

Journal of Manufacturing Science and Engineering

June,
2010 |
Volume
132 |
Issue 3

Email Alerts | RSS 
BASIC
VIEW | EXPANDED VIEW

Guest Editorial

Guest Editorial

Kevin Lyons, Ajay Malshe, Kamlakar Rajurkar and Curtis Taylor

J. Manuf. Sci.

Eng. 2010;132(3):030301-030301-1.
doi:10.1115/1.3463643.

SPECIAL ISSUE ON NANOMANUFACTURING

Development of a Novel Process Chain Based on Atomic Force Microscopy Scratching for Small and Medium Series Production of Polymer Nanostructured Components

E. B. Brousseau, F. Krohs, E. Caillaud, S. Dimov, O. Gibaru and S. Fatikow

J. Manuf. Sci.

Eng. 2010;132(3):030901-030901-8.
doi:10.1115/1.4001481.

Comparison of Nickel Nanoparticle-Assisted

Diffusion Brazing of Stainless Steel to Conventional Diffusion Brazing and Bonding Processes

S. K. Tiwari and B. K. Paul

J. Manuf. Sci.

Eng. 2010;132(3):030902-030902-5.
doi:10.1115/1.4001554.

Error Sources in Atomic Force Microscopy for

Dimensional Measurements: Taxonomy and Modeling

F. Marinello, S. Carmignato, A. Voltan, E. Savio and L. De Chiffre

J. Manuf. Sci.

Eng. 2010;132(3):030903-030903-8.
doi:10.1115/1.4001242.

Exploration of AFM Imaging Artifacts Occurring at

Sharp Surface Features When Using Short Carbon Nanotube Probes and Possible Mitigation With Real-Time Force Spectroscopy

Santiago D. Solares and Gaurav Chawla

J. Manuf. Sci.

Eng. 2010;132(3):030904-030904-14.
doi:10.1115/1.4001579.

Micromachined Ultrasonic

Print-Head for Deposition of High-Viscosity Materials

J. Mark Meacham, Amanda O'Rourke, Yong Yang, Andrei G. Fedorov, F. Levent Degertekin and David W. Rosen

J. Manuf. Sci.

Eng. 2010;132(3):030905-030905-11.
doi:10.1115/1.4001551.

Study of a High
Performance AFM Probe-

Based Microscribing Process

Keith Bourne, Shiv G. Kapoor and Richard E. DeVor

J. Manuf. Sci.

Eng. 2010;132(3):030906-030906-10.
doi:10.1115/1.4001414.

Integrated Two-Photon
Polymerization With

Nanoimprinting for Direct Digital Nanomanufacturing

Wande Zhang, Li-Hsin Han and Shaochen Chen

J. Manuf. Sci.

Eng. 2010;132(3):030907-030907-5.
doi:10.1115/1.4001661.

Unusual Applications of
Machining: Controlled

Nanostructuring of Materials and Surfaces

C. Saldana, S. Swaminathan, T. L. Brown, W. Moscoso, J. B. Mann, W. D. Compton and S. Chandrasekar

J. Manuf. Sci.

Eng. 2010;132(3):030908-030908-12.
doi:10.1115/1.4001665.

Tip Based
Nanomanipulation Through

Successive Directional Push

Wei Zhao, Kangmin Xu, Xiaoping Qian and Rong Wang

J. Manuf. Sci.

Eng. 2010;132(3):030909-030909-9.
doi:10.1115/1.4001676.

Construction and Analysis
of Nanoscale Simulative

Measuring Model for Scanning Near-Field Optical Microscope

Zone-Ching Lin and Ming-Ho Chou

J. Manuf. Sci.

Eng. 2010;132(3):030910-030910-8.
doi:10.1115/1.4001685.

Rapid Nanomanufacturing
of Metallic Break Junctions

Using Focused Ion Beam Scratching and Electromigration

Waseem Asghar, Priyanka P. Ramachandran, Adegbenro Adewumi, Mohammud R. Noor and Samir M. Iqbal

J. Manuf. Sci.

Eng. 2010;132(3):030911-030911-4.
doi:10.1115/1.4001664.

A Quasi-Static Mechanics
Analysis of Three-Dimensional

Nanoscale Surface Polishing

H. Xu and K. Komvopoulos

J. Manuf. Sci.

Eng.. 2010;132(3):030912-030912-10.
doi:10.1115/1.4001582.

Growing Nanoscale Magnesium Oxide Films

Ghulam M. Uddin, Zhuhua Cai, Katherine S. Ziemer, Abe Zeid and Sagar Kamarthi

J. Manuf. Sci.

Eng.. 2010;132(3):030913-030913-9.
doi:10.1115/1.4001691.

Ferrite Nanoparticles Synthesized by the Thermodecomposition Method

Victoria L. Calero-DdelC, Ana M. Gonzalez and Carlos Rinaldi

J. Manuf. Sci.

Eng.. 2010;132(3):030914-030914-7.
doi:10.1115/1.4001717.

Nanoscale-Electromachining (nano-EM)

Kumar R. Virwani, Ajay P. Malshe and Kamlakar P. Rajurkar

J. Manuf. Sci.

Eng.. 2010;132(3):030915-030915-8.
doi:10.1115/1.4001718.

Michael Chandross, Christian D. Lorenz, Mark J. Stevens and Gary S. Grest

J. Manuf. Sci.

Eng.. 2010;132(3):030916-030916-4.
doi:10.1115/1.4001660.

Positioning, Assembly, and Manipulation

Bijoyraj Sahu, Curtis R. Taylor and Kam K. Leang

J. Manuf. Sci.

Eng.. 2010;132(3):030917-030917-16.
doi:10.1115/1.4001662.

Deposition for Microelectronics Manufacturing

Chris Y. Yuan and David A. Dornfeld

J. Manuf. Sci.

Eng.. 2010;132(3):030918-030918-7.
doi:10.1115/1.4001686.

Nanocrystalline Diamond in a Continuous Perfusion Environment

J. S. Lewis, S. D. Gittard, R. J. Narayan, C. J. Berry, R. L. Brigmon, R. Ramamurti and R. N. Singh

J. Manuf. Sci.

Eng.. 2010;132(3):030919-030919-7.

Analysis of Molecular Beam Epitaxy Process for

A Statistical Analysis to Control the Growth of Cobalt

Ferrite Nanoparticles Synthesized by the Thermodecomposition Method

Pulse Breakdown in Sub-20 nm Organic Dielectrics for

Probe-Tip Induced Damage in Compliant Substrates

Emerging Challenges of Microactuators for Nanoscale

Integrated Sustainability Analysis of Atomic Layer

Assessment of Microbial Biofilm Growth on

doi:10.1115/1.4001583.

Process Robustness of Hot

Embossing Microfluidic Devices

Thor Eusner, Melinda Hale and David E. Hardt

J. Manuf. Sci.

Eng. 2010;132(3):030920-030920-8.

doi:10.1115/1.4001421.

Research Papers

Modeling of Recast Layer in

Micro-Electrical Discharge Machining

P. C. Tan and S. H. Yeo

J. Manuf. Sci.

Eng. 2010;132(3):031001-031001-9.

doi:10.1115/1.4001480.

High Frequency Correction of Dynamometer for Cutting

Force Observation in Milling

François Girardin, Didier Remond and Jean-François Rigal

J. Manuf. Sci.

Eng. 2010;132(3):031002-031002-8.

doi:10.1115/1.4001538.

Development of Plasma Nanomanufacturing Workcell

King Wai Chiu Lai, Jeffri J. Narendra, Ning Xi, Jiangbo Zhang, Timothy A. Grotjohn and Jes Asmussen

J. Manuf. Sci.

Eng. 2010;132(3):031003-031003-8.

doi:10.1115/1.4001719.

Technical Briefs

Identification and

Compensation of Dynamic Scale Mismatches in High-Speed End Mill Boring Trajectory on CNC Machines

Mohamed Slamani, Rene Mayer, Marek Balazinski and Serafettin Engin

J. Manuf. Sci.

Eng. 2010;132(3):034501-034501-6.

doi:10.1115/1.4001412.