



# automatica

A Journal of **IFAC** the International  
Federation of Automatic Control

Volume 37 Number 2

February 2001

## CONTENTS

### EDITORIAL

- H. Kwakernaak 163 **Reviewers' commendations**

### REGULAR PAPERS

- G. Tao, X. Ma and Y. Ling 165 **Optimal and nonlinear decoupling control of systems with sandwiched backlash**
- E. Bølviken, P. J. Acklam, N. Christophersen and J.-M. Størdal 177 **Monte Carlo filters for non-linear state estimation**
- I. Zaballa 185 **Feedback invariants of restrictions — a polynomial approach**
- F. Z. Chaoui, F. Giri and M. M'Saad 197 **Adaptive control of input-constrained type-1 plants stabilization and tracking**
- C. Du, L. Xie and C. Zhang 205  **$H_\infty$  control and robust stabilization of two-dimensional systems in Roesser models**
- D. Filipović and D. Schröder 213 **Control of vibrations in multi-mass systems with locally controlled absorbers**
- F. Wu and K. M. Grigoriadis 221 **LPV Systems with parameter-varying time delays: analysis and control**
- B. Del-Muro-Cuéllar and M. Malabre 231 **Fixed poles of disturbance rejection by dynamic measurement feedback: a geometric approach**
- B. Chen and J. K. Tugnait 239 **Tracking of multiple maneuvering targets in clutter using IMM/JPDA filtering and fixed-lag smoothing**
- D. Dimogianopoulos and R. Lozano 251 **Adaptive control for linear slowly time-varying systems using direct least-squares estimation**
- P. V. Zhivoglyadov, R. H. Middleton and M. Fu 257 **Further results on localization-based switching adaptive control**
- M. Arcak, A. Teel and P. Kokotović 265 **Robust nonlinear control of feedforward systems with unmodeled dynamics**

*Continued on outside back cover*



**Pergamon**

Continued from outside front cover

- |  |     |   |
|--|-----|---|
| B. L. Cooley and J. H. Lee                         | 273 | Control-relevant experiment design for multivariable systems described by expansions in orthonormal bases |
| M. Sun and D. Wang                                 | 283 | Sampled-data iterative learning control for nonlinear systems with arbitrary relative degree              |
| <b>TECHNICAL COMMUNIQUE</b>                        |     |   |
| C. Hwang and S.-F. Yang                            | 291 | The use of Routh array for testing the Hurwitz property of a segment of polynomials                       |
| J.-F. Camart, M. Malabre and J.-C. Martínez-García | 297 | Fixed poles of simultaneous disturbance rejection and decoupling: a geometric approach                    |
| A. V. Savkin and A. S. Matveev                     | 303 | A switched server system of order $n$ with all its trajectories converging to $(n - 1)!$ limit cycles     |
| Y. S. Moon, P. Park and W. H. Kwon                 | 307 | Robust stabilization of uncertain input-delayed systems using reduction method                            |
| W. Xing, Q. Zhang, J. Zhang and Q. Wang            | 313 | Some geometric properties of Lyapunov equation and LTI system   |
| <b>BOOK REVIEWS</b>                                |     |   |
| J. Smieja  | 317 | Advanced modern control system theory and design by S. M. Shinnars  |
| B. Bona  | 319 | Fuzzy controllers by L. Reznik  |
| P. A. Iglesias                                     | 321 | Algorithms for linear quadratic optimization by V. Sima   |
| X. Chen  | 322 | Control of uncertain sampled-data systems by G. E. Dullerud   |

INDEXED/ABSTRACTED IN: *Appl. Mech. Rev.*, *Curr. Cont. ASCA*, *Aqua. Abstr.*, *Cam. Sci. Abstr.*, *Curr. Cont. CompuMath.*, *Curr. Cont./Eng. Tech. & Applied Sci.*, *Comput. Cont.*, *Eng. Ind.*, *INSPEC Data.*, *Info. Sci. Abstr.*, *Math. R.*, *Oper. Res. Manage. Sci.*, *PASCAL-CNRS Data.*, *Curr. Cont. Sci. Cit. Ind.*, *Curr. Cont. SCISEARCH Data.*, *SSSA/CISA/ECA/ISMEC*, *Zentralblatt für Mathematik*

**CONTENTS**  
**Direct**

This journal is part of **ContentsDirect**, the *free* alerting service which sends tables of contents by e-mail for Elsevier Science books and journals. You can register for **ContentsDirect** online at: [www.elsevier.nl/locate/contentsdirect](http://www.elsevier.nl/locate/contentsdirect)



0005-1098(200102)37:2;1-5

ISSN 0005-1098



**Pergamon**