

Fuzzy logic controller for Dc-Dc buck converter with constant power load

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Description

Load converter is the second stage of multiconverter electronic power system. Under tight control, the converter acts as constant power load (CPL). The CPL has innate incremental negative resistance properties (INR). The INR influence the power quality of system. In this paper, the proposed fuzzy logic controller aims to regulate the voltage of dc-dc buck converter which is feeding the CPL and the resistive load. The fuzzy logic controller is design to ensure the stabilization of buck converter under change the constant power load and tight voltage regulation after transient response by choosing the proper duty cycle for each cycle. The fuzzy logic controller is validated by simulation in MATLABSimulink.