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Title:	Influence of elemental parameter in the boost and the buck converter		
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Published Conference Name:	2017 IEEE Region 10 Humanitarian Technology Conference (R10-HTC)		
Type of Publication:	Conferences		
Volume:	N/A	Issue	N/A
Publisher:	IEEE		
Publication Date:	12 February 2018		
ISBN:	978-1-5386-2176-9		
DOI:	https://doi.org/10.1109/R10-HTC.2017.8289015		
URL:	https://ieeexplore.ieee.org/abstract/document/8289015		
Other Related Info.:	Page 528-531		



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Abstract:

Nowadays, thanks to the great advances in energy technology, renewable energy has grown and become an indispensable part of the power system. However, the dependence on the natural elements of this form of energy causes the output parameters to become unstable: voltage, power, etc. Therefore, the integration of DC-DC power converters becomes necessary to meet voltage stability and conversion efficiency. This paper investigates the effect of elements in the Boost and Buck DC / DC converters by using Pulse Width Modulation (PWM) control method. The method of calculating the circuit element is given, results indicate the advantages and disadvantages of the circuit when operating with different sets of parameters and the stability of the converter.