



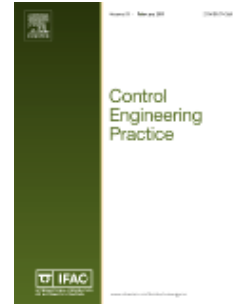
CONTROL ENGINEERING PRACTICE

A Journal of IFAC, the International Federation of Automatic Control

AUTHOR INFORMATION PACK

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DESCRIPTION

Control Engineering Practice strives to meet the needs of industrial practitioners and industrially related academics and researchers. It publishes papers which illustrate the direct application of **control theory** and its supporting tools in all possible areas of **automation**. As a result, the journal only contains papers which can be considered to have made significant contributions to the application of advanced **control techniques**. It is normally expected that practical results should be included, but where simulation only studies are available, it is necessary to demonstrate that the simulation model is representative of a genuine application. Strictly theoretical papers will find a more appropriate home in *Control Engineering Practice's* sister publication, *Automatica*. It is also expected that papers are innovative with respect to the state of the art and are sufficiently detailed for a reader to be able to duplicate the main results of the paper (supplementary material, including datasets, tables, code and any relevant interactive material can be made available and downloaded from the website). The benefits of the presented methods must be made very clear and the new techniques must be compared and contrasted with results obtained using existing methods. Moreover, a thorough analysis of failures that may happen in the design process and implementation can also be part of the paper.

The scope of Control Engineering Practice matches the activities of IFAC.

Papers demonstrating the contribution of automation and control in **improving the performance, quality, productivity, sustainability, resource and energy efficiency**, and the **manageability** of systems and processes for the benefit of mankind and are relevant to **industrial practitioners** are most welcome.

Fields of applications in control and automation:

- Automotive Systems
- Aerospace Applications
- Marine Systems
- Intelligent Transportation Systems and Traffic Control
- Autonomous Vehicles
- Robotics
- Human Machine Systems
- Mechatronic Systems
- Scientific Instrumentation
- Micro- and Nanosystems
- Fluid Power Systems
- Gas Turbines and Fluid Machinery
- Machine Tools
- Manufacturing Technology and Production Engineering
- Logistics
- Power Electronics
- Electrical Drives
- Internet of Things
- Communication Systems
- Power and Energy Systems
- Biomedical Engineering and Medical Applications
- Biosystems and Bioprocesses
- Biotechnology
- Chemical Engineering
- Pulp and Paper Processing
- Mining, Mineral and Metal Processing
- Water/Gas/Oil Reticulation Systems
- Environmental Engineering
- Agricultural Systems
- Food Engineering
- Other Emerging Control Applications

Applicable methods, theories and technologies:

•Modeling, Simulation and Experimental Model Validation •System Identification and Parameter Estimation •Observer Design and State Estimation •Soft Sensing •Sensor Fusion •Optimization •Adaptive and Robust Control •Learning Control •Nonlinear Control •Control of Distributed-Parameter Systems •Model-based Control Techniques •Optimal Control and Model Predictive Control •Controller Tuning •PID Control •Feedforward Control and Trajectory Planning •Networked Control •Stochastic Systems •Fault Detection and Isolation •Diagnosis and Supervision •Actuator and Sensor Design •Measurement Technology in Control •Software Engineering Techniques •Real-time and Distributed Computing •Intelligent Components and Instruments •Architectures and Algorithms for Control •Real-time Algorithms •Computer-aided Systems Analysis and Design •Implementation of Automation Systems •Machine Learning •Artificial Intelligence Techniques •Discrete Event and Hybrid Systems •Production Planning and Scheduling •Automation •Data Mining •Data Analytic •Performance Monitoring •Experimental Design •Other Emerging Control Theories and Related Technologies

AUDIENCE

Automation and Control Engineers, Electronic and Electrical Engineers.

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INTRODUCTION

Control Engineering Practice strives to meet the needs of industrial practitioners and industrially related academics and researchers. It publishes papers which illustrate the direct application of control theory and its supporting tools in all possible areas of automation. As a result, the journal only contains papers which can be considered to have made significant contributions to the application of control techniques. It is normally expected that practical results should be included, but where simulation only studies are available, it is necessary to demonstrate that the simulation model is representative of a genuine industrial application. Strictly theoretical papers will find a more appropriate home in *Control Engineering Practice's* sister publication, *Automatica*. *Control Engineering Practice* papers will tend to be shorter, and relevant to industrial readers.

In addition to purely technical applications papers the journal carries papers on topics linked to the application of automation, including social effects, cultural aspects, project planning and system design, and economic and management issues.

The scope of *Control Engineering Practice* matches the activities of IFAC:

• Aerospace • Marine systems • Communication systems • Biomedical engineering • Pulp and paper processing • Environmental engineering • Scientific instrumentation • Transportation and vehicles • Power generation and other utilities • Mining, mineral and metal processing • Chemical and biotechnical process control • Manufacturing technology and production engineering

The journal covers all applicable technologies:

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- Identification
- Signal processing
- Project management
- Autonomous vehicles
- Powertrains
- Computer networking
- Modelling and simulation
- Human-computer systems
- Components and instruments
- Adaptive and robust control
- Electromechanical components
- Model-based control techniques • Fault detection and diagnostics
- Software engineering techniques
- Hydraulic and pneumatic components
- Real-time and distributed computing
- Intelligent components and instruments
- Architectures and algorithms for control
- Computer-aided systems analysis and design
- Software design, verification, safety, etc.
- Artificial intelligence techniques, including fuzzy control neural networks and genetic algorithms.

Types of Paper

Original research papers that illustrate the direct application of control theory and its supporting tools in all possible areas of automation. As a result, the journal only contains papers that can be considered to have made significant contributions to the application of control techniques. It is normally expected that practical results should be included, but where simulation only studies

are available, it is necessary to demonstrate that the simulation model is representative of a genuine industrial application. Strictly theoretical papers will find a more appropriate home in *Control Engineering Practice's* sister publication *Automatica*. *Control Engineering Practice* papers will tend to be shorter, and relevant to industrial readers. In addition to purely technical applications papers the journal carries papers on topics linked to the application of automation, including social effects, cultural aspects, project planning and system design, and economic and management issues.

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Electronic artwork

General points

- Make sure you use uniform lettering and sizing of your original artwork.
- Preferred fonts: Arial (or Helvetica), Times New Roman (or Times), Symbol, Courier.
- Number the illustrations according to their sequence in the text.
- Use a logical naming convention for your artwork files.
- Indicate per figure if it is a single, 1.5 or 2-column fitting image.
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