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Jie Huang studied Power Engineering at Fuzhou University from 1977 to 1979 and Circuits and Systems at Nanjing University of Science and Technology (NUST) from 1979 to 1982. He got his Master's degree from NUST in 1982 and was a faculty member there from 1982 to 1986. He completed his Ph.D. study in automatic control at the Johns Hopkins University in 1990 and subsequently held a post-doctoral fellow position there until July 1991. From August 1991 to July 1995, he worked in industry in USA. In September 1995, he joined the Department of Mechanical and Automation Engineering, the Chinese University of Hong Kong (CUHK), and is now Choh-Ming Li Profesor of Mechanical and Automation Engineering and chairman of Department of Mechanical and Automation Engineering, CUHK. He has been advisory/guest professors at several universities. He served as a Science Advisor to the Leisure and Cultural Services Department of Hong Kong Special Administrative Region, and Honorary Advisor to Hong Kong Science Museum. His research interests include control theory and applications, robotics and automation, neural networks and systems biology, and guidance and control of flight vehicles. He received the State Natural Science Prize, Class II, in 2011, Croucher Senior Research Fellowship award in 2006, the best paper award of the Eighth International Conference on Control, Automation, Robotics, and Vision in 2004, and the SUPCON Best Paper Award of the 9th World Congress on Intelligent Control and Automation in 2012. He was elected HKIE Fellow in 2017, CAA Fellow in 2010, IFAC Fellow in 2009, and IEEE Fellow in 2005.

Jie Huang is an Editor-at-Large of Communications in Information and Systems, Member of the Advisory Board of Transactions of the Institute of Measurement and Control, and Subject Editor of International Journal of Robust and Nonlinear Control, and Associate Editor of Science in China, Ser. F: Information Sciences and ACTA Automatica Sinica. He served as Associate Editor of IEEE Transactions on Automatic Control from 2002 to 2004, and an Associate Editor of the Asian Journal of Control from 1999 to 2001. He has been Guest Editor for IEEE Transactions on Neural Networks, International, International Journal of Robust and Nonlinear Control, and Asian Journal of Control. He was Distinguished Lecturer of IEEE Control Systems Society from 2005 to 2008, and member of the Board of Governors of IEEE Control Systems Society from 2006 to 2007. He served in organizing committee or operating committee of several major international Conferences including the General Chair of 2002 International Conference on Control and Automation, Publicity Chair of 2003 IEEE Conference on Decision and Control, Program Co-Chair of 2005 Chinese Control Conference, General Co-chair of 2007 International Conference on Control and Automation, Vice Program Chair of IEEE Conference on Decision and Control, and Program Chair of 2010 World Congress of Intelligent Control and Automation, and General Co-

chair of The 12th International Conference on Control, Automation, Robotics and Vision, December 2012.

Publications

1**. Books**

1. Zhiyong Chen and Jie Huang, Stabilization and Regulation of Nonlinear Systems: A Robust and Adaptive Approach, Springer, 2015.
2. M. Abu-Khalaf, J. Huang, and F. Lewis, Nonlinear H2/H-infinity Constrained Feedback Control, A Practical Design Approach Using Neural Networks, Springer, 2006.
3. J. Huang, Nonlinear Output Regulation: Theory and Applications, Philadelphia, USA, SIAM, 2004.
   For contents and an up-to-date errata list, see
   http://www.mae.cuhk.edu.hk/~jhuang/OutputRegulation.

2. Selected Journal papers

1. T. Liu and J. Huang, “Cooperative output regulation for a class of nonlinear multi-agent systems with unknown control directions subject to switching networks," IEEE Transactions on Automatic Control, March 2018, to appear.
2. Y. Yan and J. Huang, “Cooperative robust output regulation problem for discrete-time linear time-delay multi-agent systems," International Journal of Robust and Nonlinear Control, accepted
3. W. Liu and J. Huang, “Event-triggered cooperative robust practical output regulation for a class of linear multi-agent systems,” Automatica, accepted.
4. W. Liu and J. Huang, “Event-triggered global robust output regulation for a class of nonlinear Systems,” IEEE Transactions on Automatic Control, accepted.
5. T. Liu and J. Huang, “A discrete-time recurrent neural network for solving rank-deficient matrix equations with an application to output regulation of linear systems,” IEEE Transactions on Neural Networks and Learning Systems, accepted.
6. W. Liu and J. Huang, “Robust practical output regulation for a class of uncertain linear minimum-phase systems by output-based event-triggered control,” International Journal of Robust and Nonlinear Control, accepted.
7. W. Liu and J. Huang, “Cooperative global robust output regulation for nonlinear output feedback multi-agent systems under directed switching networks,” IEEE Transactions on Automatic Control, accepted
8. Y. Dong and J. Huang, “Leader-following consensus with connectivity preservation of uncertain Euler-lagrange multi-agent systems,” International Journal of Robust and Nonlinear Control, accepted.
9. W. Liu and J. Huang, “Cooperative adaptive output regulation for second-order nonlinear multi-agent systems with jointly connected switching networks,” IEEE Transactions on Neural Networks and Learning Systems,” accepted.
10. H. Cai and J. Huang, “Leader-following attitude consensus of multiple uncertain spacecraft systems subject to external disturbance,” International Journal of Robust and Nonlinear Control, accepted.
11. J. Huang, “Leader-following consensus for a class of discrete-time multi-agent systems under directed switching networks,’’ IEEE Transactions on Automatic Control, Vol. 62, No. 8, pp. 4086-4092, Aug. 2017.

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13. Y. Dong and J. Huang, “The leader-following rendezvous with connectivity preservation via a self-tuning adaptive distributed observer,” International Journal of Control, Vol. 90, No. 7, pp. 1518-1527, 2017.
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17. Y. Yan and J. Huang, “Robust output regulation problem for discrete-time linear systems with both input and communication delays,” Journal of Systems Science and Complexity, Vol. 30, 2017, pp. 68-85, invited.
18. J. Huang, “Adaptive distributed observer and the cooperative control of multi-agent systems,” Journal of Control and Decision, vol. 4, no. 1, pp. 1-11, 2017, invited.
19. W. Liu and J. Huang, “Cooperative output regulation for a class of nonlinear multi-agent systems with arbitrarily large uncertainty (in Chinese)," Scientia China Mathematics, Nov. 2016, pp. 1473-1486, invited.
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Research Projects and Grants

1. Principal Investigator, “Numerical approach to computing nonlinear H-infinity control laws." $150,000 from the CUHK direct grant.
2. Principal Investigator, “Robust control of nonminimum phase nonlinear systems," $416,000 from Hong Kong Research Grants Council, RGC Ref. No. : CUHK 380/96E.
3. Principal Investigator, “An efficient iterative approach to computing nonlinear H-infinity control laws," $435,600 from Hong Kong Research Grants Council, RGC Ref. No. : CUHK 4115 /97E.
4. Co-Investigator, “Multilayer recurrent neural networks for synthesizing and optimizing robust linear and nonlinear control systems," $435,600, Hong Kong Research Grants Council, 1997.
5. Principal Investigator, “An approximation method for the L2 gain attenuation problem in discrete-time nonlinear systems," $405,000 from Hong Kong Research Grants Council, RGC Ref. No. : CUHK 4168 /98E.
6. Principal Investigator, “Practical output regulation of nonlinear systems," $405,000 from Hong Kong Research Grants Council, RGC Ref. No. : CUHK 4400 /99E.

7. Principal Investigator, “Approximation methods for the discrete nonlinear servomechanism problem," $635,817 from Hong Kong Research Grants Council, RGC Ref. No. : CUHK 4209 /00E.
8. Principal Investigator, “Output regulation in Uncertain Nonlinear Systems," $580,743 from Hong Kong Research Grants Council, RGC Ref. No. : CUHK 4181 /01E.
9. Investigator, “Nonlinear control based on energy," RMB1,070,000, subproject from National-973-plan project ``The Vital Research on Collapse Prevention and Optimal Operation of Modern Power Systems," No. G1998020308.
10. Co-Investigator, “Dynamics and control of train suspension systems with smart dampers," $588,696 from Hong Kong Research Grants Council, RGC Ref. No. : CUHK 4216 /01E
11. Principal Investigator, “A general framework for tackling global robust output regulation problem," $611,404 from Hong Kong Research Grants Council, RGC Ref. No. : CUHK 4316/02E.
12. Principal Investigator, “Global robust output regulation of nonlinear systems by adaptive control," $565,723 from Hong Kong Research Grants Council, RGC Ref. No. : CUHK 4168/03E.
13. Principal Investigator, “Breaking through the bottleneck of the nonlinear robust output regulation problem," RMB220,000, National Natural Science Foundation of China, 2003.
14. Principal Investigator, “Nonlinear internal model and the robust nonlinear servomechanism problem," $506,447 from Hong Kong Research Grants Council, RGC Ref. No. : CUHK 4196/04E.
15. Co-Investigator, “Output regulation of piecewise linear systems," $506,447 from Hong Kong Research Grants Council, RGC Ref. No. : CityU 1201/04E.
16. Principal Investigator, “Small gain theory based robust input-to-state stabilization of nonlinear systems with time-variant uncertainties," $538,836 from Hong Kong Research Grants Council, RGC Ref. No.412305.
17. Principal Investigator, “Theory of input-to-state stability with restrictions for time-varying nonlinear systems and its applications," $356,000 from Hong Kong Research Grants Council, RGC Ref. No. 412006.
18. Principal Investigator, “Adaptive robust control for a class of nonlinear systems and its applications," $895,980 from Hong Kong Research Grants Council, RGC Ref. No. 412007.
19. Principal Investigator, “A class of generalized internal models and its applications," $537,990 from Hong Kong Research Grants Council, RGC Ref. No. 412408.
20. Principal Investigator, “Global robust servomechanism design for nonlinear systems by output feedback control,” HK$793,500 from Hong Kong Research Grants Council, RGC Ref. No. 412609.
21. Principal Investigator, “PE condition, parameter convergence, and stability analysis of a class of nonlinear adaptive control systems,” HK$600,300 from Hong Kong Research Grants Council, RGC Ref. No. 412810.
22. Co-investigator, “The internal model based output regulation problem for complex nonlinear systems with applications,” RMB 200,000 from National Natural Science Foundation of China, Ref. No. 61004010, 2011.01-2013.12
23. Principal Investigator, “Global adaptive robust stabilization for nonlinear systems with integral ISS Inverse dynamics and its applications,” HK$1,153,680 from Hong Kong Research Grants Council, RGC Ref. No. : 412611
24. Principal Investigator, “Cooperated output regulation of multi-agent systems and its applications,” RMB 600,000 from National Natural Science Foundation of China, Ref. No. 61174049, 2012.01-2014.12
25. Principal Investigator, “Global robust output regulation for a class of multi-input multi-output uncertain nonlinear systems with unknown exosystems and its applications,” HK$1,041,000 from Hong Kong Research Grants Council, RGC Ref. No. : 412612, 2013.01-2015.12

26. Principal Investigator, “A framework for cooperative global output regulation of nonlinear uncertain multi-agent systems,” HK$836,450 from Hong Kong Research Grants Council, RGC Ref. No. : 412813, 2014.01-2016.12
27. Principal Investigator, “Leader-following with connectivity preservation of multi-agent systems by distributed observer based approach,” HK$692,894 from Hong Kong Research Grants Council, RGC Ref. No. : 14202814, 2014.10-2017.09
28. Principal Investigator, “Cooperative global stabilization of nonlinear uncertain multi-agent systems by switched feedback control and its applications,” HK$871,044 from Hong Kong Research Grants Council, RGC Ref. No. : 14200515 , 2016.01-2018.12
29. Principal Investigator, “The certainty equivalence principle and the cooperative control of networked systems with its applications,” HK$844,559 from Hong Kong Research Grants Council, RGC Ref. No. : 14219516, 2017.01-2019.12.
30. Main Participant, "Nonlinear control methodology for cyber-physical systems," CNY 2,450,000 from National Natural Science Foundation of China, Ref. No. : 61633007, 01-01-2017 to 31-12-2021.
31. Principal Investigator, “A framework for distributed control of discrete-time multi-agent systems,” HK$875,000 from Hong Kong Research Grants Council, RGC Ref. No. : 14200617, 01-08- 2017 to 31-07-2020.
32. Principal Investigator, “Non-cooperative behavior detection, isolation and repair of land-based multi-agent Systems,” CNY 2,300,000, International Collaborative Research Key Program, National Natural Science Foundation of China, Ref. No. : 61720106011, 01-01-2018 to 31-12-2022