

Motor, Drive & Automation Systems Conference 2011

Advancements in Motion Control and Power Electronic Technology

Co-located with Magnetics 2011

**San Antonio, Texas, USA
1-2 March 2011**

ISBN: 978-1-61839-358-6

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2011) by Webcom Communications
All rights reserved.

Printed by Curran Associates, Inc. (2012)

For permission requests, please contact Webcom Communications
at the address below.

Webcom Communications
7355 E. Orchard Road, Suite 100
Greenwood Village, Colorado 80111

Phone: 800-803-9488
Fax: 702-528-3771

softpub@infowebcom.com

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2634
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

Motors, Drives and Motion Control - Worldwide Markets Update	1
<i>Alex Chausovsky</i>	
Active Front End Drives for Optimizing Power	10
<i>Craig Nelson</i>	
Evaluation of the Thermal Image of a Motor and Its Effect on Performances	18
<i>Philippe Wendling, Adrian Perregaux</i>	
Various Sensorless Control Methods for AC Motor Drives	52
<i>Jae H. Park, Dal Y. Ohm</i>	
Rapid 3D Motor Design Using Finite Element Simulators	N/A
<i>Hussam Maleh</i>	
Techniques for Improved Stepper Motor Control	63
<i>Patrick Heath</i>	
Increasing Productivity Through Customized Gearbox and Motion Control Design	80
<i>Paul Anderson</i>	
IMS.techline Planetary Gearboxes - with Optimized Efficiency from the Modular System	90
<i>Joe Sitta</i>	
Sixth Generation IGBT Modules with Innovative Packaging	91
<i>Eric R. Motto</i>	
FPGA Technology as a Platform for Innovation Integration in Motor Drives Applications	104
<i>Marc Perron</i>	
Evaluation of PM and SR Motor Technologies	118
<i>Pierre Angers</i>	
Meeting Reliability and Lifetime Goals in IGBT Based Converter Designs	128
<i>David Levett, Piotr Luniewski</i>	
Motor and Drive Industry Insights	140
<i>Michael Rashe</i>	
What in the Wide, Wide World of Motors is Going On?	160
<i>Richard E. deFay</i>	
Electrified Vehicle Electric Motor Development Combining Test and Simulation	186
<i>Michael Ryder, Ray Skinner</i>	
CIPOS™-mini: A Robust Intelligent Power Module Family for Low Cost Drive Applications	198
<i>Wolfgang Frank, Peter Stipan</i>	
Technical Considerations for the Testing of Small Motors	209
<i>Emmanuel Agamloh</i>	
Coordinated Circuit Protection Solutions for Power Supplies, Relays, Solenoids and Controllers	221
<i>Matthew Williams</i>	
Magnetization and Measurement of PM Motors	237
<i>Hartmut Pagel</i>	
FPU – An Advantage Over Fixed Point for Three-Phase Motor Control	247
<i>Yashvant Jani</i>	
Magnetic Bearing Technology for Electric Motors and Other Rotating Machinery – Ready For Prime Time	259
<i>John Rama</i>	
DCM-MotionTechnology - A New Method for Reliable Sensor-Less Rotation Counting in BDC Motors	284
<i>Jan B. Nottelmann</i>	
Author Index	