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Product Name :
Fuzzy Control Ball On Beam

Product Code :
LBNY-0005-1090007



Description :

Fuzzy methods are particularly suitable for systems that mathematics cannot describe adequately or easily. Fuzzy algorithms can offer major advantages, as the control strategy is developed not on the basis of exact mathematical modelling, but on a linguistic description of the process. This experimental unit forms part of a series of teaching systems developed in collaboration with the Department of Automation and Information Technology at the Harz University of Applied Studies and Research. Additional input variables and the rule base can be easily added. The control strategy can be optimised at a later date. A joystick can be used to control the system manually. This allows the degree of difficulty of the control process to be estimated very accurately. The control algorithms are initially written in the user-friendly development software FSH-Shell and then compiled to generate microcontroller code.

Technical Specification :

Introduction to fuzzy control and microcontroller technology
Servo motor for beam drive as actuator
FSH-Shell development software for design and optimisation of the fuzzy controller
Ball-beam as mechanical single-variable system, SISO (Single Input - Single Output)
Switchable between fuzzy and manual mode
Part of the structured teaching concept: level 1 - basics
Resistive measuring system with film potentiometer as ball position sensor
Potentiometer as beam inclination sensor.



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