CHOPPER DESIGN AND DEVELOPMENT AS A LEARNING MEDIA FOR POWER ELECTRONICS PRACTICES

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ABSTRACT

Chopper is a device that functions to convert a fixed DC voltage into a variable DC voltage. Chopper voltage can be greater or smaller than the input. To find out the working principle, a practicum module of buck (voltage lowering), boost (voltage increase) and buck bost converter (voltage lowering and increasing) is made. With the making of this practicum tool is expected to help the implementation of power electronics practicum. The chopper made in this study is a buck boost converter trainer kit using an irf740a mosfet which functions as a switch that regulates on and off in this system, the mosfet will receive 12 vdc input from the power supply. Capacitor as a filter and source when the circuit is open and uses a load in the form of a lamp as an indicator. Testing the voltage on the buck bost converter with an input of 11.9 and a set voltage of 6 with a load of 47Ω can produce a Vout of 5.43v. The average difference in output voltage between Vavg (on an oscilloscope) and Vout (on a multi meter) in a buck converter circuit is 0.035%.

Keywords: Chopper, Buck Boost Converter, BJT, IGBT, Mosfet