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Titolo	Analysis and Synthesis of Nonlinear Control Systems : A Convex Optimisation Approach / / by Miguel Bernal, Antonio Sala, Zsófia Lendek, Thierry Marie Guerra
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Nota di contenuto	Introduction -- Problems to be Solved and Scope of the Book -- Modeling via Convex Structures -- Stability Analysis -- State Feedback -- Performance, Robustness, Observation, and Output Feedback -- Conclusions and Perspectives.
Sommario/riassunto	This book presents a modern perspective on the modelling, analysis, and synthesis ideas behind convex-optimisation-based control of nonlinear systems: it embeds them in models with convex structures. Analysis and Synthesis of Nonlinear Control Systems begins with an introduction to the topic and a discussion of the problems to be solved. It then explores modelling via convex structures, including quasi-linear

parameter-varying, Takagi–Sugeno models, and linear fractional transformation structures. The authors cover stability analysis, addressing Lyapunov functions and the stability of polynomial models, as well as the performance and robustness of the models. With detailed examples, simulations, and programming code, this book will be useful to instructors, researchers, and graduate students interested in nonlinear control systems.