

## Hybrid Approach for Controlling Inductive Load Fed by a Multicellular Converter by Using the Petri Nets

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**Abstract :** In this paper, hybrid approach is proposed to regulate the voltages of the floating capacitor multicell inverter and the current in the load. This structure makes it possible to ensure the distribution of the voltage stresses on the various low-voltage semiconductor components connected in series. And as the problem and to keep a constant voltage across the capacitors. Thus, it is necessary to ensure a distribution balanced voltages at the terminals of floating capacitors thanks to Algorithm develop for this, using the Petri nets. So we consider a three-cell converter represented as a hybrid system with eight modes of operation. The operating modes of the system are governed by the control reference voltage and a reference current. Finally, we present the results of the simulation with MATLAB/SIMULINK to illustrate the performances of this approach.

**Keywords :** hybrid control, floating condensers, multicellular converter, petri nets

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