



METADATA

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Abstract

This textbook is intended as a reference for courses covering the subject of automatic control of hydraulic and pneumatic systems, at both undergraduate and postgraduate level. This textbook can be used by engineers and researchers in the field of Automatic Control Systems. With this textbook, the reader acquires the necessary knowledge for the application of advanced automatic control techniques in hydraulic and pneumatic systems. The growing demand for the installation of hydraulic and pneumatic automation systems in industry makes it necessary to have an in-depth understanding of the operation of hydraulic and pneumatic energy systems. In addition, the textbook

contributes to the acquisition of the knowledge required for the design of integrated Automatic Control Systems, including hydraulic and pneumatic systems. The problem of designing control algorithms for hydraulic and pneumatic actuators has a significant impact on the performance of robots, aircraft, trains, ships, and cars. The textbook begins with a presentation of the mathematical models and system properties of hydraulic and pneumatic actuators and continues with a presentation of basic automatic control design tools for hydraulic and pneumatic systems. The course concludes with a presentation of basic simulation tools and automatic control concepts.

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