

Fuzzy Controller Structures for Servo Systems

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Abstract:

Aspects concerning the tuning of two-degree-of-freedom (2-DOF) fuzzy controllers focused on 2-DOF PI-fuzzy controllers and 2-DOF PID-fuzzy controllers are discussed. 2-DOF Mamdani and Takagi-Sugeno fuzzy control system structures are outlined. The tuning is based on mapping the parameters of linear PI and PID controllers to the parameters of fuzzy controllers in terms of the modal equivalence principle. The successful cooperation with Óbuda University, Budapest, Hungary, is highlighted.