

[Control of Three-Cell Inverter with a Fuzzy Logic-Feedback Linearization Strategy to Reduce the Harmonic Content of the Output Current](#)

Authors

HAMIDA Mohamed Lamine, DENOUN Hakim, FEKIK Arezki, KAIS Dyhia,
BENAMROUCHE Nacereddine, BABKRANI Youssef

Publication date

2019/7/22

Conference

2019 International Conference of Computer Science and Renewable Energies (ICCSRE)

Pages

1-5

Publisher

IEEE

Description

The series multicellular converter is among the solutions that is currently being used in many applications, e.g.: renewable energy applications, industrial applications and active filters. Because of its unique ability to generate multiple voltage levels, this converter minimizes voltage constraints in all cells. This results in a lower loss of commutations and high switching frequency, which in turn results in a better harmonic content. However, it is necessary to choose a good control to reach all these advantages. To ensure optimum operation of this converter; the capacitor's voltages must be maintained at their operating values. This paper proposes a fuzzy logic -nonlinear feedback linearization control for a three-cell inverter. This control maintains the capacitors voltages and the output current at their optimum. Simulations carried out using Matlab / Simulink software verify the robustness of the control law during load