



“Multilevel inverters- configurations and control for drives and grid connected system”

The Theme: Multilevel inverters are finding increased application in industrial environment with greater demand for high voltage high power processing techniques with improved efficiency. The essential advantage of multilevel inverters is the improvement in the output voltage signal quality using devices of low voltage rating with lesser switching frequency, thereby increasing the overall efficiency of the system. The schemes such as single and 3-phase NPC(neutral point clamped), FC (Flying Capacitor), and cascaded H-bridge(CHB) are well established in medium voltage drives and power system applications such as active filter and reactive power compensators. Increasing the number of levels in a multilevel inverter provides better output voltage profile, but at the cost of larger number of switches and greater complexity in control. Recently, many alternative schemes have been reported in literature to achieve multilevel voltage profile, particularly suitable for induction motor drive applications, by use of conventional 2-level inverters and open-end winding structure for the motor. Many interesting multilevel topologies have also been reported with reduction in the number of active DC link power sources by effective control of the DC link capacitor voltages, along with elimination of common mode voltage variations, without increasing the complexity of the power circuit. The main idea of this special issue is to invite the latest technological developments in this area into a common platform for the benefit of researchers from university and industry, for further discussion and development. Topics of interest of this special section include, but are not limited to:

- New topologies for multilevel inverters for adjustable speed drives
- Multilevel schemes for grid connected utilities such as active filter, STATCOM, FACTS, HVDC etc
- Multilevel rectifiers and applications in regenerative system
- Application of Multilevel inverters at very high power ratings such as cement and mining industries
- New modulation strategies and PWM control algorithms for multilevel inverters
- Control strategies for dc bus voltage control of multilevel inverters
- Common mode voltage variation in multilevel inverters
- Fault tolerant design of multilevel inverter system
- Application of AI in multilevel inverter fed applications Fault tolerant design of multilevel inverter system

Manuscript Preparation and Submission

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Timetable

Deadline for manuscript submissions	March 15,2009
Information about manuscript acceptance	July 2009
Estimated publication date	2009

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