Institution of Engineering and Technology

International Technology and Innovation Conference 2006

November 6-7, 2006
Hangzhou, China

IET Conference Publications 524

Volume 1 of 3

Printed from e-media with permission by:

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

ISBN: 978-1-60423-984-3

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

Institution of Engineering and Technology

International Technology and
Innovation Conference
2006

TABLE OF CONTENTS

Volume 1

Selective laser sintering of andbeta;-tricalcium phosphate for bionic scaffold 2
HU, Qingxi; MA, Baigong; LIN, Liulan; FANG, Minglun

Research on intelligent CAPP system based on PDM 8
CHENG, Guangyao; SUN, Houfang; SHAHID, Butt; GAO, Zhenqing

Development and application of a prototype micro EDM machine 14
LI, Gang; ZHAO, Wansheng; HU, Fuqiang; Zhang, Yong

Optimization methods of the product assembly line system 19
LI, Guiqin; YAO, Zhiliang; YUAN, Qingfeng; FANG, Minglun

Development and manufacture of visual miniature loop heat pipe 23
QU, Yan; CHENG, Lin; LUAN, Tao

Study on technology of CNC whirlwind enveloping milling for screw 28
WANG, Ke; JIN Yu; SUN, Xingwei

Temperature-gradient transient liquid phase bonding under low pressure 32
WANG, Xuegang; YAN, Qian; LI, Xingeng

Ultrasonic-electrodeposited nano Ni-AlN composite layers and characterization 35
XIA, Fafeng; WU, Menghua; JIA, Zhenyuan; LI, Zhi

Experimentation and numerical simulation of the manufacture of an ellipsoidal workpiece by multi-point sandwich forming 39
ZHANG, Qi; WANG, Zhongren; Dean, T.A.

Research of the method for the order planning of the iron-steel factory based on the MTO management architecture 44
ZHANG, Tao; ZHANG, Yuejie

Statistical analysis of resonance frequency error for ultrasonic welding machine transducer 50
ZHANG, Yundian; WANG, Qifang

A pear-to-pear collaborative product design platform for dispersed network manufacturing [for pear read peer] 56
ZHAN, Hongfei; GU, Xinjian

Jaw plate kinematical analysis for single toggle jaw crusher design 62
CAO, Jinxi; RONG, Xingfu; YANG, Shichun

A multi-agent ant colony optimization algorithm for earliness/tardiness scheduling with different due window on non-uniform parallel machines 67
DING, Zhu; WU, Ping; ZHANG, Libo; WANG, Feng; ZHANG, Xuefeng

Effects of electron beam local heat treatment on fatigue properties for Ti-6Al-4V alloy joints 72
FU, Pengfei; LIU, Fangjun; MAO, Zhiyong; LI, Jinwei

Development of network control system based on rapid prototyping instrument 76
GUO, Yina; LI, Yongtang

Optimization on maintenance cycle for power plant equipment based on probabilistic risk assessment 80
GU, Yujiong; YOU, Lianhuan

Study on the continuous quality improvement systems in semiconductor assembly 85
HE, Shuguang; LI, Li; QI, Ershi

A multi-phase and multiple objectives analysis approach for optimizing performance of supply chain 90
JIA, Jiangming; PAN, Xiaohong; WANG, Zhengxiao

Study on construction and application of product requirement design ontology 96
JIANG, Liang; QU, Fuzheng

A method of rapid face-structured profilometry with projecting grating 102
LIN, Junyi; JIANG, Kaiyong; HUANG, Changbiao

Study on movement model of tracing measurement equipment during crankshaft noncircular grinding process 107
LI, Wei; LI, Ming; ZHAO, Xiaoyin; TIAN, Yingzhong; PENG, Qiusheng

Technology and innovation performance of manufacturing industry clusters: experience from Liaoning Province, China 112
SHEN, Enping

Study of product model and configuration based on mass customization 119
SHU, Biao; CHEN, Zhiguo

Hydro-forming of tailor-welded blanks 125
WANG, Jianmin; ZHAO, Yan; JIANG, Yinfang; CHEN, Dianjian

Research on motion precision for a high speed adjustable rotor set 130
WANG, Yiming; LI, Ping

Study on flow field of turbine blade with flexible 3-electrode feeding method in ECM 135
XU, Zhengyang; ZHU, Di; WANG, Lei; SHI, Xianchuan

The path layout method of drilling holes based on uniform distribution and its application 140
YAO, Pingxi; WANG, Jianmei; YANG, Shichun

Study on Kanzei-driving knowledge base model to support rapid product design 144
YE, Fanbo; TANG, Renzhong; WANG, Zhiguo; WANG, Hui

Effects of ultrasonic impact treatment on the residual stress and fatigue performance of ultrahigh strength steel weld joint 150
YE, Xionglin; ZHU, Youli; WANG, Kan

The innovative study of cutting technology based on TRIZ evolution theory 155
ZHANG, Fuying; HE, Qingping; XU, Yanshen

The electrical characteristic simulation of cantilever beam used in micro battery 160
CHU, Jinkui; ZHANG, Haijun; DU, Xiaozhen; WEI, Shuanghui

The relationship between the system cost and the Bullwhip effect in time-based VMI consolidation replenishment system 166
ZHANG, Libo; CHEN, Jie; MA, Yizhong

Research on a simulation system for process capacity of reconfigurable manufacturing systems 173
ZHAO, Honglin

A new desirability function based method for multi-response robust parameter design 178
ZONG, Zhiyu; HE, Zhen; KONG, Xiangfen

Formalizing effect for functional design based on Fusion and Z 184
CAO, Guozhong; GUO, Haixia; TAN, Runhua

The study on hybrid production scheduling based on TOC 193
CHEN, Jie; CHEN, Dong

Research of measurement theory for complex surface based on annular roller probe 199
CHEN, Xin; JIN Junjie; WANG, Ke; LIU, Xin

A new offset approach for curves on triangle mesh surfaces 202
Chen, Z.M.; Chen, Y.G.; Liang, F.J.

Research on NC program design for mass customization 209
CUI, Jian; QI, Guoning

Research on plastic removal mechanism of engineering ceramics grinding with ultrasonic assistance 214
GAO, Guofu; KONG, Qinghua; ZHAO, Bo; LIU, Chuanshao

Reverse engineering planning for hyper-complex structural components 219
HONG, Jun; BAI, Hongwei; LIU, Yang

Research on the coordination mechanism of product development chain 225
HOU, Liang; WEN, Zhijia; HAN, Donghui

Research on intelligent planer cams CNC grinding system 232
HU, Zhanqi; KONG, Xiangdong; ZHANG, Yitong; LI, Yukun; WU, Linpu

On self-adaptive vibration tapping of titanium alloy 236
LI, Guangjun; HAN, Fengqi ; XU, Yongli; ZHANG, Deyuan

Embedded flexible assembly system for car latch based on laser identification 241
LI, Peiyu; TAN, Dapeng; LIN, Boyu

Measurement system for 3-D foot shapes under different loads 246
LIU, Guozhong; WANG, Boxiong; SHI, Hui; LUO, Xiuzhi; WANG, Rui

Study on whirlwind envelope milling theory applying on extrusion screw machining 251
CHEN, Zhaoqiang; SHEN, Minde; WANG, Ke; WANG, Yi

Modeling of manufacturing information system based on complexity science 254
SUN, Yanming; ZHANG, Kaisheng; ZHANG, Xiaohua; ZHENG, Shixiong

Multi-sensor tracing principle for crankshaft roundness measurement during noncircular grinding process 258
TIAN, Yingzhong; LI, Ming; LI, Wei; WU, Ganghua; FANG, Minglun

Study on high speed cutting machinability of medical titanium alloy Ti-6Al-4V 263
DU, Qiaolian; CHEN, Xuhui; ZHANG, Kehua

Case-based reasoning in product innovation design 267
WANG, Wei; ZHAO, Jianghong

A model for manufacturing cost estimation based on machining feature 273
XU, Xinsheng; FANG, Shuiliang; GU, Xinjian

A case study in top-down collaborative assembly design 279
YANG, Youdong; LI, Zhihua; GAO, Shuming; ZHANG, Shuting

Research on the thin-walled workpiece boring by applying ultrasonic elliptical vibration cutting 286
ZHANG, Wenquan; LI, Xun; JIANG, Xinggang; ZHANG, Deyuan

Study on 3D tool compensation algorithm for NC milling 290
ZHAO, Bo; YE, Bangyan

A two-step ACO-PSO approach to optimize flexible jobshop scheduling of air compressor based on Petri net model 295
ZHONG, Meipeng; PAN, Xiaohong

Research on optimal layout techniques of NC metal cutting for polygonal metal part 300
ZHU, D.L.; HU, X.W.; CHEN, J.W.; HOU, H.D.

Pre-drawing and air-bulging technology of superplastic forming for automobile models 307
CHEN, Songmao; XUE Xin; PENG, Yanhua; RUAN Feng

Cell assembly system for fabricating viable three-dimensional constructs 313
ZHANG, Ting; YAN, Yongnian; WANG, Xiaohong; LIU, Haixia; XIONG, Zhuo; LIN, Feng; WU, Rendong; ZHANG, Renji

Design of a displacement/angle measurement system based on laser triangulation principle 319
CHEN, Ting; ZHANG, Liqiong; ZHANG, Guizhen; CHEN, Benyong

Numerical simulation of the glass screen lapping 323
HE, Chaoming; LI, Bailin; FANG, Liyong; ZHANG, Jing

Manufacture oriented feature-based design 328
JIANG, S; XU, Y.S.; WANG, Y.X.

Design and research on the precise bar cutting machine based on high speed and restrained state 333
LI, Yongtang; SONG, Jianli; FU, Jianhua; JU, Li; DU, Shiwen; Kwun-Lon Ting

Research on evolving rule of part relation network of product family and its application 337
LIU, Fuyun; QI, Guoning

Optical measurement technology of nano-scale displacement 343
LIU, Xiaomin; WU, Yu; ZHANG, Ye; YANG, Guoguang

Profile curves design of tooth-shape rolls 349
MA, Jinhong; ZHANG, Wenzhi; CHAO Shiping; CUI, Yunsuo

Measuring apparatus and technology for master gears 353
Ma, Y; Wang, K.; Wang, L.D.

Research on an integrated management platform of knowledge-based innovation design of ornament 358
SHENG, Wenlu; TANG, Renzhong; WANG, Zhiguo; WANG, Hui

Research on Web-based visual workflow modeling and XPDL parsing 363
WANG, Jian; DAI, Yiru

Research on computer aided product form creative design system 368
WANG, Mei; WANG, Jie; XIONG, Yan

Study on adaptive slicing algorithm of functionally graded material components for rapid prototyping 372
WANG, Su; ZHU, Yuming; CHEN, Nanfei

Topological optimization of axisymmetrical bodies on water entries 378
WANG, Yonghu; SHI, Xiuhua; WANG, Hongmei

Research on RFID-based production logistics management techniques with application in garment industry 383
WANG, Zhi-guo; TANG, Ren-zhong; SHENG, Wen-lu; WANG, Guo-dong

Research on model data transmission in layered feature-based collaborative design 388
WU, Qingming; CHEN, Yongqiang; ZHANG, Zhiqiang

An algorithm of shortening idle time for a kind of special assembly problem 393
XIE, Zhiqiang; CONG Jing; TAN, Guangyu

An algorithm of JSSP with dynamic collection of job with priority 398
XIE, Zhiqiang; YANG, Guang; TAN, Guangyu

Numerical simulation of process and grain size for large-sized aluminum alloy 7050 forging 403
YI, Youping; CUI, Jindong; LIN, Yongcheng; CHEN, Hua

Research on assembly modeling and sequence planning based on features 408
ZHANG, Gang; DENG, Kewen; HOU, Qiang; LAI, Shengjing

Non-linear modeling and experimental study of a streamlined passive hydraulic mount 412
ZHANG, Yunxia; ZHANG, Jianwu; SHANGGUAN, Wenbin; FENG, Qishan

A QFD-enabled design for manufacturing approach via design knowledge hierarchy and RCE network 418
CHANG, D.F.; YAN, W.; HUANG, Y.F.; W.J. MI; HUANG, S.J.

Experimental determination of convective heat transfer coefficient in WEDM 424
CHENG, Gang; HAN, Fuzhu; FENG, Zhijing

Undirected graph model of product family architecture for mass customization 430
CHEN, Jian; LI, Fangyi; LI, Jianfeng; WANG, Yuling; JIANG, Feng; WANG, Wenyuan

Microstructure and properties of centrifugal cast binary Ti-Nb alloys 435
CHEN, Yuyong; XU, Lijuan; LIU, Zhiguang; KONG, Fantao; CHEN, Ziyong

Reaction of titanium alloys with different mould shell materials 439
CHEN, Yuyong; XIAO Shulong; TIAN, Jing; KONG, Fantao; WANG, Huiguang

A machine learning based approach of robust parameter design 443
CUI, Qing'an; HE, Zhen; CUI, Nan

The study of a virtual modular fixture management and aid-design system 449
GUO, Hong; YAN, Xianguo; LI, jianwei

A framework for adaptive configuration of business model oriented to networks deployment 453
GU, Yuanxun; GUO, Jingjuan

Synthesis and mechanical properties of nanocrystalline nickel electroforming layer in pulse deposition 458
LEI Weining; LI, Renxing; SHEN, Laidi

Characterization of nanometer scale titanium film oxidation lines and MIM tunneling junction structures 464
LIU, Qinggang; CHEN, Qing; LI, Suoyin; HE, Botao; HU, Xiaotang

Manufacturing-oriented bionic design method for wind turbine blade 470
LIU, Wangyu; HOU, Wenfeng; NAN Shiyu; OU Yuanxian

Topology optimization of compliant mechanisms with geometrically nonlinear 477
LI, Zhaokun; ZHANG, Xianmin

Research of product configuration model and personalized customization based on customer interest orientation 483
NIU, Zhanwen; LI, Xiaonan; GUO, Wei

Study of Nd:YAG pulsed laser milling Al_2O_3 ceramic in water and air condition 489
QI, Litao; WANG, Yang; YANG, Lijun

A phenomenon of LT-GaAs photoconductive switch triggered by 800 nm femtosecond laser 494
QI, Sen; LIU, Qinggang; HE, Botao; CHEN, Qing; ZHANG, Chaoyan; HU, Xiaotang

Research on development and simulation of input/output of AS/RS decision system 500
SONG, Weigang; ZHAN, Xin; WANG, Cong; TONG, Ling

The study on laser sintering metal powder for micro fabrication 506
SUN, Daqing; CHEN, Jimin; ZONG, Xiaojun

RandD on laser beam scanning manufacturing system based on OEF geometry algorithm and DEA control model 509
SUN, Huilai; ZHAO, Fangfang; LIN, Shuzhong; QI, Xiangyang

Research on process evaluation and improvement 512
WANG, Jiahai; TAN, Qing

Hybrid graph disassembly model and sequence planning for product maintenance 515
WANG, Yuling; LI, Fangyi; LI, Jianfeng; CHEN, Jian; JIANG, Feng; WANG, Wenyuan

Contact simulation and sensitivity research of quasi-transverse-double-circular gears 520
WU, Fenglin; REN, Jiajun; YAN, Shuwu; LI, Jinbao

Research on the product coordinative design based on distributed intelligent resources ... 525
XIE, Shuangxi; FENG, Peien; PAN, Shuangxia

Study on the feasibility of rapid biologic manufacture for microsystem ... 532
XIN Hongbing

The research of unorganized cloud data pre-processing in reverse engineering ... 537
YAN, Shutian ; HUI Xiangjun ; CHENG, Ping

The genetic polygon algorithm and its application in concurrent tolerance optimization design ... 542
YING Hua; WANG, Lei

Novel electroforming process of metal microstructures by using shielded anode ... 546
ZENG, Yongbin; ZHU, Di; MING, Pingmei; Hu, Yangyang

Neural network based PID control on NC milling process with high-speed ... 551
ZHANG, Junhong; NI Guangjian; ZHANG, Jianping

Study on virtual organization product development based on total lifecycle agile manufacturing in the networked collaborative environment ... 556
YE, Feifan; LI, Guofu

Analysis of residual stresses in engineering ceramics during electrical discharge grinding ... 562
YU, Lili; LIU, Yonghong; LI, Xiaopeng; JI, Renjie

Multidisciplinary design optimization of mechanism with coordination method based on sensitivity analysis of constraints ... 566
ZHANG, Jing; HE, Chaoming; LI, Bailin

Unified modeling of design and manufacturing information in DFM ... 572
ZHANG, Xu; WANG, Tie

Research on testing method of dynamic strain on the wallboard of printing press ... 576
ZHAO, Jibin; WANG, Yiming; WU, Shuqin

The basic study on USM andamp; ECM combined micro-machining ... 581
ZHU, Yongwei; YUN, Naizhang

The basic application study on electrochemical machining integral impeller with big-twisted blades ... 587
ZHU, Yongwei; XU, Jiawen

Agent-based dynamic organization structure for production scheduling in a dynamic manufacturing environment ... 594
CAO, Yan; YANG, Yanli; YANG, Lina; LIU, Ning

Error analyzing and control of complex surfaces in multiaxis NC machining ... 599
CHEN, Huixian; YAO, Yunping

The multi-agent modelling of production logistics system and the shop dynamic scheduling optimization in discrete manufacturing enterprises ... 604
CHEN, Yong; WANG, Xiao; LIN, Feilong; TANG, Kefeng

Influence of electrotyping temperature on the characteristics of diamond grains-nickel super-thin cutting blade ... 611
FANG, Lili; ZHANG, Binglin; YAO, Ning; DENG, Jicai

Experimental research on underwater cutting/beveling machine ... 616
GONG, Haixia; MENG Qingxin; ZHAO, Jie; ZHANG, Lan

Case study: T mode of Haier, an advanced manufacturing mode? ... 627
HE, Zhuqing; SUN, Linyan; ZHAO, Li

Analysis for performance of a vibratory micromachined gyroscope based on mode-acceleration method ... 634
JANG, Jongbok; WANG, Anlin; LIU, Guangjun; JIANG, Tao; JIAO, Jiwei

A vector projection method to evaluating machine tool alternatives for green manufacturing 640
JIANG, Zhigang; ZHANG, Hua

Inventory optimization of manufacturing/remanufacturing hybrid system with stochastic leadtime 644
LIU, Dongbo; HUANG, Dao; CHEN, Yujuan

Study on modeling and detection capacitance analysis method of micromachined gyroscope 650
LIU, Guangjun; WANG, Anlin; JIANG, Tao; Jang, Jongbok; JIAO, Jiwei

Research on real-time error measurement in curve grinding process based on machine vision 656
LUO, Y.M.; HU, DJ.; GU, T. L.

The comprehensive biomechanical analysis of microcosmic trabecular structure of cancellous bone 662
PEI, Baoqing; WANG, Tianmiao; Kun, L.V.; ZHOU, Li

The dynamic IT capabilities and firm agility: a resource-based perspective 666
WU, Xiaobo; FANG, Gang; WU, Zengyuan

Research on dynamic change management of WFMS 672
YANG, Shuxin; WANG, Jian; WANG, Xin; TAO Yaxiong

The technique of paralleling motivation with impact and vibration for impact roller 676
Hong, Z.; Yu, S.B. Fei, W.P. Yao, S.

The universal approximation characteristic of fuzzy controller and precision control for inverter welding power source 681
ZHOU, Yiqing; HUANG, Shisheng; ZHANG, Hongbing; LIU, Chaoying

Analysis on product developing risk based on BBN 687
CHEN, Ming; CHEN, Yun; CHEN, Bingsen

Variation knowledge-based approach to handling business process changes 693
DAI, Yiru; WANG, Jian

Analysis of the modes of collaborative design and system implementation 701
GAO, Qi; DU, Zongzhan

Development of a CNC micro-EDM machine 705
GUO, Rui; ZHAO, Wansheng; LI, Gang

Optimization of automobile assembly lines using logistics simulation 710
LIU, Wenping; JIANG, Zhaoliang; WANG, Guicong; LI, Zhaoqian

Development of a new type of piling machine using virtual prototyping technology 715
LIU, Wenping; HAN, Yuming; JIANG, Zhaoliang; LI, Zhaoqian

Progress on micro-jetting forming 720
LI, Xiaoyan; ZHANG, Shu

3D garment surface design using sketch-based modelling method 726
WANG, Jin; LU, Guodong; CHEN, Long; Zhang, Dongliang

Novel approach to the dispersion of nano-sized particles with shock wave in liquid 733
WANG, Wei; LIU, Zhengxun; LIN, Guangyi

Robust design of multi-response problems: a review 737
WANG, Ying; HE, Zhen

The tool paths generation approach based on level-set methods in die-cavities NC machining 740
YU, Wujia; FU, Jianzhong; CHEN, Zichen

Study on the integration of green manufacture and total quality management 745
YU, Zhonghua; WANG, Zhaowei

Process-oriented product knowledge management 749
ZHANG, Shanhui; LI, Zhaoqian; GAO, Qi

Extrusion-ploughing process model and experiment research on fabrication of micro groove with fin structure 755
ZHAO, Xiaolin; TANG, Yong; CHEN, Ping

Novel Dynamic Foaming Technology For Microcellular Foamed Polystyrene-nanaCACO$_3$ Composites 761
ZHU, Wenli; ZHOU, Nanqiao; WU, Hongwei; KONG, Lei

Variance analysis of edge grinding forces of ceramic tile with diamond cup wheels 766
CHENG, Yunping; WANG, Chengyong; WU, Wenge

A generalized dynamic model for flyback switching converter based on nonlinear finite element analysis 771
CHEN, Jiaxin; GUO, Youguang; ZHU, Jianguo

Design and performance simulation of a high speed brushless DC motor for embroidery machine application 777
CHEN, Jiaxin; GUO, Youguang; ZHU, Jianguo

A research on eddy flowage precision manufacturing technology of inside-holding diamond reamers 782
CHEN, Ming; YU, Jie; WANG, Chunhai

Volume 2

Family cars' life cycle cost (LCC) estimation model based on CBR 785
CHEN, XiaoChuan; WANG, ZuoXiong; WU, Di; SHAO, Jun

Experimental study on the forming of rectangle- andamp; V-channels interconnected boiling enhancement structures 789
CHI, Yong; TANG, Yong; CHEN, Jinchang; DENG, Xuexiong; LIU, Lin;

Satellite design model based on modularization 795
DU, Yunxi; LI, Guoxi; GONG, Jingzhong; LI, Tingting

One surface reconstruction algorithm research of class A surface of automobile 801
FANG, Liyong; LI, Bailin; HE, Chaoming; ZHANG, Jing

Simulation research for the bearing ring forging 807
GU, Liqiang; YU, Ting

Modal analysis and experimental study for a 3-DOF parallel machine tool 812
HU, Ming; TIAN, Wenyuan; CAI, Guangqi

Numerical prediction of static form errors in the end milling of thin-walled workpiece 816
KANG, Yonggang; WANG, Zhongqi. WU, Jianjun; JIANG, Chengyu

Knowledge units based research and application on structure design of products 825
LAI, Jianliang; ZHANG, Shuyou; TAN, Jianrong; ZOU, Chunwen

Application of parallel-two-ring-dimension-chain theory to computer aided calculating of machining-process-dimension-chain 830
LI, Kailing; ZHANG, Yuerong; GENG, Jing; LIU, Ran

Feature recognition based on series of slicing contours 836
LI, Ming; LI, Quanqing

Thermal error modeling and compensation of spindles based on LS-SVM 841
LIN, Weiqing; XU, Yanzhou; FU, Jianzhong; CHEN, Zichen

Modeling of agile manufacturing information system 847
LIU, Huailiang; ZHAO, Pengwei

A study on data reduction in reverse engineering 852
LIU, Deping; CHEN, Jianjun; SHANGGUAN, Jianlin

A new low-priced rapid prototyping system 856
LIU, Guangfu

Time compression technique of collaborative logistics based on pipeline 861
NING, Fanghua; CHEN, Zichen; XIONG, Li

A study on the basic CAD technique of machining spatial curved surface with NC-WEDM-HS 866
REN, Fujun; YAN, Bingbing; JIANG, Yongcheng; LI, Xiaohai

Research of nanometer precision positioning stage without feedback control 871
SUN, Shufeng

Outsourcing optimization based on multi-supplier for mechanical assembly enterprise 877
WANG, Guicong; JIANG, Zhaoliang; LIU, Wenping; LI, Zhaoqian

Dynamics modeling and experiment on micro-elastic-meshing-wheel mechanism 883
CHEN, Yangzhi; PENG, Xuefei; XING, Guangquan

On relation of manufacturing system, manufacturing mode and manufacturing technology 889
DAI, Qinghui

New 3D line clipping algorithm against spherical surface window 894
DENG, Weiyan; LU, Guodong; CHEN, Long

Straightness measuring and finite element analysis of the drilling pipe straightening based on the LPD 899
FANG, Shu; SHI, Lun

Femtosecond laser two-photon microfabrication control and monitoring system based on virtual instruments 903
GAO, Guohua; ZHU, Yu; DUAN, Guanghong; ZHANG, Ming

Research on thermal error compensation technology based on wavelet neural networks during abrasive machining 908
GUO, Qianjian; YANG, Jianguo; WANG, Xiushan

Research on the integrated technology of CAD/CAM/DNC of manufacturing-oriented 913
HE, Yu-an; SHEN, Bin; ZHANG, Qiling; XU, Jiyan

Research on braking performance of vehicle hydraulic retarder based on CFD numerical simulation method 919
LI, Airong; ZHU, Yanxia; WANG, Feng

Research on new manufacturing technique of synthetic gecko's foot-hair 923
LIAO, Jun; JIA, Qingxuan; SUN, Hanxu; SONG, Yigang

Study for simulation and experiment on the model of cutting force in high-speed dry gear hobbing 927
LIN, Chao; GUO, Qian; QIU, Hua

Investigation of surface nanocrystallization of 45 steel 933
BA, Dema; MA, Shining; LI, Chanqing; XIONG, Tianying

Study of IT governance in e-manufacturing 938
CAI, Min; WANG, Xiaoyun

Parametric 3D sleeve modelling based on hybrid dimension 944
CHEN, Long; LU, Guodong; WANG, Jin; ZHANG, Dongliang

A study on a linear-driven ultraprecision gas bearing stage with electrorheological fluid damper 951
CHEN, Yaying; ZHANG, Ming; ZHU, Yu; DUAN, Guanghong

Design of the plunger-assistant compressed air thermoforming mould for the PP cup 957
DAI, Yachun; WANG, Yun; ZHOU, Jianzhong

Study on active vibration isolation system for the bed of ultra-precision turning machine 960
GAI, Yuxian; LIU, Huiying; GUO, Qingti; DONG, Shen

Study on high performance driving P/M gear for engine 965
GAO, Hongyun; QU, Shengguan; SHAO, Ming; LI, Yuanyuan

Research on diagnosis method of heavy-pressure and high-speed dynamic sealing fault based on layer support vector machine 971
GONG, Ran; ZHOU, Xiaojun; PANG, Mao; HU, Hongwei

Analysis of internal parallel move gear transmission from kinetics 976
HAN, Gang; ZHANG, ChunLin

Research on the virtual assembly and uniform coat of multilayer revolving shell 979
HE, Chaoming; ZHANG, Jing; LI, Bailin; FANG, Liyong

The realization method and application of resource sharing in manufacturing grid 983
HE, Yu'an; YU, Tao; SHEN, Bin

The research on the Web-based enterprise alliance system based on .NET 989
HUANG, Changbiao; JIANG, Kaiyong; LIN, Junyi

Adaptive real-time networks design and simulation based on IC wedge-bonding control system 995
HUANG, Tao; ZHONG, Ming; ZHOU, YunFei

Study on algorithm to generating quintic spline curve 1002
JI, Guoshun; WANG, Wen; CHEN, Zichen

Analysis of the shaping law of numerical controlled electrochemical contour evolution machining 1008
KANG, Min; TANG, Xinyan; XU, Jiawen

Study on small and medium enterprises collaborative manufacturing system based on agency organization services 1014
LI, Chunquan; ZHOU, Dejian

Green design-oriented product AHP life cycle environmental impact assessment model .. 1020
LI, Fangyi; LI, Jianfeng; DUAN, Guanghong; LI, Jianzhi

Study on virtual numerical control turning system based on network 1026
LI, Shujuan; WANG, Jianmei; LI, Yue

Robust composite controller design for high-accuracy positioning system 1030
LIU, Hongbin; HU, Dejin

The design and application of microstructure control system applied to vehicles using sheet 1034
LI, Xincheng; LUO, Guanghong; ZHU, Weixing; ZHANG, Yan; ZHANG, Jungao

Analysis and control for micromotion stage based on magnetic suspension technology 1039
LI, Yanbao; CHEN, Benyong; ZHANG, Guizhen; ZHANG, Liqiong

Design of fault diagnosis system for 3D laser scanning machine based on Internet 1045
LU, Keqing; WANG, Wen; CHEN, Zichen

Algorithms of disassembly sequences for green product design 1052
NI, Junfang; CAI, Jianguo; SELIGER; Guenther

A new linear interpolation method with look-ahead for high speed machining 1056
REN, K; FU, J Z; CHEN, Z C

A new method to automatically determine parting line in injection mold design 1060
SHAO Jian; LU, Zhen; WEN, Heping

Architecture of process mining based business process optimization 1066
TANG, Hongtao; CHEN, Yong; Lu, Jiansa

Basic research of wire electrochemical micro-machining 1070
WANG, Kun; ZHU,, Di; QU, Ningsong

Research on bionic self-organizing theory of reconfigurable manufacturing system 1075
WANG, Li; CAI, Ying; XUE, Qing

Service-based research on product configuration based on product platform 1080
WANG, Lijuan; ZHANG, Xu; WANG, Tie

FEM simulation of vacuum hot bulge forming process of BT20 titanium alloy cylindrical workpiece 1084
WANG, Mingwei; ZHANG, Liwen; PEI, Jibin; LI, Chenhui

The impact of initiative locating and state memory fixturing (ILandamp;SM) on workpiece location position with CNC machining 1090
WANG, Qingxia; LI, Beizhi; YANG, Jianguo; ZHOU, Yaqin

Study on edge detection based on sampling in CNC non-contact measuring system 1095
WANG, Wen; LU, Keqing; CHEN, Zichen

Analyzing variation in supplier delivery performance to prioritize supplier development efforts 1100
Sawhney, R.S.; Li, Y; Li, Badiru

Optimal design of main girder of large pressing machine based on father-offspring combined selection GA 1106
CAI, Lanrong; HU, Dejin JIA, Yan

Influence of configurations of chamber and coil on uniformity of plasma distribution for inductively coupled plasma etcher 1113
CHENG, Jia; ZHU, Yu

Research on the ASP platform for networked manufacturing in textile region 1118
GU, Yuqi; WANG, Zhengxiao; PAN, Xiaohong

Semantic net knowledge model in auto-reasoning process plan 1123
HAO, Yongtao; ZHAO, Weidong; LI, Qiyan

Temperature-displacement simulation of shape metal 9-pass-cogging process 1136
HE, Qingqiang; ZHANG, Qinhe; LIU, Keqiang; CHEN, Juhua

Research of Co loss of cemented carbides progressive die in high-speed stamping 1141
HUANG, Zhenyuan; ZHOU, Chi; GUO, Lei; RUAN, Feng

A cross-sectional image measuring system based on NC milling machine 1145
LAN, Hongbo; DING, Yucheng; HONG, Jun; LU, Bingheng

A fitting algorithm of man hour decision used for digital manufacture 1150
LU, Yuan; SUN, Houfang

Applying rough set theory and fuzzy set theory to enterprise reference model classification and retrieval 1153
LV, Ruifeng; WANG, Gang; WANG, Guoqing

The study of matching theory and methods between management system and information system in IT project of manufacturing 1157
SONG, Lifu; ZHANG, Jian

Investigation and simulation of ultrasonic vibration electrical discharge milling in gas 1162
SU, Shupeng; ZHANG, Qinhe; ZHANG, Qibu; ZHANG, Jianhua

Cross-coupling control for synchronized scan of experimental wafer and reticle stage 1168
WANG, Chunhong; YIN, Wensheng; DUAN, Guanghong

Electrochemical micromachining with nanosecond pulses voltage 1173
WANG, Zhenlong; ZHU, Baoguo; ZENG, Weiliang

Study on narrow gap laser welding of 42CrMo steel bevel gear shaft 1178
WU, Shikai; YANG, Wuxiong; DONG, Peng; XIAO Rongshi

Dynamic analysis of a gas bearing support guide way through simplified beam model 1184
XU, DengFeng; ZHU, Yu

Mechanical analysis of carbon fiber wound high pressure hydrogen storage vessel and prestress control in manufacturing process 1188
ZHENG, C.X.; MENG, J.; LEI, S.H.

Research on fabrication of microstructure by using UV-LIGA 1194
ZHENG, Xiaohu

Research on electroforming Ni-Fe alloy for MEMS 1198
ZHENG, Xiaohu; ZHU, Di

Research on the process of stretch forming with reconfigurable tooling 1202
BAI, Xuepiao; ZENG, Yuansong; WU, Wei; LI, Zhiqiang; ZOU, Fang

Study on portable motorcycle exhaust gas analyzer 1205
CHEN, Hongyan; CHENG, Min; LUO, Qining; LI, Ying

Optimum ways of the warpage of injection products based on genetic algorithm 1211
CHEN, Shaoke

Formability enhancement for tailor-welded blank using variable blank-holder force control 1215
CHEN, Wei; LV, Dun; Lin, Guo-song; HOU, Bo

Technology control in the bright quench process with the mesh-belt furnace 1220
DING, Hao; ZHU, Shigen; CHEN, Haiyan; BAO, Zhenghong

Idea generation for fuzzy front end of new product development using CAIs 1224
GAN, Dequan; TAN, Runhua

Modeling and experimental analyses for nano-positioning compliant mechanisms 1228
QIN, Yu; FENG, Zhijing

An application of the neural network in the near-field acoustic holography 1232
GAO, Yinhan; SONG, Dan; LIANG, Jie; ZHOU, Xiaohua

A study of a new mechanical-electrochemistry polishing method with wire-combined tool 1236
GUO, Z.N.; LIU, J.W.; HUANG, Z.G.; CHAI, M.Z; MO, B.H.; WAN, Z.Y.

Finite element simulation of peen forming process for the saddle shape 1240
HUANG,, Xia; ZENG, Yuansong; LI, Zhiqiang

Development and application of repairing bone defect visualization system 1243
HU, Qingxi; YUAN, Xusheng; DAI, Chunxiang; FANG, Minglun

Vibration testing and evaluation of chair-electromotor for the automobile 1247
JIANG, Fangbo; SU, Jianliang; HE, Yongyi; TIAN, Yingzhong

Study on the integrated intelligent CAD/CAM system for cold-and-precision forging 1252
JING, Weifeng; RUI, Yuefeng

Study on adhesion failure of milling insert in milling stainless steel 1257
Li, G.H.; Sun, S.L.; Tan, G.Y. Rong, Y.M.; Song, H.

Research on digitized configuration and automated management of cutting tools for CNC machine 1262
LI, Guoxi; WU, Baozhong; GONG, Jingzhong; ZHONG, Nanxing; LI, Tingting

Design and study on lighting and landscape information and control system in digital city 1268
LI, Ming; ZHAO, Xiaoyin; LI, Wei; PENG, Qiusheng

Research of the method of reconstructing the repair bionic scaffold based on tissue engineering 1275
LIN, Liulan; LIU, Hanqing; HU, Qingxi; LI, Limin; FANG, Minglun

Fabrication of tissue engineering scaffolds via rapid prototyping machine 1280
LIN, Liulan; HUANG, Xianxu; HU, Qingxi; FANG, Minglun

Principle of cold rolling harmonic gear and research on the equipment 1286
LIN, Shuzhong; YANG, Xianghong; SUN, Huilai; QI, Xiangyang

Research on micro/nanometre measuring technique of optical aspheric surface 1290
LIU, Jianchun; GUO, Yinbiao; LIU, Gujin

Prediction of earing in drawn cup based on crystallographic texture data of sheet metal 1295
LIU, Shourong; LI, Dayong; NAKAMURA, Masao

Fabrication of nano-tips employing three different methods 1298
LIU, Yifang; WANG, Lingyun; SUN, Daoheng

The structure analysis on the ladder cantilever micromachined tunnelling gyroscope 1302
LI, Wenwang

Effects of electrical parameters on electrical discharge grinding of non-conductive engineering ceramics 1306
LI, Xiaopeng; LIU, Yonghong; YU, Lili; JI, Renjie

Particle shape characterization of brown corundum powders by SEM and image analysis 1310
LI, Zhengmin; ZHAI, Han; TAN, Min

A new method for analyzing and monitoring measurement process 1314
MA, Yizhong

Numerical simulation of energy effects in laser bending of thick steel plate 1319
PEI, Jibin; ZHANG, Liwen; WANG, Cunshan; DONG, Chuang

Calculation model of the deformation due to grinding force in crank pin non-circular grinding 1325
SHEN, Nanyan; HE, Yongyi; WU, Ganghu; TIAN, Yingzhong

Analysis of the tool-chip contact length incorporating the effects of shear strain 1331
WANG, Jiachun; ZHU, Lina

A systematic study of RIE for silicon tips 1335
WANG, Lingyun; LIU, Yifang; SUN, Daoheng

Multiscale model of honed profiles 1339
WU, Liqun; QUAN, Taiwei; ZENG, Wenhan; JIANG, Xiangqian

Study on mathematical transformation for machining process planning of parallel machine tools 1342
YUAN, Suoxian; YAO, Peng; CAI, Guangqi

Kinematics analysis of a parallel machine tool based on genetic algorithms 1345
ZHAO, Yongsheng; SHI, Yi; HOU, Yulei; GAO, Jianshe; ZHENG, Kuijing; LI, Qingling

Numerical simulation with element-free method based on the wavelet basis function in the sheet metal forming 1354
ZHANG, Xiaobin; SUN, Yu; WANG, Liangxin

Study on AISI304 sheet metal forming by laser induced thermal stress and its residual stress 1359
ZHOU, Yijun; ZHANG, Yongkang; ZHOU, Jianzhong; YOU, Wenming; YIN, Chen; ZHANG, Chengyang

Establishment of surface roughness prediction model for turning brittle materials 1364
CHEN, Jie; TIAN, Guangxue; CHI, Yonggang; LIU, Mei; SHAN, Dongwei

Research on the model and application of knowledge-based industrial design 1369
CHEN, Xiantao; ZHAO, Jianghong

Creative design of the unreflecting machine for stainless molding board 1375
CHONG, Kai

Study on the generation of optimal assembly sequence based on a tree model 1379
DAI, Guohong; ZHANG, Youliang; YOU, Fei

Benefit allocation model of manufacturer and its information services providers 1386
DING, Xianghai; CHEN, Chouyong; WANG, Xiaoyun

Studies on the modelling of the regional networked manufacturing enterprise dynamic alliance based on the ant ecosystem 1391
GAN, Yi; QI, Congqian; ZHANG, Jingfeng; CHEN, Sa

Studies on the information potential energy and the information difference in networked mass customization 1397
GAN, Yi; QI, Congqian; DU, Jitao; MAI, Yunfei

Research on accuracy design for remanufactured machine tools 1403
HUANG, Xiaodiao; DING, Wenzheng; HONG, Rongjing

Innovative CAD method on the intensity analysis of lift-arms under offset loading condition 1411
JIANG, Feng; LI, Fangyi; LI, Jianfeng; WANG, Yuling; CHEN, Jian

Study on the building method of immersive virtual environments based on commodity components for virtual manufacturing 1417
JIA, Qingxuan; GAO, Xin; SUN, Hanxu; SONG, Jingzhou

An inference study on the process capability index for non-normal data based on modified weighted variance 1424
KONG, XiangFen; HE, Zhen; ZONG, ZhiYu

Study on customization manufacturing of small and medium-sized enterprise cluster based on postponement 1430
LI, Guofu; YE, Feifan

Study on the modularization building and implementation of small and medium-sized enterprises' virtual organization 1437
LI, Guofu; ZHANG, Jufen

The checkout and forecast for the product performance online 1444
LIU, Xintian; HUANG, Hu; SHEN, Jigang; LIU, Changhong

Research and realization on complicate dense points reconstruction system 1449
LI, Wenqiang; LI, Yan; SUN, Wenlei; YANG, Jiawei

New lower bound for single machine total tardiness problem with sequence dependent setup 1455
LUO, Xiaochuan; LI, Dancheng; SONG, Hang; CUI, Dongliang

Research on integrated development process of complicated product 1459
MI, jie

Experimental study of laser cladding forming iron-based alloys 1463
SONG, Jianli; LI, Yongtang; DENG, Qilin; HU, Dejin

The researches on the mould manufacturing grid 1468
WANG, Zongzhong; CHEN, Qingxin; MAO, Ning

Dynamic analysis and optimization of electromechanical coupling system 1474
WU, JianXin; LI, Qiang; ZHAO, WeiGuo; SUN, Yan

Research on the motorized spindle's thermal properties based on thermo-mechanical coupling analysis 1479
XIAO, Shuhong; GUO, Jun; ZHANG, Bolin

Research on key technologies of grid-based application service provider platform 1484
WANG, Guoqing; WANG, Gang; LV, Ruifeng; LV, Min

Application of task graph and simulation to analysis effect of random events on scheduling 1490
WANG, Jingfeng; WANG, Gang; MA, Zhibin; WANG, Guoqing; LV, Ruifeng; GAO, Guoan

Research on a novel approach to multi-axis line contact milling 1494
WANG, Kunqi; WANG, Runxiao; YU, Bingao; ZHANG, Changfu

Research on PLM multidimensional data model 1499
WANG, Zhen; WANG, Lifeng; RUI, Yuxiang; LI, Congxin

Discussion on the improved diffractive superresolution element of the two-photon microfabrication 1505
WEI, Peng; ZHU, Yu; TAN, QiaoFeng; DUAN, GuangHong

First automatic empty container yard with no operator in China 1509
XIE, Yun; BAO Qifan; YAO, Zhenqiang; GE, Zhongxiong; DU, Zhengchun

Buckling analysis of a 2-DOF parallel mechanism composed of right-angle-notch flexure universal hinges 1514
YU, Zhiwei; ZONG, Guanghua; BI, Shusheng; YU, Jingjun

A combined collaborative design platform for large-scale equipment installation 1521
ZHANG, Weihua; TAN, Jianrong; CHE, Junhua

Research on parametric design approach of body skeleton of passenger car 1527
ZHU, Yaojie; YIN Mingde; FANG, Deguang

The research on material selection and strain analysis of vehicle complicated deformable parts with ASAME 1532
LI, Xincheng; CAI, Shougui; ZHU, Weixing; WANG, Yun; ZHAO, Liangyi

A new approach of supply network performance measurement based on supporting level and operational level 1537
MAO, Zhaofang; LI, Xiaomei; JIA, Fu

Research on OWL-based process model transformation for interoperability 1546
MA, Zhibin; WANG, Gang; REN, Bingyin; WANG, Jingfeng

The modeling and analysis of geometric error for machining center by homogeneous coordinate transformation method 1553
Mutellip, Ahmat; Iliham, Abduruyim

Research on manufacturability evaluation method for mechanical part 1557
OU, Changjin

Virtual prototyping of key parts of printing press 1563
QI, Yuansheng; LI, Haixiang; WANG, Xiaohua; ZHAO, Shiying

Volume 3

Evaluation of the EMD end effect and a window based method to improve EMD 1568
REN, Daqian; YANG, Shixi; WU, Zhaotong; YAN, Gongbiao

Genetic simulated annealing algorithm-based assembly sequence planning 1573
SHAN, Hongbo; LI, Shuxia; GONG, Degang; LOU, Peng

Improving gear signals analysis methods for radial basis function neural network automatic recognition 1580
SUN, Fang; LIU, Yi Bing

Virtual fatigue test system and its key technologies for construction vehicles 1586
SUN, Hongzhu; SHANG Jianzhong; CONG, Nan; LIANG, Keshan

Fluid magnetic abrasives and its applications in the precision finishing process 1591
SUN, Huanwu; YANG, Shichun

Research on key technique of the new type self-driven towing machine for cable 1597
WANG, Hui; LI, Gangyan; LI, Guifu; YANG, Kesen

An analysis of supplier involvement in manufacturing supply chain management 1601
WU, Bei; JIANG, CHANG, Bing; FENG, Xiaofei

Crankpin non-circular grinding progress error forecast and compensation based on RBF-NN 1607
WU, Ganghua; HE, Yongyi; SHEN, Nanyan; TIAN, Yingzhong; LI, Wei

Online measuring method and system for diameter parameters of wheel set 1612
WU, Kaihua; ZHU, Feng; ZHUANG, Fei; YAN, Kuang

Research on the key technique for numerical control grinding arbitrary n-polygon shafts 1616
WU, Yijie; LENG, Hongbin; PAN, Xiaohong; CHEN, Junhua

Researching for the unbounded magnetic abrasive application in magnetic abrasive finishing 1622
XIAO, Zuoyi

An empirical research on the relationship among organizational boundary, flexibility and performance of the manufacture in Pearl River Delta 1627
XIE, Weihong; ZHANG, Zhaoxing; ZHANG, Zonggui; OU, Yiyong

A new micro-EDM reverse copying technology for microelectrode array fabrication 1633
ZENG Weiliang; WANG, Zhenlong; DONG, Desheng

A new type of aerostatic thrust bearing with high stiffness 1637
ZHANG, Junan; YUAN, Li; FANG, Zongde

An immune algorithm for batch job-shop scheduling with multi-objectives 1642
ZHOU, Yaqin; LI, Beizhi; YANG, Jianguo ; WANG, Qingxia

Study on measurement of flame temperature using a linear CCD 1647
ZHOU, Yinghui?ZHENG, Dezhong

Research on product configuration based on knowledge 1651
ZHU, Wenhua; MA, Dengzhe

Quality control of hypoid gears using gear measuring machine 1657
WANG, Zhonghou; ZHOU, Xiaoling; TETSUTARU, Oguma; AIZOH, Kubo

Simulation system of operating performance of hypoid gears 1664
WANG, Zhonghou; ZHOU, Xiaoling; AIZOH, Kubo

Research on a method of injection molding machine configuration design based on instances 1670
WEI, Zhe; TAN, Jianrong; FENG, Yixiong

Investigation of turning tool system with on-line tool geometry adjustment 1676
WU, Wenge; LIU, Zhanqiang; CHENG, Yunping

Technology innovation of developing country in the context of globalization: a case study 1681
WU, Xiaobo; XU, Guannan; WANG, Wubin

Research on the forming forces during the 3D non-axisymmetric thin-walled tubes neck-spinning 1686
XIA, Qinxiang; CHENG, Xiuquan; RUAN, Feng; HUANG, Zhenyuan

Research on structure dynamic optimization design of NC grinder 1693
YE, Hongwu; CHEN, Xiaoping; HU, Rufu

Application research of X3D in individualized products customization 1699
YU, Tianbiao; YANG, Jianyu; CHEN, Jie; YU, Ge; WANG, Wanshan

Optimization of cutting parameters during cutting based on the FEA and neural networks 1704
ZHANG, Faping; SUN, Houfang; Lu, Yuan

A study on the relation between enterprise competitive advantage and CRM based on data mining 1710
ZHANG, Guozheng; CHEN, Yun; FU, Chuan

Input and output optimization study on hierarchical manufacture systems integrating context knowledge 1715
ZHANG, Hong; SHEN, Zuzhi

Finite element and experimental modal analysis of ultra-precision air bearing linear motion stage 1721
ZHANG, Ming; ZHU, Yu; REN, Gexue; DUAN, Guanghong; CHEN, Yaying; GAO, Guohua

The modeling of complex system based on dynamic control cell structure 1726
ZHANG, Xiaohua; CHEN, Wei; SUN, Yanming; ZHENG, Shixiong

A new Supply Chain Maturity Model with 3-dimension perspective 1732
ZHAO, Daozhi; ZHANG, Liang; LIU, Xin; SUN, Jianyong

Process integration method by using BOM multi-view mapping techniques in BIW production 1738
ZHENG, Yongqian; ZOU, Huihong

Intelligent cutting equipment of gas pipe based on PC controlling 1744
ZHOU, Zirong; NING, Liwei; ZENG, Shuling

Laser shock processing of titanium alloy 1749
ZOU, Shikun; CAO, Ziwen

Performance evaluation of tantalum nitride thin film hard coated K20 carbide insert on machining Inconel 600 1753
Parthasarathy, S.; Srikrishna, A; Fernando, J. Rohit; Muthukrishnan, N.

Influence surface finish on airfoil design 1759
Adelnia, R.; Daneshmand, S.

Tool path generation for 2D profiles in CO_2 laser machine system 1764
MING, Feichen; YU, Pinchen; ANDWEN, Tsehsiao

Functional prototyping of special purpose machines using hardware-in-the-loop simulation 1771
LI, Wenyong; Abel, A.

Square hole fabrication in micro nano scale by low energy ECR ion beam irradiation 1779
Pahlovy, Shahjada Ahmed; Momota, Sadao; Yao Yingxue; Kashihara, M.; Nishimura, K.

Reduction of calculation time in gear shaving simulation 1782
Nakada, Shimpei; Moriwaki, Ichiro

The design and finite element analysis for the ultrasonic amplitude transformer bar 1787
HUANG, Shibiao; YU, Baohua; HU, Xiaoping

Feature-based process planning using step-NC 1790
QIU X L; DING, L; XING, Y

Build the service infrastructure of virtual enterprise 1796
QU, Yibing; ZE, Xiangbo; LIU, Kui

Structure design of a high-sensitivity MOEMS accelerometer 1801
WU, Yu; LIU, Xiaomin; HOU, Changlun; YANG, Guoguang

Rapid prototyping of three-dimensional cell/matrix constructs 1808
WANG, Xiaohong; YAN, Yongnian; XU, Wei; LIU, Haixia; XIONG, Zhuo; LIN, Feng; WU, Rendong; ZHANG, Renji

Lightweight design of auto-body structure by topology optimisation based on level set method 1818
XU, Zhigang; LIN, Zhongqin; WANG, Hao

Research and application of bio-hierarchy structure 1824
LIU, Haixia; YAN, Yongnian; LIN, Feng; WANG, Xiaohong; ZHU, Lin

Improving the localization of electrochemical micro-manufacturing with nanosecond pulse duration 1829
QU, Ningsong; ZHU, Di; XIE, Xiaofen

Research and FEM simulation on the hydroforming for rear axle housing of light vehicle 1833
LI, Wei; WANG, Chunyan; HAN, Yingchun

Research on forming principle of the technology by forward extrusion and cross rolling for the rear axle shaft sleeve of automobile 1840
WANG, Chunyan; HAN, Yingchun; YU, Duonian

Research on remote monitor system of accurate grinding manufacturing procedure based on SSA 1845
YU, Chengbo; ZHANG, Lian

Research on measuring model for parallel robot coordinate measuring machine 1850
CHEN, Xiulong; ZHAO, Yongsheng; LU, Ling

Analysis of mapping form EPC model to workflow model 1854
LING, Weiqing; WANG, Jian; YAN, Junwei

Multi-ultrasonic sensor fusion based on Dezert-Smarandache theory 1858
ZHAO, Xianzhang; ZENG Junfang; GAO, Yibo; GUO, Rui; YANG, Yiping

A GIS-based information sharing infrastructure for container port logistics using data mining and visual technology 1863
SHU, Fan; XU, Ziqi; HUANG, Youfang; MI, Weijian

Application of liquid crystal light valve in robot vision system 1868
WANG, Tao; LI, Dongmei; TAO Chunkuang

Vibration controllability of underactuated robots with flexible links 1872
CHEN, Wei; YU, Yueqing; ZHANG, Xuping; SU, Liying

Design of new style foot-cutting machine used in PCB product line 1879
LI, Qiang; ZHANG, Guixia; GAO, Yaodong; YAN, Hongbo

Rolling bearings fault diagnosis based on wavelet-neural network 1884
LU, Shuang; LI, Meng

Design for workflow technology oriented knowledge management system 1888
MA, Fumin; WANG, Jian; WANG, Liwei; YANG, Shuxin

Fuzzy decoupling control of melt temperature and melt pressure for plastic electromagnetism dynamic extruder 1893
WEN, Shengping; QU, Jinping

An improved servo control system for high speed flat industrial sewing machine 1898
XIAO, Xi; ZHANG, Meng; LI, Min; LI, Yongdong

Regenerative braking control system improvement for parallel hybrid electric vehicle 1902
PENG, Dong; ZHANG, Jianwu; YIN, Chengliang

Research on intelligent CVC roll grinding and interpolation strategy 1909
YU, Tao; BI, Junxi; LIU, Lilan

A multi-axis synchronous register control system for color rotogravure printer 1913
CHEN, Dechuan; ZHANG, Hao

Adaptive control of linear velocity and tension in winding system of dry plastic film 1919
CHEN, Dechuan; WANG, Meifang

Kinematics and dynamics analysis of maintenance manipulator 1924
CUI, Genqun; LI, Chunshu; ZHANG, Minglu

Information storage and intelligent interface for use in intelligent magnetic bearings 1931
TANG, Hui; WANG, Xiping; CHU, Yunling; WANG, Lei; QIAN, Jing

Kinematics analysis of active reflector supporting mechanism for FAST 1935
CHEN, Renren; TANG, Xiaoqiang; LI, Tiemin

The design of fuzzy PID multi-channel temperature control system based on neural network 1940
ZHANG, Yongjun; WANG, Zhixing; WANG, Lili

The research of the anti-surge control system based on CAN bus for centrifugal compressor 1944
ZHANG, Yongjun; WANG, Zhixin

Collaborative filtering recommendation algorithm based on look-ahead selective sampling 1948
GAO, Linqi; LI, Congdong

Research on flexible acceleration and deceleration method of NC system 1953
LENG, Hongbin; WU, Yijie; PAN, Xiaohong

Study on direct torque control of permanent magnet synchronous motor based on observing stator flux linkage 1957
LIN, Weijie

System identification for mechatronics/electronic-hydraulics servo device based on LabVIEW 1963
LIU, Xiangming; LI, Liang; WU, Shenlin

Study on multi-agent systems task distribution negotiation based on loose coalition 1970
OU, Changjin

Fault diagnosis of automobile main reducer based on correlation dimension 1975
PANG, Mao; ZHOU, Xiaojun; YANG, Chenlong

Two effective control algorithms for a pneumatic system 1980
SONG, Qiang; LIU, Fang†*

Kinematic properties of wheeled mobile robots in round ducts/pipes 1986
SONG, Zhangjun; CHEN, Ken

Optimal control and design of flexible manipulators based on LQR output feedback 1994
TU, Li; ZHOU, Pixuan; DENG, Jinlian

Study on real-time control of humanoid robot using surface EMGS 1999
LI, Dapeng; LI, Xingfei

Architecture singularity analysis for a class of parallel manipulators 2003
LI, Luyang; WU, Hongtao; ZHU, Jianying

Realization of close coupling plane double inverted pendulum based on digital motion technology 2007
GE, Dongyuan; JIANG, Shousheng; ZHOU, Hongbo; XIAO, Weihong

Research on the hybrid cam-linkage mechanism realizing trajectory 2012
GE, Zhenghao; LI, Xiaofang; REN, Ziwen; YANG, Fulian

Research on the open manipulator controller for assisting the elderly and the disabled 2017
SUN, Lining; YAO, Yufeng; DU, Zhijiang

Research on the function and the orientation system of the stirring robot working in slurry 2020
HAO, Jingru; CUI, Ying; WANG, Dongyao; GAO, Hong

Automatic defects detection based on adaptive wavelet packets for leather manufacture 2024
HE, Fuqiang; WANG, Wen; CHEN, Zichen

Multi-step predictive model of air fuel ratio for gasoline engine based on neural network 2028
HOU, Zhixiang; WU, Yihu

Two-degree-of-freedom robust control with application in the non-circular turning 2031
LIU, Hongbin; HU, Dejin

A six wheeled robot with active self-adaptive suspension for lunar exploration 2035
SHANG, Jianzhong; LUO, Zirong; FAN, Dapeng; Zhao, Feng

PLC applied high precision weighing for feeding bulk stuff 2039
SHI, Lianwen; XIE, Hongxia; WANG, Meijing

Magnetic dynamic absorber with on-line monitoring function 2043
SONG, Fangzhen; SONG, Bo

The experiment research of force control based on intelligent prediction in unknown environment 2047
WANG, Lei; HAO, Yongping; WANG, Fei

Study on large radius of spherical fiducial surface of bearing of highspeed railway forming base on virtual axis 2053
WANG, Mingfu; LI, Hang

Study on three-dimensional surface reconstruction of black melon seeds using photometric stereo 2056
CHEN, Ying; LI, Haoyu; LI, Wei

Research of tension robust control based on mixed sensitivity 2061
HE, Jinbao; HE, Yongyi; GUO, Shuai; FANG, Minglun

Research of input-output energy decoupling in tension system 2065
HE, Jinbao; HE, Yongyi; ZHOU, Qihong; FANG, Minglun

Application of piezoelectric impedance technology in structural damage detection 2070
ZHANG, Jing; ZHANG, Zhiwen

Research on the control system of servo presses 2075
FAN, Hongmei; SUN, Yu

Research on path-planning method of a redundant modular robot 2081
HONG, Lei; JIA, Qingxuan; SUN, Hanxu

An improved algorithm for inverse kinematics solution of redundant modular robots 2087
JIA, Qingxuan; HONG, Lei; SUN, Hanxu

Research on feedforward control system of tandem cold rolling mill's hydraulic AGC and its computer control strategy 2093
WANG, Yiqun; SUN, Menghui; ZHANG, Wei; FANG, Yiming; CHEN, Gang; ZHANG, Qisheng

Application of intelligent control based on process identification in beryllium-bronze heat treatment 2099
XUE, lingyun; ZHOU, minjun; YANG, chengzhong

Active vibration control system of FAST feed system based on PMAC controller 2105
YE, P.Q.; ZHANG, H.; ZHENG, R.; YANG, K.M.; LIN, B.J.

Study on a spiral-type robot magnetically controlled in biotic tracts 2110
ZHANG, Wei; CHEN, Yingjun; HUANG, Ping

An application of OPC technology in gas turbine inlet air cooling system 2116
WANG, Jian; HONG, Dandan; JIANGZHOU, Shu; HUANG, Guohui

Hydraulic bend control system research of fuzzy self-adaptive PID based on virtual instrument 2120
WANG, Yiqun; LIU, Jian; NING, Shurong; ZHANG, Wei

Study of telerobot with tactile tele-presence and myoelectric bionic control 2125
XI, Xugang; LUO, Zhizeng

Design of a new type three-axis acceleration sensor 2129
ZHANG, Xin; FEI, Yetai

Research and application of automation technology in renovation for old import machine tool 2134
ZHAN, Yiqing; ZUO, Zhiyong; XIE, Yun; WEI, Wen

Modeling and simulation research on move-in-mud robot based on creeping principle 2138
WANG, Zhuo; ZHANG, Zhonglin; ZHAN, Bo; MENG, Qingxin; WEI, Hongxing

A geometric approach to the four-finger grasping planning of polygonal objects 2144
WU, Yuguang

Research on high precision control system of a hybrid five-bar actuator 2149
ZHANG, Ke

Open-cycle absorption air-conditioning testing system 2155
ZHAO, Chenglin; JIANGZHOU, Shu; TANG, Zheng; YUAN, Yijun

Developments in real-time control with Ethernet 2161
Piggin, R.S.H.

Research and implementation of an on-line fault diagnosis expert system for the chemical process 2169
XU, Liang; LI, XiuXi

The design of RFID thruway no stop electronic toll collection system on the basis of TCP/IP protocol 2175
ZHAI, Feng; YU, Chengbo; CUI, Shihai

The research of a bionic robot that can walk on water surface based on water strider 2180
GAO, Tiehong; CAO, Junyi; GAO, Feng; ZHU, Dunyu

Hand-held state monitoring and fault diagnosis system for oil field pouring and pick equipment 2187
LI, Peiyu; TAN, Dapeng; LIU, Duanyang

Embedded industry monitoring network data base service based on UPnP 2193
TAN, Dapeng; LI, Peiyu; GUAN, Ruixia; LIN, Boyu

Energy integration and economical optimization of small scale CCHP system 2198
ZHANG, Qin; CUI, Guo-Min; ZHANG, Leilei; GUAN, Xin

Research on variable valve system based on electro-hydraulic drive 2204
LIU, Jinrong; JIN, Bo; CHEN, Ying; WENG, Zhentao

Experiment on wireless sensor vibration energy collection 2209
SUN, Yuguo; ZHU, Likun; HUANG, Yi

Development of a plate-laminated methanol steam reformer for hydrogen production 2212
PAN, Minqiang; TANG, Yong; YU, Hao; CHEN, Hongqing; LI, Yong; ZENG, Kai

Operation parameters optimization of centrifugal pumps in multi-sources water injection system 2216
GUO, Junzhong; QI, Yuansheng; XU, Yafen; LIU, Yang

Embedded system of temperature testing based on DS18B20 2223
SHEN, Hongyao; FU, Jianzhong; CHEN, Zichen

Research on development of the viscoelastic suspensions used in construction vehicles 2227
SUN, Dagang; SONG, Yong; ZHANG, Xin; ZHANG, Liang; LIN, Muyi

Controlled rectification and steady voltage technology of the permanent-magnet generating set on vehicle 2231
ZHANG, Xueyi; SHI, Liwei

Research on energy saving in accelerated life testing for airborne hydraulic pump 2234
SANG, Yong; WANG, Zhanlin; QI, Xiaoye; PEI, Zhongcai

Study on variable pitch system characteristics of big wind turbine 2239
YAO, Xingjia; SHAN, Guangkun; SU Donghai

Virtual instrument and frequency conversion technology-based brake test system 2244
MENG, Wenjun; WEN, Hao; HAN, Gang; LIU, Weili

A model for flexural vibration of laminated beams embedded with piezoelectric layers including shear deformation 2249
WANG, Yun; XU, Rongqiao

Study on speed-sensorless vector control transducer based on DSP 2252
XU, Ming; JIN Bo; NING, Desheng; WU, Ming; LI, Wei

Improved MSPCA with application to process monitoring 2257
ZHANG, Haifeng; WANG, Yuesheng

Efficiency improvement of MSW incinerator with a novel MSW incineration technology integrated with biochemical method 2262
ZHANG, Zhixiao; MA, Jiade

Study on micro modeling equipment of condenser-throat 2269
ZHANG, Leilei; CUI, Guomin; ZHANG, Qin

Analysis and research of eddy current detector based on virtual prototype 2273
YING, Fuqiang; ZHOU, Linhang; WANG, Xiao; LV, Yuanjun

Energy and economic optimization for automobile painting process 2279
ZHANG, Qin; CUI, Guo-Min; GUAN, Xin; GAO, Xiaozhong

Research on inventive problem solving process model based on AHP/TRIZ 2285
YANG, Wei; WU, Qingming; CHEN, Yongqiang; ZHAO, Huadong

Study of pneumatic capsule transportation pipeline driven by electromagnetic force 2291
LIN, Yu; ZHANG, Chaolei; WU, Haiyan

Research on FTA driving module identifying technology 2296
GONG, Jingzhong; LI, Guoxi; QIU, Jing; LI, Tingting

Application of modified grey modeling method to forecasting the temperature during electric field assisted sintering 2302
GUO, Liang; LI, Yuanyuan; LI, Xiaoqiang; YANG, Junyi

Standardizing components for product family configuration design 2308
WEI, Junmin; JIN, Sun; LIN, Zhongqin; LAI, Xinmin

A two-phase heuristic algorithm to solve the large-scale vehicle routing problem 2316
WU, Zengyuan; WU, Xiaobo; FANG, Gang; WU, Bei

Mold design and temperature field analysis on electric current sintering of electrically conductive powders 2321
YANG, Junyi; LI, Yuanyuan; LI, Xiaoqiang; Guo, Liang

Integrated pipeline transport and disposal system for solid waste coal sludge 2327
CHEN, Jie; CAO, Kang; ZHAO, Xueyi; WANG, Xing; PAN, Yue; WU, Miao

Properties of impinging flames in entrained-flow gasifier with opposed multi-burner 2332
GUO, Qinghua; YU, Guangsuo; YAN, Zhuoyong; LIANG Qinfeng; NIU, Miaoren; YU, Zunhong

Research on fault diagnosis of electric appliance for vehicle based on CAN bus 2338
LIU, Yingji; ZHANG, Tianxia; CAO, Wanke; WANG, Danyang

A discretizing approach for predicting scatter fatigue crack nucleation life 2343
ZHANG, Hongcai; CHENG, Lin; ZHANG, Shusheng

Research on the ultraviolet-curing resin wire saw 2347
PENG, Wei; LIU, Fuqing; YAO, Chunyan

Author Index