COMPARISON OF DIFFERENT CONTROLLER STRATEGIES FOR DC-DC BUCK CONVERTER

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Abstract

The focus of this paper is the implementation of sliding mode control for switch mode power supply. A brief analysis of different controller schemes are studied. A detail simulation using Matlab is carried out to study the dynamic response of the DC-DC buck converter controlled by different control schemes. For each control scheme output voltage and inductor current variations studied for the following two cases. i) Line Variation ii) Load Variation. The three controllers are i) SMC-PI control ii) Current mode control and iii) SMC voltage mode control, among three controllers, SMVC gives the better results than the other two.