

## PUBLICATIONS of Angelo Alessandri

### International journals

1. G. Yang, H. Rezaee, A. Alessandri, T. Parisini, "State estimation using a network of distributed observers with switching communication topology," *Automatica*, under review.
2. A. Alessandri, P. Bagnnerini, M. Gaggero, L. Mantelli, V. Santamaria, A. Traverso, "Black-box modeling and optimal control of a two-phase flow using level set methods," *IEEE Trans. on Control Systems Technology*, to appear.
3. A. Alessandri, R. Sanfelice, "Hysteresis-based switching observers for linear systems using quadratic boundedness," *Automatica*, vol. 136, pp. 109982, 2022.
4. A. Alessandri, P. Bagnnerini, M. Gaggero, D. Lengani, D. Simoni, "Detection of flow regime transitions using dynamic mode decomposition and moving horizon estimation," *IEEE Trans. on Control Systems Technology*, vol. 29, pp. 1324-1331, 2021.
5. A. Alessandri, F. Bedouhene, D. Bouhadjra, A. Zemouche, P. Bagnnerini, "Observer-based control for a class of hybrid linear and nonlinear systems," *Discrete and Continuous Dynamical Systems*, Series S, vol. 14, p. 1213-1231, 2021.
6. A. Alessandri, P. Bagnnerini, M. Gaggero, L. Mantelli, "Parameter estimation of fire propagation models using level set methods," *Applied Mathematical Modelling*, vol. 92, 731-747, 2021.
7. D. Astolfi, A. Alessandri, L. Zaccarian, "Stubborn and dead-zone redesign for nonlinear observers and filters," *IEEE Trans. on Automatic Control*, vol. 66, pp. 667-682, 2021.
8. A. Alessandri, F. Boem, "State observers for systems subject to bounded disturbances using quadratic boundedness," *IEEE Trans. on Automatic Control*, vol. 65, pp. 5352-5359, 2020.
9. A. Alessandri, P. Bagnnerini, R. Cianci, "State observation for Lipschitz nonlinear dynamical systems based on Lyapunov functions and functionals," *Mathematics*, vol. 8, 2020.
10. H. Arezki, A. Zemouche, F. Bedouhene, A. Alessandri, "State observer design method for a class of non-linear systems," *IET Control Theory & Applications*, vol. 14, pp.1648-1655, 2020.
11. A. Alessandri, P. Bagnnerini, M. Gaggero, A. Rossi, "State and observer-based feedback control of normal flow equations," *Automatica*, vol. 117, pp. 108980, 2020.
12. A. Alessandri, M. Gaggero, "Fast moving horizon state estimation for linearly constrained discrete-time systems," *Int. Journal of Adaptive Control and Signal Processing*, vol. 34, pp. 706-720, 2020.
13. A. Alessandri, G. Battistelli, "Moving horizon estimation: Open problems, theoretical progress, and new application perspectives," *Int. Journal of Adaptive Control and Signal Processing*, vol. 34, pp. 703-705, 2020.
14. A. Alessandri, "Lyapunov functions for state observers of dynamic systems using Hamilton-Jacobi inequalities," *Mathematics*, vol. 8, 2020.
15. A. Alessandri, "On Hamilton-Jacobi approaches to state reconstruction for dynamic systems," *Advances in Mathematical Physics*, vol. 2020, 2020.
16. A. Alessandri, P. Bagnnerini, R. Cianci, S. Donnarumma, A. Taddeo, "Stabilization of diffusive systems using backstepping and the circle criterion," *Int. Journal of Heat and Mass Transfer*, vol. 149, pp. 1-10, 2020.
17. A. Alessandri, P. Bagnnerini, R. Cianci, R. Revetria, "Transport and balance equations with boundary values problems for modeling and estimation of thermal flows," *Advances in Mathematical Physics*, vol. 20, 2020.
18. A. Alessandri, P. Bagnnerini, R. Cianci, M. Gaggero, "Optimal propagating fronts using Hamilton-Jacobi equations," *Mathematics*, vol. 7, 2019.

19. A. Alessandri, S. Donnarumma, M. Martelli, S. Vignolo, "Motion control for autonomous navigation in blue and narrow waters using switched controllers," *Journal of Marine Science and Engineering*, vol. 7, pp. 196, 2019.
20. G. Casadei, D. Astolfi, A. Alessandri, L. Zaccarian, "Synchronization in networks of identical nonlinear systems via dynamic dead zones," *IEEE Control Systems Letters*, vol. 3, pp. 667-672, 2019.
21. A. Alessandri, P. Bagnerini, M. Gaggero, D. Lengani, D. Simoni, "Dynamic mode decomposition for the inspection of three-regime separate transitional boundary layers using a least squares method," *Physics of Fluids*, vol. 31, pp. 044103-1044103-13, 2019.
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24. M. Dureau, A. Alessandri, P. Bagnerini, S. Vincent, "Modeling and identification of Amnioserosa cell mechanical behavior by using mass-spring lattices," *IEEE/ACM Trans. on Computational Biology and Bioinformatics*, vol. 14, pp. 1476-1481, 2017.
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26. A. Alessandri, M. Awawdeh, "Moving-horizon estimation with guaranteed robustness for discrete-time linear systems and measurements subject to outliers," *Automatica*, vol. 67, pp. 85-93, 2016.
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31. A. Alessandri, M. Baglietto, G. Battistelli, "Min-max moving-horizon estimation for uncertain discrete-time linear systems," *SIAM Journal on Control and Optimization*, vol. 50, pp. 1439-1465, 2012.
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33. A. Alessandri, M. Gaggero, F. Tonelli, "Min-max and predictive control for the management of distribution in supply chains," *IEEE Trans. on Control Systems Technology*, vol. 19, pp. 1075-1089, 2011.
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### **Book reviews**

1. A. Alessandri, "Adaptive Neural Network Control of Robotic Manipulators," by S. S. Ge, T. H. Lee, and C. J. Harris, *Automatica*, vol. 40, pp.2011-2012, 2004.

### **Book chapters**

1. A. Alessandri, P. Bagnnerini, R. Cianci, M. Gaggero, "Optimal control of level sets generated by the normal flow equation," *Theory, Numerics and Applications of Hyperbolic Problems I*, HYP 2016, C. Klingenberg and M. Westdickenberg M. (Eds.), vol. 236, pp. 29-41, Springer-Verlag, 2018.
2. A. Alessandri, S. Donnarumma, S. Vignolo, M. Figari, M. Martelli, R. Chiti, L. Sebastiani, "System control design of autopilot and speedpilot for a patrol vessel by using LMIs,"

- Towards Green Marine Technology and Transport*, CRC Press, C.G. Soares, R. Dejhalla, D. Pavletic (Eds.), pp. 577-584, 2015.
3. A. Alessandri, R. Filippini, "Evaluation of resilience of interconnected systems based on stability analysis," *CRITIS 2012*, B. Hämmerli, N. Kalstad Svendsen, and J. Lopez (Eds.), *Lecture Notes in Computer Sciences*, vol. 7722, pp. 180-190, Springer-Verlag, 2013.
  4. A. Alessandri, M. Cuneo, M. Sanguineti, "An algorithm for nonlinear least-squares: exponential boundedness and numerical results," *Advances in Mathematical Problems in Engineering and Aerospace Sciences* *Mathematical Problems in Engineering and Aerospace Sciences*, S. Sivasundaram Editor, Cambridge Scientific Publishers, pp. 319-329, 2009.
  5. A. Alessandri, C. Cervellera, M. Cuneo, M. Gaggero, "Nonlinear model predictive control for resource allocation in the management of intermodal container terminals," L. Magni et al. (Eds.): *Nonlinear Model Predictive Control – Towards New Challenging Applications*, *Lecture Notes in Control and Information Sciences*, Springer-Verlag, vol. 384, pp. 205-213, 2009.
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  8. A. Alessandri, P. Coletta, "Design of Luenberger observers for a class of hybrid linear systems," in *Hybrid Systems: Computation and Control*, M. D. Di Benedetto, A. Sangiovanni-Vincentelli (Eds.), *Lecture Notes in Computer Science*, Springer-Verlag, vol. 2034, pp. 7-18, 2001.

### **Italian journals**

1. A. Alessandri, E. Punta, "Traffico autostradale: ottimizzazione con segnalazioni variabili di velocità," *Automazione e Strumentazione*, Anno XLV, No. 6, pp. 119-126, Giugno, 1997.

### **Presentations at invited sessions of international conferences**

1. A. Alessandri, P. Bagnnerini, C. Carmeli, M. Gaggero, D. Lengani, D. Simoni, "On-line mode decomposition of fluid flows using moving horizon estimation," *Proc. 58th IEEE Conference on Decision and Control*, pp. 2163-2168, Nice, France, 2019.
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### **Presentations at international conferences**

1. D. Bouhadjra, A. Alessandri, P. Bagnnerini, F. Bedouhene, A. Zemouche, "Modeling and estimation of Amnioserosa cell mechanical behavior using moving horizon estimation," *Proc. American Control Conference*, pp. 1579-1584, New Orleans, USA, 2021.
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15. S. Donnarumma, L. Zaccarian, A. Alessandri, S. Vignolo, "Anti-windup synthesis of heading and speed regulators for ship control with actuator saturation," *Proc. European Control Conference*, pp. 1284-1290, Aalborg, Denmark, 2016.
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