

Contents

Anti-windup Augmentation for Plasma Vertical Stabilization in the DIII-D Tokamak

Eugenio Schuster, Michael Walker, David Humphreys, Miroslav Krstić 1

Stable and Unstable Systems with Amplitude and Rate Saturation

Peter Hippe 31

An Anti-windup Design for Linear Systems with Imprecise Knowledge of the Actuator Input Output Characteristics

Haijun Fang, Zongli Lin 61

Design and Analysis of Override Control for Exponentially Unstable Systems with Input Saturations

Adolf Hermann Glattfelder, Walter Schaufelberger 91

Anti-windup Compensation using a Decoupling Architecture

Matthew C. Turner, Guido Herrmann, Ian Postlethwaite 121

Anti-Windup Strategy for Systems Subject to Actuator and Sensor Saturations

Sophie Tarbouriech, Isabelle Queinnec, Germain Garcia 173

**Sampled-Data Nonlinear Model Predictive Control
for Constrained Continuous Time Systems**

Rolf Findeisen, Tobias Raff, and Frank Allgöwer 207

Explicit Model Predictive Control

Urban Maeder, Raphael Cagienard, Manfred Morari 237

Constrained Control Using Model Predictive Control

J.M. Maciejowski, P.J. Goulart, E.C. Kerrigan 273

**Risk Adjusted Receding Horizon Control of Constrained Linear
Parameter Varying Systems**

M. Sznaier, C. M. Lagoa, X. Li, A. A. Stoorvogel 293

**Case Studies on the Control of Input-Constrained Linear Plants Via
Output Feedback Containing an Internal Deadzone Loop**

Dan Dai, Tingshu Hu, Andrew R. Teel, Luca Zaccarian 313

Set Based Control Synthesis for State and Velocity Constrained Systems

Franco Blanchini, Stefano Miani, Carlo Savorgnan 341

**Output Feedback for Discrete-Time Systems with Amplitude and Rate
Constrained Actuators**

J.M. Gomes da Silva Jr., D. Limon, T. Alamo, E.F. Camacho 369

**Decentralized Stabilization of Linear Time Invariant Systems Subject
to Actuator Saturation**

Anton A. Stoorvogel, Ali Saberi, Ciprian Deliu, Peddapullaiah Sannuti 397

**On the Stabilization of Linear Discrete-Time Delay Systems Subject
to Input Saturation**

Karim Yakoubi, Yacine Chitour 421

List of Contributors	457
Index	459