 of *Lecture Notes in Control and Information Sciences*, ch. 8, pp. 149–173, Springer Verlag, 1996.
- [A2] Z. Pan and T. Başar, “ H^∞ -control of Markovian jump systems and solutions to associated piecewise-deterministic differential games,” in *New Trends in Dynamic Games and Applications* (G. J. Olsder, ed.), pp. 61–94, Boston, MA: Birkhäuser, 1995.
- [A1] Z. Pan and T. Başar, “ H^∞ -optimal control of singularly perturbed systems with sampled-state measurements,” in *Advances in Dynamic Games and Applications* (T. Başar and A. Haurie, eds.), pp. 23–55, Boston, MA: Birkhäuser, 1993.

Journal Publications:

- [J21] S. Zeng, Z. Pan, and E. Fernandez, “Adaptive controller design and disturbance attenuation for SISO linear systems with zero relative degree under noisy output measurements,” *International Journal of Adaptive Control and Signal Processing*, vol. 24, pp. 287–310, April 2010.
- [J20] Q. Zhao, Z. Pan, and E. Fernandez, “Convergence analysis for reduced-order adaptive controller design of uncertain SISO linear systems with noisy output measurements,” *International Journal of Control*, vol. 82, no. 11, pp. 1971–1990, 2009.
- [J19] S. Zeng and Z. Pan, “Adaptive controller design and disturbance attenuation for SISO linear systems with noisy output measurements and partly measured disturbances,” *International Journal of Control*, vol. 82, pp. 310–334, February 2009.
- [J18] Q. Zhao, Z. Pan, and E. Fernandez, “Reduced-order robust adaptive control design of uncertain SISO linear systems,” *International Journal of Adaptive Control and Signal Processing*, vol. 22, pp. 663–704, September 2008.
- [J17] Y. Liu, Z. Pan, and S. Shi, “Output feedback control design for strict-feedback stochastic nonlinear systems under a risk-sensitive cost,” *IEEE Transactions on Automatic Control*, vol. 48, pp. 509–513, March 2003.
- [J16] Z. Pan, “Canonical forms for stochastic nonlinear systems,” *Automatica*, vol. 38, pp. 1163–1170, July 2002.
- [J15] Z. Pan, Y. Liu, and S. Shi, “Output feedback stabilization for stochastic nonlinear systems in observer canonical form with stable zero-dynamics,” *Science in China*, vol. 44, pp. 292–308, August 2001.
- [J14] Z. Pan, K. Ezal, A. J. Krener, and P. V. Kokotović, “Backstepping design with local optimality matching,” *IEEE Transactions on Automatic Control*, vol. 46, pp. 1014–1027, July 2001.
- [J13] Z. Pan, “Differential geometric condition for feedback complete linearization of stochastic nonlinear system,” *Automatica*, vol. 37, pp. 145–149, January 2001.
- [J12] K. Ezal, Z. Pan, and P. V. Kokotović, “Locally optimal and robust backstepping design,” *IEEE Transactions on Automatic Control*, vol. 45, pp. 260–271, February 2000.
- [J11] Z. Pan and T. Başar, “ H^∞ control of large scale jump linear systems via averaging and aggregation,” *International Journal of Control*, vol. 72, no. 10, pp. 866–881, 1999.
- [J10] Z. Pan and T. Başar, “Backstepping controller design for nonlinear stochastic systems under a risk-sensitive cost,” *SIAM J. Control and Optimization*, vol. 37, no. 3, pp. 957–995, 1999.

Journal Papers (continued):

- [J9] Z. Pan and T. Başar, “Adaptive controller design for tracking and disturbance attenuation in parametric-strict-feedback nonlinear systems,” *IEEE Transactions on Automatic Control*, vol. 43, pp. 1066–1083, August 1998.
- [J8] Z. Pan and T. Başar, “Parameter identification for uncertain linear systems with partial state measurements under an H^∞ criterion,” *IEEE Transactions on Automatic Control*, vol. 41, pp. 1295–1311, September 1996.
- [J7] Z. Pan and T. Başar, “Model simplification and optimal control of stochastic singularly perturbed systems under exponentiated quadratic cost,” *SIAM J. Control and Optimization*, vol. 34, no. 5, pp. 1734–1766, September 1996.
- [J6] Z. Pan and T. Başar, “Time-scale separation and robust controller design for uncertain nonlinear singularly perturbed systems under perfect state measurements,” *International J. Robust and Nonlinear Control*, vol. 6, pp. 585–608, August-September 1996.
- [J5] Z. Pan and T. Başar, “Robustness of minimax controllers to nonlinear perturbations,” *Journal of Optimization Theory and Applications*, vol. 87, pp. 631–678, December 1995.
- [J4] G. Didinsky, Z. Pan, and T. Başar, “Parameter identification for uncertain plants using H^∞ methods,” *Automatica*, vol. 31, no. 9, pp. 1227–1250, 1995.
- [J3] Z. Pan and T. Başar, “Multi-time scale zero-sum differential games with perfect state measurements,” *Dynamics and Control*, vol. 5, pp. 7–30, January 1995.
- [J2] Z. Pan and T. Başar, “ H^∞ -optimal control for singularly perturbed systems. Part II: Imperfect state measurements,” *IEEE Transactions on Automatic Control*, vol. 39, pp. 280–299, February 1994. *Received the George S. Axelby Outstanding Paper Award December 1995.*
- [J1] Z. Pan and T. Başar, “ H^∞ -optimal control for singularly perturbed systems. Part I: Perfect state measurements,” *Automatica*, vol. 29, pp. 401–423, March 1993.

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- [C32] T. Başar and Z. Pan, “A generalized minimum phase property for finite-dimensional continuous-time MIMO LTI systems with additive disturbances.” To appear in *21st IFAC World Congress*, July 12–17, 2020.
- [C31] Z. Pan and T. Başar, “Generalized minimum phase property for finite-dimensional continuous-time SISO LTI systems with additive disturbances,” in *Proceedings of the 57th IEEE Conference on Decision and Control*, (Miami Beach, FL), pp. 6256–6262, December 17–19 2018.
- [C30] Q. Zhao, Z. Pan, and E. Fernandez, “Convergence analysis for reduced-order adaptive controller design: Disturbance attenuation and asymptotic tracking for SISO linear systems with noisy output measurements,” in *Proceedings of the 2007 American Control Conference*, (New York, NY), pp. 3943–3948, July 2007.
- [C29] S. Zeng, Y. Chen, and Z. Pan, “Adaptive controller design and disturbance attenuation for SISO linear systems with zero relative degree under noisy output measurements,” in *Proceedings of the 2005 American Control Conference*, (Portland, OR), pp. 3719–3724, June 2005.
- [C28] Q. Zhao and Z. Pan, “Order reduction of n for robust adaptive control design of SISO linear systems,” in *Proceedings of the 2005 American Control Conference*, (Portland, OR), pp. 3133–3138, June 2005.
- [C27] S. Zeng and Z. Pan, “Adaptive controller design and disturbance attenuation for SISO linear systems with noisy output measurements and partly measured disturbances,” in *Proceedings of the 2004 American Control Conference*, (Boston, MA), pp. 4523–4528, June–July 2004.

Conference Papers (continued):

- [C26] Q. Zhao and Z. Pan, “Reduced-order adaptive controller design for disturbance attenuation and asymptotic tracking for SISO linear systems with noisy output measurements,” in *Proceedings of the 2004 American Control Conference*, (Boston, MA), pp. 768–773, June–July 2004.
- [C25] Y. Chen and Z. Pan, “Adaptive control for tracking and disturbance attenuation for SISO linear systems with repeated noisy measurements,” in *Proceedings of the 42nd IEEE Conference on Decision and Control*, (Maui, HI), pp. 4321–4326, December 9–12 2003.
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- [C21] Z. Pan, “Differential geometric condition for feedback complete linearization of stochastic nonlinear system,” in *Proceedings of the Third Asian Control Conference*, (Shanghai, P. R. China), pp. 1725–1730, July 4–7 2000.
- [C20] K. Ezal, Z. Pan, and P. V. Kokotović, “Locally optimal backstepping design,” in *Proceedings of the 36th IEEE Conference on Decision and Control*, (San Diego, CA), pp. 1767–1773, December 10 – 12 1997.
- [C19] Z. Pan, “Canonical forms for stochastic nonlinear systems,” in *Proceedings of the 36th IEEE Conference on Decision and Control*, (San Diego, CA), pp. 24–29, December 10 – 12 1997.
- [C18] Z. Pan and T. Başar, “Adaptive controller design and disturbance attenuation for SISO linear systems with noisy output measurements,” in *Proceedings of the Fourth European Control Conference*, (Brussels, Belgium), July 1–4 1997.
- [C17] Z. Pan and T. Başar, “Backstepping controller design for nonlinear stochastic systems under a risk-sensitive cost criterion,” in *Proceedings of the 1997 American Control Conference*, (Albuquerque, NM), pp. 1278–1282, June 4 – 6 1997.
- [C16] Z. Pan, E. Altman, and T. Başar, “Robust adaptive flow control in high speed telecommunication networks,” in *Proceedings of the 35th IEEE Conference on Decision and Control*, (Kobe, Japan), pp. 1341–1346, December 11–13 1996.
- [C15] Z. Pan and T. Başar, “Random evolutionary time-scale decomposition in robust control of jump linear systems,” in *Proceedings of the 35th IEEE Conference on Decision and Control*, (Kobe, Japan), pp. 517–522, December 11–13 1996.
- [C14] Z. Pan and T. Başar, “Adaptive controller design for tracking and disturbance attenuation in parametric-strict-feedback nonlinear systems,” in *Proceedings of the 13th World IFAC Congress*, (San Francisco, CA, USA), pp. 323–328, June 30 – July 5 1996.
- [C13] E. Altman, T. Başar, and Z. Pan, “Admission and flow control in telecommunication networks as a hybrid control problem,” in *Proceedings of the 30th Annual Conference on Information Sciences and Systems*, vol. II, (Princeton University), pp. 705–710, March 1996.
- [C12] Z. Pan and T. Başar, “ H^∞ control of large scale jump linear systems via averaging and aggregation,” in *Proceedings of the 34th IEEE Conference on Decision and Control*, (New Orleans, LA), pp. 2574–2579, December 1995.

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- [C10] Z. Pan and T. Başar, “Model simplification and optimal control of stochastic singularly perturbed systems under exponentiated quadratic cost,” in *Proceedings of the 33rd IEEE Conference on Decision and Control*, (Orlando, FL), pp. 1700–1705, December 1994.
- [C9] T. Başar, G. Didinsky, and Z. Pan, “A new class of identifiers for robust parameter identification and control in uncertain systems,” in *Proceedings of the Workshop on Robust Control via Variable Structure & Lyapunov Techniques*, (Benevento, Italy), pp. 294–301, September 7–9 1994.
- [C8] Z. Pan and T. Başar, “A theory for differential games with random structures with applications in H^∞ -control of jump linear systems,” in *Proceedings of the 6th International Symposium on Dynamic Games and Applications*, (St-Jovite, Quebec, Canada), pp. 466–480, July 1994.
- [C7] Z. Pan and T. Başar, “Robust control of dynamic systems under structural perturbations,” in *Proceedings of the 12th Symposium on Energy Engineering Sciences*, (Argonne, IL), pp. 31–39, April 1994.
- [C6] G. Didinsky, Z. Pan, and T. Başar, “Parameter identification for uncertain plants using H^∞ methods,” in *Proceedings of the 28th Annual Conference on Information Sciences and Systems*, Princeton University, March 1994.
- [C5] Z. Pan and T. Başar, “Multi-time scale zero-sum differential games with perfect state measurements,” in *Proceedings of the 32nd IEEE Conference on Decision and Control*, (San Antonio, TX), pp. 3366–3371, December 1993.
- [C4] Z. Pan and T. Başar, “Robustness of H^∞ controllers to nonlinear perturbations,” in *Proceedings of the 32nd IEEE Conference on Decision and Control*, (San Antonio, TX), pp. 1638–1643, December 1993.
- [C3] Z. Pan and T. Başar, “Optimal control of stochastic singularly perturbed systems with exponentiated quadratic cost,” in *Proceedings of the 12th World IFAC Congress*, vol. IX, (Sydney, Australia), pp. 293–298, July 1993.
- [C2] Z. Pan and T. Başar, “ H^∞ -optimal control for singularly perturbed systems. Part II: Imperfect state measurements,” in *Proceedings of the 31st IEEE Conference on Decision and Control*, (Tucson, AZ), pp. 943–948, December 1992.
- [C1] Z. Pan and T. Başar, “ H^∞ -optimal control for singularly perturbed systems. Part I: Perfect state measurements,” in *Proceedings of the 1992 American Control Conference*, (Chicago, IL), pp. 1850–1854, June 1992.

Working Projects and Papers:

- [S2] Z. Pan, “Measure theoretic calculus in abstract spaces.” To be submitted, October 2019.
- [S1] T. Başar and Z. Pan, “Further properties of the generalized minimum phase concept for finite-dimensional continuous-time square MIMO LTI systems.” To be submitted, October 2019.