

Editorial

Power modulation, in context of its utilization in the varied applications, has been addressed at different levels. The variety of energy resources and their integration have been dealt with from the standpoint of modern developments in technologies. The present issue of *International Journal of Engineering, Science and Technology*, which has covered mainly power electronics applications to motion control, has presented important scientific research. The various areas, with different ideas, have made it possible to understand the importance of these topics. The content of the research findings has relevance for future developments. The main objective of this special issue is to publish original works and results arising from research in the area of application of power electronics to the motion control. The scope of the research in this special issue includes induction motor control, helicopter system, electrical vehicles and fuel cells.

There are nine published technical papers in this special issue. Sixteen papers have been received and seven papers could not be accommodated in this special issue. The paper on multi-phase stator winding design has paved way in the area of multiphase electrical machines future developments. This is a new beginning in the area of energy conversion with many advantages. They may be more reliable and efficient electrical motors, having wide application area from household to aerospace, especially where higher degree of redundancy is required. The power modulators for such electrical drives may be challenged. Two important and useful contributions have been covered dealing with sensorless induction motor drives. The performance of these electrical drives can be assessed by the different controllers and their innovative applications give real thrust in the technological advancement. There are two papers dealing with artificial intelligence techniques and have given important and useful contribution to the special issue. They discussed the more advanced algorithms in control signal generation. The power of soft computing cannot be underestimated and neural network and fuzzy logic have become important scientific contributions which have changed the face of our control system domain. One paper deals with carrier-based pulse width modulation technique for a three-to-five phase matrix converter. Model predictive control of Helicopter system is the subject of one of the papers dealing with very interesting aspect of advanced control system. One paper contributed towards the control of fuel cells. As many new energy sources are getting integrated in the systems, the fuel cells have significant impact in this direction. This paper deals with the most relevant and important issue of the fuel cell power conversion. The application of power electronics has not limited itself to motion control but has also emerged as a device in itself to replace passive components with active components. The dynamic voltage restorer is a unique device based on the power electronics components with its capability addressed in one of the papers.

As editors of this special issue we believe that each of these papers disseminates valuable information and the sum of their contributions to power electronics with innumerable value. It will be remiss if we do not thank the authors for submission of their research works for publication in this journal. The reviewers of all the articles in this special issue provided professional evaluation of the manuscripts in a timely manner and we extend our gratitude to them. Finally, we appreciate the diligence of the Editor of the *International Journal of Engineering, Science and Technology* in helping us to put together this piece of scholarly work.

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