INTERSPERSED RESONANT SWITCHING BOOST CONVERTER FOR PV POWER GENERATION SYSTEMS

M. Vishnu Vardhan Reddy¹ and R. Essaki Raj²
¹Dept of EEE, Rajalakshmi Engineering College, Chennai, India
vsuspecial@gmail.com², essakiraj.r@rajalakshmi.edu.in

Abstract—An interspersed resonant switching boost converter for a Photo-Voltaic (PV) power generation system is proposed in this paper. This topology uses the interleaved method, which gives a highly reliable DC-DC boost converter to increase the overall efficiency of PV power conditioning system (PVPCS). The optimal design of the resonant components and the interleaved method is applied for resonant current reduction. These both will provide the control of voltage across the switch. Since the interspersed method distributes the input current according to each phase, it can decrease the current rating of the switching device. This soft-switching interspersed boost converter can not only exploit the interspersed converter but also reduce switching losses through the soft-switching technique. Therefore, the output voltage of the PV array can be boosted.