

1. Aim of the international PCIM Conference

The annual international PCIM Conference is the European meeting point for design engineers, scientists and users alike in the field of Power Electronics and applications in Intelligent Motion and Power Quality . The international PCIM Conference for Power Electronics and Intelligent Motion and Power Quality is worldwide one of the leading conferences in this field and will be held in the year 2000 for the 21st time in Europe. PCIM brings together worldwide recognized specialists to present and discuss their latest results and achievements, which are practical oriented, and for a near term use, with the main industrial users out of Europe. Parallel to the conference the international PCIM Exhibition with more than 400 worldwide leading companies, presenting their newest products and services takes place. This combination is an outstanding event and combines technical paper presentations with real, practical demonstrations, product and application discussions.

2. Contributions

The PCIM organizing committee is looking for contributions due to the special conference topics out of industry as well as research and development institutes. Abstracts and summaries should never have been published before. The Copyrights of the final papers will be by the organizer ZM Communications GmbH. The main points – innovative contributions and practical results - of the final paper should be clearly given in abstract and summary for an objective basis for evaluation by the international PCIM Technical Advisory Board. Submit an abstract and a summary of 2 – 3 pages. Send 4 copies indicating author's name, function, company, address, phone, fax and e-mail to the organizer due to the time stated.

Authors selected for the conference will get a confirmation and an author's kit, describing details for providing the final paper. Other, not accepted, will be informed at the same time. All accepted papers will be published in the official conference proceedings and on CD-ROM.

3. Conference Structure

The conferences Power Conversion and Intelligent Motion and Power Quality will run parallel.

We will have some Key-Note-Papers, which are invited papers for specific topics indicating the State-of-the-Art and Future Trends.

The main conference parts are oral presentations in the conference rooms and Poster / Dialogue sessions in front of the conference rooms.

All submitted contributions will be evaluated under the same quality aspects. Papers considered for oral presentations have a presentation time of 20 minutes followed by 5 minutes discussion.

Poster/Dialogue presentations have about 1 hour presentation time. Details for preparation the posters will be given in the author's kit.

Please note that we will have in 2000 again a parallel running POWER QUALITY Conference with an improved structure.

4. Registration

Speakers are automatically enrolled when sending the final paper together with biographical data and copyright agreement.

The participation in the 3 days conference is for all speakers free of charge. Lunch and coffee at the day of presentation will be served.

Entry badges have to be picked up at the speakers' conference registration desk.

The organizer offers special accommodations with reduced prices for PCIM participants and flight arrangements from the main European countries, USA and Japan.

These will be published in the conference program and speakers should send the forms to ZM Communications or the given travel agency.

5. Venue

The PCIM Conference will be held again in Nuremberg/Germany at the NürnbergCongressCenter.

It is distinguished by:

- an unusually attractive range of rooms
- highest technical standards and equipments
- short ways between the conference location and the exhibition site
- direct underground connections from the enclosed underground station "Messezentrum" to the central station and airport
- superb snack bars and fully served restaurants

Nuremberg, the Franconian capital, enjoys a central European location and will celebrate in the year 2000 it's 950 years of history. Take some hours for enjoying this charm of the historical tradition.

Nuremberg can be reached easily and in a comfortable way with all major means of transport:

by plane, train and by car

6. Deadlines

Deadline for abstracts:	December 10, 1999
Author will be notified by:	January 30, 2000
Deadline for final papers:	March 17, 2000

Send 4 copies of abstract and summary, biographical data and copyright agreement by post or express courier to:

**ZM Communications GmbH
PCIM 2000 Conference
EUROCOM Center
Lina – Ammon – Strasse 17
D-90471 Nürnberg, Germany**

Any questions or additional information needed:

Contact ZM Communications by:

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Visit our Internet homepages:

www.zm-com.com

www.come-for-power.com

Power Conversion

1. POWER SEMICONDUCTORS & POWER ICs, NEW COMPONENTS and TRENDS

- 1.1 Transistors (Power MOSFETs, IGBTs, new Devices)
- 1.2 Fast Recovery Rectifiers (FRED) & Diodes
- 1.3 High Power Thyristors, GTOs, GCTs
- 1.4 Power Modules and Power Hybrids
- 1.5 Smart Power ICs (low and high voltage)
- 1.6 Driver – and Control ICs
- 1.7 Opto-Components for Power Electronics
- 1.8 Sensor ICs
- 1.9 Device- and Circuit Simulation
- 1.10 Technology Trends
- 1.11 New Materials (SiC, GaAs)

2. PASSIVE COMPONENTS (new and enhanced)

- 2.1 Capacitors
- 2.2 Inductors and Transformers
- 2.3 Varistors
- 2.4 Thermistors, Temperature Sensors
- 2.5 Coils, Chokes
- 2.6 New Passive Components for System Integration

3. POWER ELECTRONICS IN AUTOMOTIVE

- 3.1 42 V Board Supply
- 3.2 Technical Applications for electrical and hybrid vehicles
- 3.3 Break by Wire, Starter Generator, Active Suspension
- 3.4 Power Steering

4. POWER ELECTRONIC CONVERTER

- 4.1 High and Low Power
- 4.2 Soft Switching Converters (Resonant, Zero Voltage Switching and Zero Current Switching)
- 4.3 Power Converter Circuits
- 4.4 Power Converter Control Units
- 4.5 Multilevel Converters
- 4.6 New Converter Topologies (e.g. Matrix-Converter, Soft Starter etc.)
- 4.7 Soft Commutation with PWM Control
- 4.8 High Voltage Supply Technologies
- 4.9 Simulation Methods
- 4.10 Switched Mode Power Supplies Developments

5. CONTROL AND MEASUREMENT IN POWER ELECTRONICS

- 5.1 Control ICs
- 5.2 Microcontroller
- 5.3 DSPs and complex architecture
- 5.4 ASICs for Power Control
- 5.5 Development Tools
- 5.6 Control and Drive Strategies
- 5.7 Specific Measurements in Power Electronics
- 5.8 Embedded Power Ics
- 5.9 Software
- 5.10 Technology Trends

6. THERMAL MANAGEMENT, PACKAGING and RELIABILITY

- 6.1 Reliability Issues (e.g. Temperature- Power Cycle, etc.)
- 6.2 Heat Pipes, Heat Sinks, Thermal Compounds and Insulators
- 6.3 Cooling Systems and Fans
- 6.4 Thermal Management Materials
- 6.5 Packaging
- 6.6 Mounting Procedures- Layout
- 6.7 Optimal Design and Trade-off-Safety Margin
- 6.8 Cost Reduction Methods
- 6.9 Simulation

7. MAGNETIC MATERIALS

- 7.1 Transformer Core Materials
- 7.2 Non-linear Magnetic Devices
- 7.3 Technologies for Magnetics

Intelligent Motion

1. MOTORS & ACTUATORS

- 1.1 Induction Motors
- 1.2 SR Motors
- 1.3 PM Motors
- 1.4 Stepper Motors
- 1.5 Actuators
- 1.6 Low & High Speed Motors
- 1.7 Linear & Torque Motors
- 1.8 Magnetic Bearings

2. DRIVES & CONTROLS

- 2.1 Industrial Drives
- 2.2 Smart Drive Systems
- 2.3 Diagnostic, Condition Monitoring
- 2.4 Smart Power Components

3. EMBEDDED MOTION CONTROL: TECHNOLOGIES

- 3.1 Power System Design
- 3.2 Motion Control Systems in Silicon

- 3.3 Development Tools
- 3.4 Simulation Methods, Rapid Prototyping
- 3.5 Artificial Intelligence (Observers, Neural Networks, Fuzzy Control)
- 3.6 DSPs and Complex Architecture
- 3.7 Power Electronic Subsystems
- 3.8 Packaging
- 3.9 Thermal Management
- 3.10 Sensors

4. EMBEDDED MOTION CONTROL: APPLICATIONS

- 4.1 Automotive Auxiliaries
- 4.2 Electric and Hybrid Vehicles
- 4.3 Consumer, White Goods
- 4.4 Industry
- 4.5 Mechatronics

5. MOTION CONTROL & AUTOMATION

- 5.1 MC System Engineering
- 5.2 MC System Selection & Design
- 5.3 Software Translators
- 5.4 Intelligent Motion
- 5.5 Bus Systems
- 5.6 Communication Networks

6. NEW TECHNOLOGIES

- 6.1 Materials
- 6.2 Power Semiconductors
- 6.3 Servocontrol Techniques
- 6.4 Software Motion Technologies
- 6.5 Sensorless Control
- 6.6 Ultrasonic Motors
- 6.7 Microminiature Motors and Actuators
- 6.8 Piezoelectric and Magnetostrictive Actuators

Power Quality

1. Power System Architectures and Management

- 1.1 Developments, trends and new technology in power generation, transmission and distribution (FACTS, ect.)
- 1.2 Analysis, modelling and simulation of power systems
- 1.3 Impact of network configuration on supply reliability
- 1.4 Design considerations for improved power quality performance
- 1.5 Distribution planning in a competitive market
- 1.6 Control, monitoring, diagnosis and management of electrical energy systems
- 1.7 Reactive power compensation

- 1.8 Active filters
- 1.9 Means for reduction of voltage sags, UPFC, etc.
- 1.10 Electronic tap changing
- 1.11 Enhancements in protection of low- and medium-voltage circuits
- 1.12 HVDC transmission

- 2. Electromagnetic compatibility related to Power Quality**
 - 2.1 EMI
 - 2.2 ESD
 - 2.3 EMP
 - 2.4 Low frequency electromagnetic fields
 - 2.5 Case studies

- 3. Energy Storage Applications for Power Supply Quality Improvement**
 - 3.1 Modern energy storage systems and devices
 - 3.2 Flywheel energy storage systems
 - 3.3 SMES, Micro-SMES for industrial applications
 - 3.4 Battery Management and monitoring

- 3.5 UPSs, e.g. power supply for computer and telecommunication systems, etc.
- 3.6 Fuel cells
- 3.7 Applications of energy storage systems in energy distribution systems
- 3.8 Operating experience/projects of industrial and commercial endusers

- 4. Renewable Energy, Energy Conservation**
 - 4.1 Solar and wind systems
 - 4.2 Microturbines
 - 4.3 Energy optimized converter and drive systems design
 - 4.4 Building and environmental system design – energy conservation techniques
 - 4.5 Optimization of power systems for energy efficiency/conservation

- 5. Harmonics and Flicker, Mitigation Techniques**
 - 5.1 Harmonics, voltage sags, surges and supply interruptions in public and industrial networks, sources and effects

- 5.2 New practices for harmonics/flicker control in electrical power systems
- 5.3 New systems for harmonic reduction, active power factor correction

- 6. Power Quality – Related Standardization, Measurements and Management Concepts**
 - 6.1 Development of data and procedures for power quality studies
 - 6.2 Power Quality monitoring
 - 6.3 Standards and specifications for quality of power supply
 - 6.4 Effect of new or revised standards on the supply, distribution and utilization of electricity
 - 6.5 Power and facility management concepts (regarding maintenance and supervision)
 - 6.6 Power supply quality and economics
 - 6.7 Deregulation of electric utilities
 - 6.8 Regulatory and policy issues
 - 6.9 Custom power

Send or fax this to: **ZM COMMUNICATIONS GMBH**
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Herewith I offer a paper for first-time presentation at PCIM 2000

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The paper provisionally is entitled

The paper is for: **Power Conversion,** **Intelligent Motion,** **Power Quality,**
 Subject Area(s): _____ Subject Area(s): _____ Subject Area(s): _____

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 Send _____ copies of the conference program with registration form

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