

EPE-PEMC 2010 Conference in Macedonia

Power Electronics and Motion Control are becoming more and more important as the basis for many industrial processes, individual and mass transportation, but also for rational use of the energy as well as environmental requirements directed by climate changes. Due to the new rules published by the EC on the electric energy production, transport, distribution and interconnection, the role of Power Electronics is growing.

It is well known that over 50% of the electric energy production in highly developed countries passes through electronic conversion and conditioning equipment. Advances in energy conversion and conditioning technologies (ECCT), developing and exploiting new power electronic systems, energy conversion devices and system control methods, are all fundamental and crucial to the development of the clean, efficient and sustainable technology in the future. Next to the improved operation of systems, the reduction of energy consumption and the improvement of efficiency are the key factors, helping to achieve the Kyoto requirements and to address basic issues related to the reduction of greenhouse gases and pollutant emissions in industrial processes and

transport, to increase the use of renewable energy sources and to allow their integration in the grid.

Most of the electricity production, based on alternative energy sources undergo conditioning through ECCT equipment before use. ECCT is also a major means to achieve enhanced competitiveness of all industrial processes. Basic ECCT alone constitute a world market estimated at multi-billion Euros value, of which the EU has a 40% share. Significantly ECCT is a core enabling technology providing the central electrical, control, diagnostic and management systems.

EPE-PEMC Conference 2010 (6-8 September) in Ohrid, Republic of Macedonia, is the 14th of conference series in Europe started in 1970 in the field of Power Electronics and Motion Control. Following the previous successful conferences, this time EPE-PEMC 2010 will move to South-East of Europe to narrow the gap not only between the West and the East, but also between the North and the South, and to accelerate the global integration process. "The main goal of both organizations, EPE-PEMC Council and EPE Association, is to promote and coordinate the exchange and the publication of technical, scientific and economic

information in the field of power electronics and motion control. One of the main objectives of cooperation is the integration and unification of Europe in the field of our profession. Therefore in addition to keynotes, oral and dialog presentations according to topics, the conference will be joined by tutorials, special sessions, round tables, exhibitions and technical visits", outlined Co-Chairman Dushan Boroyevich. The special motto "Power Electronics and Motion Control for more efficient world" should contribute to enhance the use of ECCT. The three keynotes are entitled "Power Electronics and control for renewable energy systems", "Power quality challenges for flexible intelligent network operating under high penetration of distributed resources", and "Role of Green Electronics in a Non-Carbonated Society toward 2030".

The EPE - PEMC'2010 in Ohrid is following EPE - PEMC'2008 in Poznan/Poland which brought together about 500 participants from 60 countries, EPE - PEMC'2006 in Portorož/Slovenia with about 500 participants from 45 countries and EPE - PEMC'2004 conference in Riga/Latvia with over 600 professionals from 35 countries.

www.epe-pemc2010.com

ECPE Workshop Advanced Multilevel Converter Systems

The benefits and challenges of advanced multilevel topologies in various applications will be presented and discussed in the ECPE Workshop "Advanced Multilevel Converter Systems", taking place on 28 - 29 September 2010 in Västerås, Sweden.

In recent years, multilevel converters have become standard practice in the field of HVDC grids and Medium Voltage Drives. But lower voltage applications seem to take benefit from the usage of new

multilevel solutions and topologies, as well. The increasing number of levels even allows using low voltage MOSFET devices to reach the goals of energy efficiency and improved performance. The Neutral Point Clamped topology which started this revolution is now one of several solutions, but there are also improvements.

With this mature technology, switching higher voltages and delivering higher power are not the only benefits, which allow

other fields of application. Improved efficiency is a key feature for photovoltaic systems and uninterruptible power supplies, reduced harmonic distortion helps making lighter and more compact onboard systems, increased apparent switching frequency and bandwidth allows suppressing electrolytic capacitors in voltage regulator modules feeding microprocessors. Multilevel topologies have changed the world of power electronics, and this affects every part of the

design of power converters: control and modulation techniques, technological requirements, system-oriented design and reliability issues.

The workshop is chaired by Dr. T. Meynard (University of Toulouse, ENSEEIHT - LAPLACE), Dr. G. Demetriades (ABB Corporate Research Sweden), and J. Koszescha (ECPE). A lab tour at ABB Corporate Research will be offered after the end of the workshop.

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