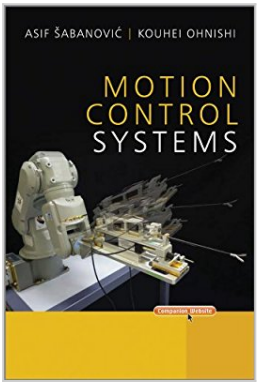

Motion Control Systems

By Asif Sabanovic, Kouhei Ohnishi

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Motion Control Systems is concerned with design methods that support the never-ending requirements for faster and more accurate control of mechanical motion. The book presents material that is fundamental, yet at the same time discusses the solution of complex problems in motion control systems. Methods presented in the book are based on the authors' original research results. Mathematical complexities are kept to a required minimum so that practicing engineers as well as students with a limited background in control may use the book. It is unique in presenting know-how accumulated through work on very diverse problems into a comprehensive unified approach suitable for application in high demanding, high-tech products. Major issues covered include motion control ranging from simple trajectory tracking and force control, to topics related to haptics, bilateral control with and without delay in measurement and control channels, as well as control of nonredundant and redundant multibody systems.

- Provides a consistent unified theoretical framework for motion control design
- Offers graduated increase in complexity and reinforcement throughout the book
- Gives detailed explanation of underlying similarities and specifics in motion control
- Unified treatment of single degree-of-freedom and multibody systems
- Explains the fundamentals through implementation examples
- Based on classroom-tested materials and the authors' original research work
- Written by the leading researchers in sliding mode control (SMC) and disturbance observer (DOB)
- Accompanying lecture notes for instructors
- Simulink and MATLAB® codes available for readers to download

*Motion Control Systems*is an ideal textbook for a course on motion control or as a reference for post-graduates and researchers in robotics and mechatronics. Researchers and practicing engineers will also find the techniques helpful in designing mechanical motion systems.

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Editorial Review

From the Back Cover
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Asif Šabanovic is a Professor of Engineering and Natural Sciences at Sabanci University. Previously he has been with University of Sarajevo, Caltech, Keio University and Yamaguchi University. He was also Head of CAD/CAM and Robotics Department at Tubitak - MAM, Turkey. Šabanovic has received Best Paper Awards from the IEEE, and his major fields of interest include power electronics, sliding mode control, motion control and mechatronics. He received a BS, MS, and PhD in Electrical Engineering from the University of Sarajevo, Bosnia and Herzegovina.

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