Abstract

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Neuro Fuzzy DC-DC Converter

These days, on account of the immense advances in energy technology, sustainable power source has developed and turned into an essential part of the power system. However, the output energy that is collected from the natural surrounding elements is unstable, therefore this paper presents a DC-DC Buck-Boost Converter to control and manage the Energy Harvester output voltage via Neuro-fuzzy controller to provide constant output voltage for various power system applications among them are: self-sustainable Wireless Sensor Node. Based on adaptive Neuro-Fuzzy inference systems (ANFIS), this methodology combines the training talents of artificial neural networks and also the ability of fuzzy logic to handle imprecise knowledge. The execution of the proposed strategy is contrasted with that of a PID-like Fuzzy controller to exhibit its adequacy and it has proven that there is an effective changes regarding settling time almost being zero, overshoot being negligible and steady state voltage. The simulation results are determined by means that of MATLAB/Simulink toolbox.