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Sommario/riassunto

Modelling and Precision Control of Systems with Hysteresis covers the piezoelectric and other smart materials that are increasingly employed as actuators in precision engineering, from scanning probe microscopes (SPMs) in life science and nano-manufacturing, to precision active optics in astronomy, including space laser communication, space imaging cameras, and the micro-electro-mechanical systems (MEMS). As smart materials are known for having hysteretic dynamics, it is necessary to overcome issues with a broadband range of frequencies. This book offers both the mathematical tools for modeling the systems and applications, including complete case studies and source code for the experiments to help both academics and researchers in the industry to achieve precision in the control of Smart Actuator systems.