

PDE/ANALYSIS SEMINAR

Topic: Low Gain Feedback: Properties, Design Methods and Applications

Speaker: Prof. Zongli Lin

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University of Virginia

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Venue: Room 371, Geography Building, 3663 Zhongshan Road North, Shanghai
(华东师范大学中山北路校区, 地理楼 371 室)

ABSTRACT OF THE TALK

Low gain feedback refers to certain families of stabilizing state feedback gains that are parameterized in a scalar and go to zero as the scalar decreases to zero. Low gain feedback was initially proposed to achieve semi-global stabilization of linear systems subject to input saturation, and was later found to be effective in dealing with control systems with time delays. It can also be combined with high gain feedback in different ways for solving various control problems. In this talk, we discuss the concept of low gain feedback, its properties, its design methods and its applications.

BIOGRAPHY

Zongli Lin is a professor of Electrical and Computer Engineering at University of Virginia. He received his B.S. degree in mathematics and computer science from Xiamen University, Xiamen, China, in 1983, his Master of Engineering degree in automatic control from Chinese Academy of Space Technology, Beijing, China, in 1989, and his Ph.D. degree in electrical and computer engineering from Washington State University, Pullman, Washington, in 1994. His current research interests include nonlinear control, robust control, and control applications. He was an Associate Editor of the IEEE Transactions on Automatic Control (2001-2003), IEEE/ASME Transactions on Mechatronics (2006-2009) and IEEE Control Systems Magazine (2005-2012). He was an elected member of the Board of Governors of the IEEE Control Systems Society (2008-2010) and has served on the operating committees and program committees of several conferences. He currently chairs the IEEE Control Systems Society Technical Committee on Nonlinear Systems and Control and serves on the editorial boards of several journals and book series, including Automatica, Systems & Control Letters, Science China Information Sciences, and Springer/Birkhauser book series Control Engineering. He is a Fellow of the Institute of Electrical and Electronics Engineers (IEEE), the International Federation of Automatic Control (IFAC) and the American Association for the Advancement of Science (AAAS).