PUBLISHED WRITINGS OF ZIGANG PAN

Books:

[B1] Z. Pan, Measure-theoretic calculus in abstract spaces: On the playground of infinite-dimensional spaces. Cham, Switzerland: Birkhäuser, 1st ed., January 2024.

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:

- [J24] Z. Pan, " H^{∞} -optimal control under imperfect state measurements using game theoretic approach," Dynamic Games and Applications, 2025. **DOI:** https://doi.org/10.1007/s13235-025-00652-4
- [J23] Z. Pan, S. Zeng, and T. Başar, "Robust model reference adaptive control for square MIMO LTI systems with uniform vector relative degree of zero," *Automatica*, vol. 175, p. 112190, 2025.
- [J22] Z. Pan and T. Başar, "Adaptive controller design and disturbance attenuation for minimum phase multiple-input multiple-output linear systems with noisy output measurements and with measured disturbances," International Journal of Adaptive Control and Signal Processing, vol. 37, no. 10, pp. 2577– 2626, 2023.
- [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.
- [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.

Conference Papers:

- [C32] T. Başar and Z. Pan, "A generalized minimum phase property for finite-dimensional continuous-time MIMO LTI systems with additive disturbances," IFAC-PapersOnLine, vol. 53, pp. 4668–4675, July 12–17, 2020. 21st IFAC World Congress.
- [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 Deci*sion 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.
- [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.
- [C24] Z. Pan, Y. Liu, and S. Shi, "Output feedback stabilization for stochastic nonlinear systems in observer canonical form with stable zero-dynamics," in *Proceedings of the 41st IEEE Conference on Decision* and Control, (Las Vegas, NV), pp. 1392–1397, December 10–13 2002.
- [C23] Y. Liu, Z. Pan, and S. Shi, "Output feedback control design for strict-feedback stochastic nonlinear systems under a risk-sensitive cost," in *Proceedings of the 40th IEEE Conference on Decision and Control*, (Orlando, FL), pp. 1269–1274, December 4–7 2001.
- [C22] Z. Pan, K. Ezal, A. J. Krener, and P. V. Kokotović, "Backstepping design with local optimality matching," in *Proceedings of the 2001 American Control Conference*, (Washington, D.C.), pp. 3557– 3562, June 25 – 27 2001.
- [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.
- [C11] Z. Pan and T. Başar, "Parameter identification for uncertain linear systems with partial state measurements under an H^{∞} criterion," in *Proceedings of the 34th IEEE Conference on Decision and Control*, (New Orleans, LA), pp. 709–714, December 1995.
- [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.