Table of Contents

Committees	
Preface	
Mechanism Design of ITO-Layer Removal from Color Filter of TFT-LCD P.S. Pa	1
Design and Fabrication of a General Purpose 3D Digitizer Based on Grinding Technique W.C. Lee and L.W. Chen	7
Prototyping of Image-Based Inspection Mechanisms by CAD and Virtual Reality Technology	
Q.C. Hsu	15
Simulation of Dendritic Growth in Solidification of Al-Cu Alloy by Applying the Modified Cellular Automaton Model with the Growth Calculation of Nucleus within a Cell H.C. Peng and L.S. Chao	22
Study on Dendrite Shapes of Solidification in an Undercooled Melt C.Y. Ho, Y.C. Lee and C.S. Shih	29
Simulation of Cooling Process of Medium Thickness Steel Plate J.G. Han and Y. Bai	34
Deformation Characteristics on Surface Layer of White-Coated Paperboard by Center Bevel Blade Subjected to Pushing Load	• 0
S. Chaijit, Y. Yajima, K. Kikuchi, S. Nagasawa, Y. Fukuzawa and A. Hine	39
A Forging Simulation by Using the Point Collocation Method with a Boundary Layer of Finite Element Y.M. Guo	45
Bending Die Design for a Pre-Formed Sheet Metal with a Golden Finger Feature J.J. Sheu and S.H. Fang	51
An Optimization Approach to the Displacement Volumes for External Spur Gear Pumps K.J. Huang, W.R. Chang and W.C. Lian	57
Evaluation of UHMWPE Component under Various Positions for UKA C.W. Liu, W.L. Li, C.T. Yu and C.C. Lo	72
Development of a Constant Temperature Environment Chamber with High Stability K.C. Fan, H.M. Wang and Y.C. Liu	78
Researches of a Novel 2D CMOS Thermal Based Accelerometer C.H. Shen, S.J. Chen and Y.T. Yang	84
A Finite Element Investigation into the Changing Channel Angular Extrusion of Brass Alloy	90
D.C. Chen, J.C. Wang and G.Y. Tzou February and Analysis of None Aluminum Induced I and Tampanatum Religious Aluminum Induced I and Tampanatum Religious Induced I and Tampanatum I and Tampanatum Religious Induced I and Tampan	90
Fabrication and Analysis of Nano-Aluminum-Induced Low-Temperature Polycrystalline Silicon Film	
H.Y. Chu, M.H. Weng, R.Y. Yang, C.W. Huang and C.C. Liu	96
Research on Piezoelectric Actuator Driving Method of Creep Resistance W. Fan, X.F. Yu and D.B. Li	104
The Design and Building of a Robot with Five Degrees of Freedom M.C. Hwang and S.F. Felszeghy	110
The Design and Evaluation of a Supply Chain Logistic Hub for Automobile and Parts	
Distribution C.V. Trappey, A.J.C. Trappey, C.S. Liu, W.T. Lee and Y.L. Hung	119
Fabrication Micro-Nozzle Plates for Inkjet Print Head Using LIGA Process S.C. Shen, C.J. Lee, M.W. Wang, Y.C. Chen, Y.J. Wang and Y.Y. Chen	132
Effects of Substrate Geometry on Performance of Twin-Fluid Atomizer in Metal Powder	
Production M.P. Wong, C.I. Vong, I.D. Huong, T.C. Lin and M.S. Shou	120
M.R. Wang, C.J. Yang, J.D. Huang, T.C. Lin and M.S. Sheu Synthesis of Core/Shell Type of Hybrid Magnetic Particle by Using Polyionic Copolymer	138
with Extra Magnetic Field C.C. Wang, I.H. Chen, C.R. Lin and C.Y. Chen	150

Fabrication and Investigation of Curved PDMS Micro Nozzle/Diffuser Y.T. Chen, C.C. Hsu, S.W. Kang and L.C. Wu	357
Eliminating Hysteresis Effect of Force Actuator for Profiler Design with Rate Inner Loop	
Compensation J.M. Lin and P.K. Chang	363
Numerical Assessment of Optimal One-Chamber Perforated Mufflers by Using GA Method M.C. Chiu, Y.C. Chang and L.J. Yeh	368
A Technology of Using Surface Magnetization Variations for Evaluating the Wear-Resistant Properties of the Die Surfaces with Different TiN Films Y.P. Chang, K.H. Wang, C.H. Lin, C.T. Liu and Y.C. Hwang	377
Electrical Contact Resistance Approach to Tribological Properties of Artificial Joints Y.P. Chang, R.H. Wang, Y.Y. Hung, H.M. Chou and J.C. Wang	383
The Swashplate Angle Control of a Variable Displacement Pump with an Electro-Hydraulic Proportional Valve	200
M.H. Chu, Y. Kang, Y.W. Chen and Y.P. Chang Precision Control of a Piezo-Actuate System Using Fuzzy Sliding-Mode Control with Feedforward Predictor-Based Compensation J.W. Liang, H.Y. Chen and S.Y. Chiang	389 401
Improvement of Wire-EDM Finishing Processes through Adaptive Fuzzy Logic Control Algorithm A.W.J. Hsue	407
Real-Time Interpolator and Contour Tracking in Link-Space for a 3 DOF Parallel Mechanism Y.M. Cheng, C.H. Kuo and J.H. Chin	415
Opto-Mechatronics Integration for Metrology J.M. Lin and P.K. Chang	437
Investigating the Dynamics of Organelle-Actin Assembly with Dielectrophoresis S.H. Chen and C.H. Li	443
Collaborative Environment Development for the Supported CAD/CAM J.J. Su, X.P. Liao, X.R. Zhou and S.F. Wang	452
Parametric Design and Design Associability in 3D CAD S.H. Wang, S. Melendez, C.S. Tsai and C.W. Wu	461
Estimating Job Cycle Time in Semiconductor Manufacturing with an ANN Approach Equally Dividing and Post-Classifying Jobs T. Chen, Y.C. Wang, Y.C. Lin and K.H. Yang	469
Enhancing the Mid-Term Competitiveness of a Semiconductor Manufacturing Factory through Collaborative Yield Learning Planning Y.C. Wang, T. Chen and K.T. Li	475
Agent-Based Integrated and Collaborative Engineering Asset Management D.W. Hsiao, A.J.C. Trappey, L. Ma, Y.C. Fan and Y.C. Mao	481
Robust Estimation Design of a Class of Systems with Noise Coupling Input Saturation Y.Y. Chen, S.J. Chang, S.C. Shen and Y.H. Chen	494
The 3D Printer Design and Model Formation by a Commercial Inkjet Printing Module C.I. Cheng, C.H. Chen, W.H. Lai, S.J. Hwang and S.Y. Lee	500