Nonlinear Dynamics and Systems Theory, **10** (3) (2010) 211–224

A New Interconnected Observer Design in Power Converter: Theory and Experimentation

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Received: March 13, 2009; Revised: July 8, 2010

Abstract: This paper deals with an observer design for a P-Cell Chopper. The goal is to reduce drastically the number of sensors in such system by using an observer in order to estimate all the capacitor voltages. Furthermore, considering an instantaneous model of a p-cell chopper, an interconnected observer is designed in order to estimate the capacitor voltages. This is realized by using only the load current measurement. Simulation results are given in order to illustrate the performance of such observer. To show the validity of our approach, experiments based an DSP results are presented.

Keywords: *p-cell chopper; observer design; interconnected observer.*

Mathematics Subject Classification (2000): 93C10, 93A15, 93C95.