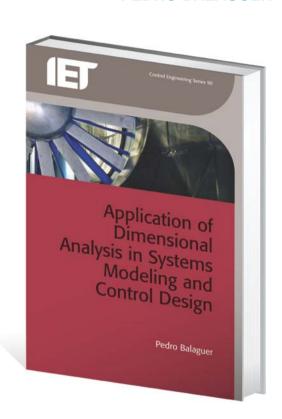# APPLICATION OF DIMENSIONAL ANALYSIS IN SYSTEMS MODELING AND CONTROL DESIGN

PEDRO BALAGUER

Providing an introduction to the fundamentals of dimensional analysis for control engineers, this book shows how they can exploit the benefits of the technique to theoretical and practical control problems.

- Aims to solve control problems such as identification and model reduction, robust control, adaptive control and PID control.
- Includes examples of practical applicability to industrial control problems.
- Topics include: dimensional analysis and dimensional similarity, dynamical systems dimensionless representation, dimensionless systems identification and model order reduction.
- Homogeneity of PID tuning rules, dimensionless PID tuning rules comparison, dimensional analysis control fundamentals and control of dimensionally similar systems are also covered.

READERSHIP

An essential introduction to the fundamentals of dimensional analysis for control engineers and theorists in fields as diverse as mechanical, chemical, electrical and electronic engineering.

AUTHOR INFORMATION

Pedro Balaguer is a lecturer at the Department of Industrial Systems Engineering and Design at Universitat Jaume I de Castelló, Spain. His research interests include the application of dimensional analysis to control problems, PID control, supervision of iterative and adaptive control systems, and energy cost and energy consumption optimization.

www.theiet.org/books-systemsmodel

To place an order or to request further information, contact Alex Fox, IET Books Sales Manager

T: 01438 7677655
E: AFox@theiet.org