The Center for Control, Dynamical Systems, and Computation
University of California at Santa Barbara
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Presents

Conditional Servo/Integral Action in Nonlinear Control

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Abstract:

Servo and integral action are important tools in feedback control design. They are the only way to achieve robust regulation for a class of references and disturbances that can be generated by an internal model. However, achieving zero steady-state error usually comes at the expense of degrading the transient performance. The conditional servocompensator (or integrator) is a new tool to introduce servo action without compromising the transient behavior. This talk goes over the basic idea and presents some analytical and simulation results.

About the Speaker:

H.K. Khalil received his Ph.D. from the University of Illinois in 1978 under the supervision of Professor Petar Kokotovic. Since 1978, he has been with Michigan State University, where he is currently University Distinguished Professor of Electrical and Computer Engineering. He has published several papers on singular perturbation methods and nonlinear control. He is the author of Nonlinear Systems and coauthor, with P. Kokotovic and J. O'Reilly, of Singular Perturbation Methods in Control: Analysis and Design. He is a Fellow of IEEE, received the 1989 Axelby Outstanding Paper Award of the IEEE Transactions on Automatic Control, the 2000 American Automatic Control Council Ragazzini Education Award, and the 2002 IFAC Control Engineering Textbook Prize. Dr. Khalil served as Associate Editor of the IEEE Transactions on Automatic Control, Automatica, and Neural Networks, and is the Editor of Automatica for nonlinear systems and control. He was the Program Chair of the 1988 ACC and the General Chair of the 1994 ACC.