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Chapter

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Classical and Fuzzy Approaches to 2-DOF Control Solutions for BLDC-m Drives

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Abstract

This chapter gives two-degree-of-freedom (2-DOF) speed control solutions for brushless Direct Current motor (BLDC-m) drives with focus on design methodologies. A classical 2-DOF structure, 2-DOF proportional-integral (PI) and proportional-integral-derivative (PID) structures and 2-DOF fuzzy control solutions are presented and approaches regarding the methods are highlighted. A case study concerning a BLDC-m drive with variable moment of inertia is presented. Comparative studies based on digital simulation results are included to exemplify the design methods.

Keywords

Speed control 2-DOF control brushless direct current motor PID control

Support

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