

Contents

Part I Delays in Large Scale and Infinite Dimensional Systems

- 1 On the Codimension of the Singularity at the Origin for Networked Delay Systems** 3
Dina-Alina Irofti, Islam Boussaada and Silviu-Iulian Niculescu
- 2 Stability and Stabilization for Continuous-Time Difference Equations with Distributed Delay** 17
Michael Di Loreto, Sérine Damak and Sabine Mondié
- 3 Model Reduction for Norm Approximation: An Application to Large-Scale Time-Delay Systems.** 37
Igor Pontes Duff, Pierre Vuillemin, Charles Poussot-Vassal, Corentin Briat and Cédric Seren

Part II Control Systems Under Asynchronous Sampling

- 4 General Formula for Event-Based Stabilization of Nonlinear Systems with Delays in the State.** 59
Sylvain Durand, Nicolas Marchand and J. Fermi Guerrero-Castellanos
- 5 Analysis of Bilinear Systems with Sampled-Data State Feedback** 79
Hassan Omran, Laurentiu Hetel, Jean-Pierre Richard and Françoise Lamnabhi-Lagarigue
- 6 On the Stability Analysis of Sampled-Data Systems with Delays** 97
Alexandre Seuret and Corentin Briat
- 7 Output Feedback Event-Triggered Control** 113
Mahmoud Abdelrahim, Romain Postoyan, Jamal Daafouz and Dragan Nešić

Part III Time-Delay Approaches in Networked Control Systems

8 Stabilization by Quantized Delayed State Feedback 135
Francesco Ferrante, Frédéric Gouaisbaut and Sophie Tarbouriech

9 Discrete-Time Networked Control Under Scheduling Protocols . . . 151
Kun Liu, Emilia Fridman and Karl Henrik Johansson

**10 Stabilization of Networked Control Systems
with Hyper-Sampling Periods** 167
Xu-Guang Li, Arben Çela and Silviu-Iulian Niculescu

Part IV Cooperative Control

11 Optimal Control Strategies for Load Carrying Drones 183
Alicia Arce Rubio, Alexandre Seuret, Yassine Ariba
and Alessio Mannisi

**12 Delays in Distributed Estimation and Control over
Communication Networks** 199
Pablo Millán, Luis Orihuela and Isabel Jurado

**13 Design and Analysis of Reset Strategy for Consensus in Networks
with Cluster Pattern.** 217
Marcos Cesar Bragagnolo, Irinel-Constantin Morărescu,
Jamal Daafouz and Pierre Riedinger

**14 Synthesis of Distributed Control Laws for Multi-agent Systems
Using Delayed Relative Information with LQR Performance** 233
Paresh Deshpande, Prathyush P. Menon and Christopher Edwards

**15 Topology Preservation for Multi-agent Networks:
Design and Implementation** 253
Irinel-Constantin Morărescu and Mirko Fiacchini

Index 271

Delays and Networked Control Systems

Seuret, A.; Hetel, L.; Daafouz, J.; Johansson, K.H. (Eds.)

2016, XIII, 272 p. 46 illus., 36 illus. in color., Hardcover

ISBN: 978-3-319-32371-8