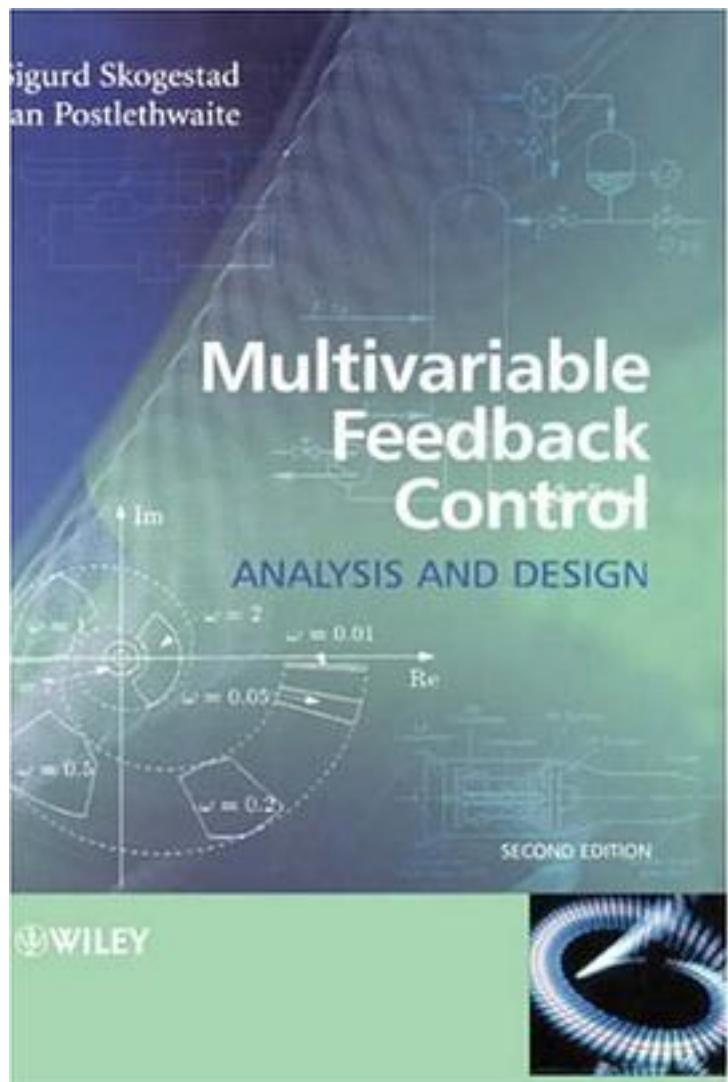


Multivariable Feedback Control



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Multivariable Feedback Control: Analysis and Design, Second Edition presents a rigorous, yet easily readable, introduction to the analysis and design of robust multivariable control systems. Focusing on practical feedback control and not on system theory in general, this book provides the reader with insights into the opportunities and limitations of feedback control.

Taking into account the latest developments in the field, this fully revised and updated second edition: * features a new chapter devoted to the use of linear matrix inequalities (LMIs);

* presents current results on fundamental performance limitations introduced by RHP-poles and RHP-zeros;

* introduces updated material on the selection of controlled variables and self-optimizing control;

* provides simple IMC tuning rules for PID control;

* covers additional material including unstable plants, the feedback amplifier, the lower gain margin and a clear strategy for incorporating integral action into LQG control;

* includes numerous worked examples, exercises and case studies, which make frequent use of Matlab and the new Robust Control toolbox.

Multivariable Feedback Control: Analysis and Design, Second Edition is an excellent resource for advanced undergraduate and graduate courses studying multivariable control. It is also an invaluable tool for engineers who want to understand multivariable control, its limitations, and how it can be applied in practice. The analysis techniques and the material on control structure design should prove very useful in the new emerging area of systems biology.

Reviews of the first edition:

"Being rich in insights and practical tips on controller design, the book should also prove to be very beneficial to industrial control engineers, both as a reference book and as an educational tool." Applied Mechanics Reviews

"In summary, this book can be strongly recommended not only as a basic text in multivariable control techniques for graduate and undergraduate students, but also as a valuable source of information for control engineers." International Journal of Adaptive Control and Signal Processing

作者介绍:

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标签

评论

利用大量例子解释概念如鲁棒稳定性、 μ / H_2 / H_{∞} 控制器的调试方法。对例子的现象分析、问题的注解等很有实际参考意义，适合工程师使用。

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书评

这边书非常经典，但确实不容易轻易的理解，适合研究生或做研究的参考书。其实我本人不是控制的科班出身，但读研的时候搞控制，不得不一点点的看，不懂的再参考其他的书看。

就自动控制本身，不知道是否是从系统理论本身开始学习是否更好，但总是不想看里面的繁杂的理论和公式...

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