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network model and problem statement

5.3. Self-triggered gossiping control of flow networks5.4. Practical load balancing; 5.5. Load balancing with delayed actuation and skewed clocks; 5.6. Asymptotical load balancing; 5.7. Conclusions; 5.8. Acknowledgments; 5.9. Bibliography; Chapter 6. Control of Hybrid Systems: An Overviewof Recent Advances; 6.1. Introduction; 6.2. Preliminaries; 6.3. Stabilization of hybrid systems; 6.4. Static state feedback stabilizers; 6.5. Passivity-based control; 6.6. Tracking control; 6.7. Conclusions; 6.8. Acknowledgments; 6.9. Bibliography Chapter 7. Exponential Stability for Hybrid Systemswith Saturations7.1. Introduction; 7.2. Problem statement; 7.3. Set theory and invariance for nonlinear systems:brief overview; 7.4. Quadratic stability for saturated hybrid systems; 7.5. Computational issues; 7.6. Numerical examples; 7.7. Conclusions; 7.8. Bibliography; Chapter 8. Reference Mirroring for Control with Impacts; 8.1. Introduction; 8.2. Hammering a surface; 8.3. Global tracking of a Newton's cradle; 8.4. Global tracking in planar triangles; 8.5. Global state estimation on n-dimensional convex polyhedra 8.6. Proof of the main theorems8.7. Conclusions; 8.8. Acknowledgments; 8.9. Bibliography; List of Authors; Index

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## Sommario/riassunto

Control theory is the main subject of this title, in particular analysis and control design for hybrid dynamic systems.The notion of hybrid systems offers a strong theoretical and unified framework to cope with the modeling, analysis and control design of systems where both continuous and discrete dynamics interact. The theory of hybrid systems has been the subject of intensive research over the last decade and a large number of diverse and challenging problems have been investigated. Nevertheless, many important mathematical problems remain open.This book is dedicated mainly to

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