

ICPT 2014 Time Table

Keynote Speeches I&II : November 19 (Wednesday) 9 : 50~11 : 50

Room A : Keynote Speeches I&II		
Session chair :		
KN1	Direct-drive high precision positioning system with its applications	Dr.Yong-yil Kim , (CEO Justek, Inc.)
KN2	Design and Control of a Pneumatic Micro-Manipulation Control with Microscope Observation System	Prof.Ming-Chang Shih , (Department of Mechanical Engineering, National Cheng Kung University)

Keynote Speech III: November 20 (Thursday) 9 : 00~10 : 00

Room A : Keynote Speech III		
Session chair :		
KN3	Modeling and Compensation for Angular Transmission Errors for Precision Positioning Devices with Harmonic Drive Gearings	Prof.Makoto Iwasaki , (Department of Computer Science and Engineering, Nagoya Institute of Technology)

Oral Session I : November 19 (Wednesday) 15 : 10~16 : 30

Room A : Components

Session chair :

CM1	Influence of Type and Size of Coupling on the Motion Characteristics of Ball-screw Drive Feed Drive System	Ryuta Sato (Kobe Univ.) and Takeshi Hashimoto (Miki Pulley Co., Ltd.)
CM2	Thermal expansion containment of a positioning device by temperature-controlled cooling water	Ning Zhu, Takashi Nozaki, Jiro Otsuka(Shizuoka Inst. of Science and Tech.), Ryutaro Suzuki(Grad. Sch. of Shizuoka Inst. of Science and Tech.),Tetsuhiro Nishide(THK.CO.,LTD) and Tomohiko Ohgata(Ohm electric CO., LTD)
CM3	Measurement and analysis of friction of rolling balls in raceway grooves	Atsushi Matsubara, Atsuko Sayama and Daisuke Kono (Kyoto Univ.)

Room B : Control

Session chair :

CN1	Coarse / Fine Controls of a Linear Motor Stage Intended to Minimize Positioning Time By Utilizing Micro-dynamics of a Rolling Ball Guide	Shigeru Futami, Tomofumi Ohashi, Yuki Nomura and Toshiyuki Aso (THK Co., Ltd.)
CN2	Compensation of Magnetic Saturation of Self-sensing Magnetic Levitation	Kohei Matsuda and Tetsuzo Sakamoto(Kyushu Inst. of Tech.)
CN3	Feedback Controller Design of the Active Caster for Low-impact Carts Considering the Saturation of the Control Input	Masaharu Tagami, Kiyoshi Ioi(Kinki Univ.) and Atsushi Suda (Maizuru National College of Tech.)
CN4	Active Compensation of Motion Errors of Positioning Units with Air Bearings Using Magnetic Preloads	Seung-Kook Ro, Gyungho Khim and Jong-Kweon Park(KIMM)

Room C : Design

Session chair :

DN1	Positioning of an XY micro stage by using a Cr-N thin film strain gauge	Takuma Sugawara, Yuki Shimizu, So Ito, Wei Gao(Tohoku University), Eiji Niwa and Yoshihiro Sasaki(Research Inst. for Electromagnetic Materials)
DN2	Fabrication of micro three-dimensional structures using local electrophoresis deposition positioned with a laser trapping technique	Takanari Takai, Genki Toyoda and Futoshi Iwata(Shizuoka Univ.)
DN3	Development of Spatial 1-DOF Torque Transmission Mechanism for Characteristics Evaluation of Flexure Revolute Joints	Ruriko Moriya, Daisuke Matsuura and Yukio Takeda(Tokyo Inst. of Tech.)
DN4	Design, Analysis and Control of Elastomeric Bearing Positioning Stage	Yen-Chu Teng and Koo-Shen Chen(National Cheng-Kung Univ.)

Oral Session II : November 20 (Thursday) 10 : 20~12 : 00

Room A : Measurement 1		
Session chair :		
MS1	A miniaturized three-axis angle sensor	Taiji Maruyama, Siew-Leng Tan, Yuki Shimizu, Dai Murata, So Ito, and Wei Gao (Tohoku Univ.)
MS2	Reduction of the Straightness Measurement Error Induced by Sensor Gain Error in the Mixed Sequential Two-probe Method	Jeong Seok Oh, Ji Hun Jeong, Gyungho Khim, Chang Ju Kim and Chun Hong Park(KIMM)
MS3	Circular Motion Accuracy Measurement of the NC Lathe Equipped with a Simulating Axis	Naoki Hamabata, Masashi Yamaji, Yukitoshi Ihara (Osaka Inst. of Tech.), Masamitsu Nakaminami, Yutaka Ido and Masahiro Shimoike (DMG MORI SEIKI Co. Ltd.)
MS4	Real-time monitoring of air refractive index for absolute distance measurement	Hyun Jay Kang, Byung Jae Chun, Yoonsoo Jang, Young-Jin Kim and Seung-Woo Kim(KAIST)
MS5	Development of a New Calibration Method for Laser Velocimetry towards the Reduction of the Measurement Uncertainties– an Application of Positioning Technology to Production Engineering	Katsuaki Shirai, Shohei Ishimura, Shigeki Hirasawa and Tsuyoshi Kawanami (Kobe Univ.)
Room B : System 1		
Session chair :		
SY1	Long Stroke and High Resolution Positioning Device for Linear Actuator	Hsuan-Fu Huang (National Taiwan Univ.)(Inst. of Physics, Academia Sinica), Wei-Min Wang, Alan Yih-Fine Liu, Chi-Yuan Chang (National Taiwan Univ.) and En-Te Hwu (Inst. of Physics, Academia Sinica), Kuang-Yuh Huang (National Taiwan Univ.)
SY2	A Passive Reaction Force Compensation mechanism using movable Eddy Current Dampers	Duc Canh Nguyen and Hyeong Joon Ahn (Soongsil Univ.)
SY3	Proposal of New Type of One Axis Controlled Magnetic Bearing (Part II.)	Kentaro Hirose, Mochimitsu Komori, Ken-Ichi Asami and Nobuo Sakai (Kyushu Inst. of Tech.)
SY4	Load Position Estimation of Ball-screw Driven Table Systems using MEMS Accelerometers	Koji Watanabe, Kazuaki Ito and Katsumi Inuzuka (Toyota National College of Tech.)
SY5	Real-Time Image Micro-positioning system for Continuous Micro-Anode-Guided Electroplating to fabricate three-dimensional microstructures	Yong-Jie Ciou , Yean-Ren Hwang and Jing-Chie Lin (National Central Univ.)
Room C : Applications		
Session chair :		
AP1	Controllability of a master manipulator using an isometric interface for translation in robotic surgery	In Kim, Kotaro Tadano (Tokyo Inst. of Tech.) and Kenji Kawashima (Tokyo Medical and Dental Univ.)
AP2	Best Creation of a Conditions Micro Painless Needle Having Polygonal Cross Section	Hideaki Kimoto, Tomoya Syudou (Grad. Sch. of Eng., Tokai Univ.), Kagemasa Kajiwara, Minoru Kimura and Kazuyoshi Tsuchiya (Tokai Univ.)
AP3	Study on Fundamental Characteristics of a 3-axis Fast Tool Servo	Yung-Tien Liu and Bo-Jheng Li(National Kaohsiung First University of Science and Tech.)
AP4	Positioning manipulation of nanoparticles using a high-speed AFM in tapping mode	Masanmichi Shiroko, Itsuhachi Ishisaki and Futoshi Iwata (Shizuoka Univ.)
AP5	Experimental Study on Position Accuracy After the Suction of Water in Microassembly Using Water Drop	Takeshi Mizuno, Yuji Ishino and Masaya Takasaki (Saitama Univ.)

Oral Session III : November 20 (Thursday) 15 : 20~17 : 00

Room A : Measurement 2		
Session chair :		
MS6	Development of a six-degree-of-freedom surface encoder	Yindi Cai, Yuki Shimizu, Xinghui Li, So Ito and Wei Gao(Tohoku Univ.)
MS7	Frequency stabilized laser diode and homodyne interferometer	Thanh Tung Vu, Yoshitaka Maeda and Masato Aketagawa(Nagaoka University of Tech.)
MS8	Concurrent measurement of spindle radial, axial and angular motions using concentric circle grating and phase modulation interferometers	Masato Aketagawa, Muhammad Madden and Yoshitaka Maeda(Nagaoka University of Tech.)
MS9	Precise long distance measurement by synthetic wavelength dual-comb interferometry	Seongheum Han(KAIST), Joohyung Lee(Korea Research Inst. of Standards and Science), Young-Jin Kim and Seung-Woo Kim(KAIST)
MS10	Measurement of microstructured roll workpiece surfaces with steep slope angles	Yuki Machida, Bin- Xu, Yuki Shimizu, So Ito and Wei Gao(Tohoku Univ.)
Room B : System 2		
Session chair :		
SY6	A Rolling Ball Guide Making Possible Multi-Step Nanometer Positioning And High Speed Positioning Continuously In A Long Stroke Stage	Hirofumi Suzuki, Hitoshi Shibata, Shigeru Futami and Hideaki Iwanaka (THK Co., Ltd.)
SY7	Adaptive Tracking Control of a Motor-Toggle Mechanism with Clamping Effect	Yi-Lung Hsu, Ming-Shyan Huang and Rong-Fong Fung(National Kaohsiung First University of Science and Tech.)
SY8	Improvement of a scanning electrostatic force microscope for surface profile measurement	So Ito, Zhigang Jia, Keiichiro Hosobuchi, Yuki Shimizu and Wei Gao (Tohoku Univ.)
SY9	Precision motion control of pneumatic artificial muscle systems	Shaofei Wang and Kaiji Sato(Tokyo Inst. of Tech.)
SY10	Effective modeling method for spindle supported by angular contact ball bearings	Gyu-Hyun Bae(Kumoh National Inst. of Tech.), Jooho Hwang(KIMM), and Seong-Wook Hong(Kumoh National Inst. of Tech.)
Room C : Actuator		
Session chair :		
AC1	Study on Locomotion Mechanisms of an outer-pipe Inspection Robot	Naoto Imajo, Yogo Takada and Mikiji Kashinoki (Grad.Sch.of Eng.,Osaka City University)
AC2	The Performance Evaluation of the Slot Addition Type PZT Actuator in a Hollow Tube Micro Pump	Hiromasa Suzuki(Grad. Sch. of Eng.Tokai Univ.) , Yasutomo Uetsuji(Osaka Inst. of Tech.) and Kazuyoshi Tsuchiya(Tokai Univ.)
AC3	Positioning of a Movable Stewart Platform	Shingo Ishibashi, Yuta Mitsuyoshi, Akihiro Torii, Kae Doki and Suguru Mototani(Aichi Inst. of Tech.)
AC4	Positioning on Magnetic Levitation System by Using Superconducting Coil	Mochimitsu Komori, Singo Takase, Kaoru Nemoto, Nobuo Sakai and ken-Ichi Asami(Kyushu Inst. of Tech.)
AC5	Torsional Magnetostrictive Actuator with Two-Dimensional Magnetic Field	Young-Woo Park, Eun-Ju Yoo and Myounggyu D. Noh (Chungnam National Univ.)

Poster Session I : November 19 (Wednesday) 13 : 20~14 : 50

P1-02 AC	A six degree-of-freedom surface motor-driven stage with aerostatic bearings	Masaya Furuta, Yuki Shimizu, So Ito and Wei Gao (Tohoku Univ.)
P1-03 AC	Long Stroke Electrostatic Linear Motor Supported by Only Lubricating Liquid	Kaiji Sato and Tsubasa Yagi(Tokyo Inst. of Tech.)
P1-04 AC	DC Voltage Drive of a Piezo-driven Stage for Nano-positioning Applications – Operating Principle and Its Experimental Results –	Shine-Tzong Ho and Shan-Jay Jan (National Kaohsiung University of Applied Sciences)
P1-05 AP	Inner Pressure Control for External Airbag System	Hideyasu Sumiya and Masatake Shiraishi(Ibaraki Univ.)
P1-06 AP	Position Control of Mobile Robot with Portable Toilet using Optical Sensors	Toshihiro Yukawa and Kohsuke Takahashi (Iwate Univ.)
P1-07 AP	Co-deposition of Ni-Co / Diamond Micro-Tools and Its Application to Hybrid EDM-GrindingforPrecision Micro-Holes	Albert Wen-Jeng Hsue and Yeo-FuChang (National Kaohsiung University of Applied Sciences)
P1-08 AP	A new manipulation method of mobile robot using a USB camera	Junshi Kuroda and Kazuya Sato(Saga Univ.)
P1-09 AP	A Preliminary Study of Biometrics Based on an Attractor Pattern of Body-Sway	Makoto Kikuchi(Ibaraki National College of Tech.)
P1-10 AP	3D Shapesby Multiple LightSourcesand Cameras	Akihito Yoshida and Hiroyuki Ukida (The University of Tokushima)
P1-11 AP	Flight Control of UAV Using LED Panel and Video Camera	Yuki Tsukuda, Hiroyuki Ukida, Masafumi Miwa and Naoki Chatani (The University of Tokushima)
P1-12 AP	Alignment of Multiple Processes in a Hybrid Roll Die Lathe for Generating Non-continuous Micro-Patterns	Chang-Ju Kim, Jeong-Seok Oh and Jun-Yeob Song (KIMM)
P1-13 CM	Control of Oil Film Formation in Rolling Process Lubricated with O/W Emulsion with Oiliness Additives	Satoki Nakano, Takashi Matsuoka (Doshisha Univ.), Tomoko Hirayama(Doshisha Univ.)(JST Presto), Hironobu Nakanishi(Kobe Steel, Ltd.) and Mayu Miyazaki(Kobe Steel, Ltd.)
Canceled	P1-14 CM	A study on stiffness through the shape of tooth for vibration ripper
Canceled	P1-15 CM	Study on Life Prediction through The Failure Analysis of Vibration Ripper for Crushing a Base rocks
P1-16 CM	Study on Vacuum Compatible Fluid Film Bearings using Ionic Liquid	Keita Utsumi,Takao Okabe, Kei Somaya, Masaaki Miyatake and Shigeka Soshimoto(Tokyo Univ. of Sci.)
P1-17 CM	Fatigue life analysis for tapered roller bearings subject to angular misalignment	Van-Canh Tong and Seong-Wook Hong (Kumoh National Inst. of Tech.)
P1-18 CN	Auto-tuning of Servo Gains in CNC Systems Based on a Genetic Algorithm	Sungchul Jee, Yongjoon Yang and Chang Kyu Song (Dankook Univ.)
P1-19 CN	Pressure control in balancing cylinder for hybrid electric-pneumatic ultra-precision vertical positioning stage	Tomonori Kato, Tetsuma Hirakawa (Fukuoka Inst. of Tech.) and Hiromi Masuda (TOSHIBA MACHINE CO., LTD.)
P1-20 CN	Dynamic Characteristics and Precision Control of an Ultrahigh-Acceleration Linear Motor	Tadashi Hama and Kaiji Sato (Tokyo Inst. of Tech.)
P1-21 CN	Motion Accuracy of Piezoelectric actuators in Continuous Path Control by Driving with Current Pulses	Katsushi Furutani and Atsushi Sakata(Toyota Technological Inst.)
P1-22 DN	Optimal Design of Multi-ion-beam Optics	Tae-Gon Kim, Seok-Woo Lee (Korea Inst. of Industrial Tech.), Gyuho Kim, Sang Jo Lee and

		Byung-Kwon Min(Yonsei Univ.)
P1-23 DN	Improvement in Positioning Accuracy by a High-precision Planer Multi-joint Mechanism	Shigeo Fukada, Akira Nagao, Kohsuke Shimizu and Kohta Kubomura(Shinshu Univ.)
P1-24 DN	Measurement of three-axis vibration of an air-bearing stage	Ryo Aihara, Takeshi Ito, So Ito, Yuki Shimizu and Wei Gao (Tohoku University)
P1-26MS	Thickness Measurement of Opticai Material By Heterodyne Modulated Imaging Ellipsometry	Hsiu-An Tsai and Nai-Chun An(Metal Industries Research & Development Centre)
P1-28 MS	Kinematic calibration for three-degree of freedom parallel manipulator based on double-ended ball bar and touch probe	Keita Otaki, Takaaki Oiwa, Junichi Asami and Kenji Terabayashi(Grad. Sch. of Shizuoka Univ.)
P1-29 MS	Low coherence interferometric application using a frequency modulated laser diode	Byeong Kwon Kim and Ki-Nam Joo(Chosun Univ.)
P1-30 MS	Sensitivity improvement in three-dimensional touch trigger probe system based on fiber optic displacement sensors	Takuro Ishino, Takaaki Oiwa, Junichi Asami and Kenji Terabayashi(Shizuoka Univ.)
P1-31 MS	A high-sensitivity electronic clinometer	Satoshi Kataoka, Tatsuya Ishikawa, Siew-Leng Tan, So Ito, Yuuki Shimizu, Wei Gao(Tohoku Univ.) and Satoshi Nakagawa(Micro Computer Science)
P1-32 MS	Dimensional Measurement of Micro Pinhole by Probing System with a Nanopipette Ball Stylus	Hiroataka Kikuchi, So Ito, Issei Kodama and Wei Gao (Tohoku Univ.)
P1-33 MS	Development of the Micro Region pH Sensor Applying Ag/AgIO 3 Electrode Method	Daiki Kaneko(Grad. Sch. of Eng.,Tokai Univ.) and Kazuyoshi Tsuchiya(Tokai Univ.)
P1-34 MD	Experiments and Simulations on State Transitions of a Parallel Typed Foot-stepping Robot	Takuhei Yamamoto (Grad. Sch., Kinki Univ.), Kiyoshi Ioi and Kouta Suruki (Kinki Univ.)
P1-35 MD	Physical Modeling of Multi Axes Machinery Equipments and Its Applications	Chang Kyu Song, Sangwon Kwon, Seung-Kook Ro, Byung-Sub Kim and Sungcheul Lee(KIMM)
P1-36 MD	Mathematical Model of Pitching Moment in Linear Motor for Precision Stage Systems	Young-Taek Cho, Han-Wook Cho(Chungnam National University), Gyungho Khim and Chun-Hong Park(KIMM)
P1-37 MD	Finite Element Modeling of the Rotating System based on the Thermal Gap Conductance Model	Jae Woo Seo and Hyung Wook Park (Ulsan National Inst. of Science and Tech.)
P1-38 SY	Influences of external loads on motion errors in linear motion units	Gyungho Khim, Chun Hong Park and Jeong Seok Oh(KIMM)
P1-39 SY	Ultra Precision Pneumatic Servo Stage	Kazutoshi Sakaki, Tatsuya YOSHIDA (Sumitomo Heavy Industries, Ltd.),Toshinori Fujita(Tokyo Denki Univ.),Kenji Kawashima (Tokyo Medical and Dental Univ.) and Toshiharu Kagawa(Tokyo Inst. of Tech.)
P1-40 SY	Development of mechanism to control pencil-shaped handheld micro needle with non-contact	Ryo Kikuchi, Boksuwan Sungwan and Hisayuki Aoyama(University of Electro-Communications)
P1-41 SY	Study of a dual end effector micromanipulation system	Tasuku Akiyama, Masatomo Suzuki, Yuki Ikeya, Koki Miyahara and Daigo Misaki (Kogakuin Univ.)

Poster Session II : November 20 (Thursday) 13 : 30~15 : 00

P2-01 AC	Nanoscale Positioning of Air Guide Slight Movement Stage Driven by Pneumatic Bellows	Tomokuni Mizuno(Tokyo Denki Univ., Grad. Sch.), Kazutoshi Sakaki(Sumitomo Heavy Industries, Ltd.) and Toshinori Fujita(Tokyo Denki Univ.)
P2-02 AC	Energy saving actuation of the pneumatic artificial rubber muscles system	Jun Li(Tokyo Inst. of Tech.), Kenji Kawashima(Tokyo Medical and Dental Univ.) and Toshiharu Kagawa(Tokyo Inst. of Tech.)
P2-03 AC	Reduction of friction in a pneumatic cylinder using piezoelectrically excited vibration	Reona Shiode, Kotaro Tadano(Tokyo Inst. of Tech. and Kenji Kawashima(Tokyo Medical and Dental Univ.)
P2-04 AP	Implementation of Tool Servo System with Amplitude Magnification Mechanism	Yung-Tien Liu and Chung-An Chen(National Kaohsiung First University of Science and Tech.)
P2-05 AP	An autonomous hovering control of multicopter using only USB camera	Toru Kasahara and Kazuya Sato(Saga Univ.)
P2-06 AP	Optical measurement of a rotary cutting tool	Ikuto Ishizuki, Sho Sekine, So Ito, Yuki Shimizu, Wei Gao(Tohoku Univ.), Tsutomu Fukuda, Akira Kato and Kouji Kubota (MMC RYOTEC CORP.)
P2-07 AP	A Proposal of Automatic Distribution System for Increase of Production Efficiency in the Fastener Manufacturing Industry	Shogo Urakabe, Takahiro Hoshino and Yoshio Hamamatsu (Nihon Univ.)
P2-08 AP	Cost Based Engineering through Adjustment in Integrated Product and Process Design using the Example of Car Body Shells Adjustment.	Achim Kampker, Christoph Deutskens, Andreas Maue, Sebastian Bohr and Hannes Diers(RWTH Aachen Univ.)
P2-09 AP	NC Data Modification for the Vibration Suppression using Input Shaping Method	Chan-Hong Lee(KIMM)
P2-10 AP	Design of Two Axes Motional Fast Tool Servo for Various Microstructure Manufacturing Process	Seung Jun Lee, Yong Woo Kim, Sang Min Lee, Mi Ru Kim(Pusan National Univ.), Jong Yeol Lee(Technorise, Inc.) and Deug Woo Lee(Pusan National Univ.)
P2-11 AP	Cutting tool positioning by utilizing a force sensor-integrated fast tool servo	Shu Wang, Yuan-Liu Chen, So Ito, Yuki Shimizu and Wei Gao(Tohoku Univ.)
P2-12 AP	Observation of the Permeation on the Subcutaneous Pigment the Administration of Drug	Kento Kawata(Grad. Sch. of Eng., Tokai Univ.), Kagemasa Kajiwara, Minoru Kimura and Kazuyoshi Tsuchiya(Tokai Univ.)
P2-13 AP	Glass sheet deformation across the large gap in non-contact transportation devices for large LCD glass sheet	Hirohisa Akahori, Kei Somaya, Masaaki Miyatake and Shigeka Yoshimoto(Tokyo Univ. of Sci.)
P2-14 AP	Biomimetic Smart Adhesives for Precision Manufacturing	Hoon Yi, Insol Hwang, Minho Sung, Hangil Ko, Hyunha Park (UNIST.), Moon Kyu Kwak(Kyungpook National Univ.) and Hoon Eui Jeong(UNIST)
P2-15 CM	Rotating Accuracy Estimation Method for Precision Spindles Based on Waviness of Bearings	Jooho Hwang, Jong-young Shim and Chun-Hong Park (KIMM)
P2-16 CM	Water Lubricated Hydrostatic Thrust Bearing with a Self-Controlled Porous Restrictor	Kyousuke Sasou, Yusuke Iwahashi, Kei Somaya, Masaaki Miyatake and Shigeka Yoshimoto(Tokyo Univ. of Sci.)
P2-17 CM	Relationship between Wear Quantity and Friction Torque in Applying Ultrasonic Oscillation on Nylon Resin Nut	Yuta Mizuno, Takahiro Niimi, Toshiharu Tanaka (Toyota National Collage of Tech.) and Takaaki Oiwa(Shizuoka Univ.)
P2-18 CN	The control of the TITO stable process with input-delay and output-delay	An-Chen Lee, Shih-Chung Chang and Jian-Nan Chen(National Chiao-Tung Univ.)

P2-19 CN	Vibration Control of Flexure Mechanism Using an Impact Damper – Influence of Restitution Coefficient on Vibration Control Ability –	Nobuhiko Henmi, Taiki Hino (Shinshu Univ.) and Sumito Tsuchiya (Hyashi Telempu Co.Ltd)
P2-20 DN	Ultra Precision Positioning Using Liner Motion Ball Bearing	Kazuki Adachi and Toshiharu Tanaka(Toyota National College of Tech.)
P2-21 DN	Design of the structure for probe-rotating atomic force microscopy	Sang Heon Lee and Su-Hwan Song(Andong National Univ.)
P2-22 DN	A Piezo-driven Screw Motor	Shine-Tzong Ho and Wei Hsuan Chiu(National Kaohsiung University of Applied Sciences)
P2-23 DN	Static and Dynamic Characteristics of Precision Joint Mechanism for z- θ Motion Consisting of Multi-Laminated Aerostatic Bearing Pads	Kenta Shimizu, Yoshiki Tone(Doshisha Univ.), Tomoko Hirayama(Doshisha Univ.) (JST Presto) and Takashi Matsuoka(Doshisha Univ.)
P2-24 DN	Analysis of the Relationship between Force and Torque Generated in CVT with Link Mechanism	Toshihiro Yukawa and Akinori Murakami(Iwate Univ.)
P2-25 DN	Development of a precise positioning stage traveling on a micro-pitchrack	Satoshi Honda (Tokyo Metropolitan Univ.)
P2-26 MS	Development of a calibration system for the torsional measurement of the optical pickup unit based atomic force microscopy	Su-Hwan Song and Sang Heon Lee(Andong National Univ.)
P2-27 MS	Pressure sensing technique using band-pass filter on optical fiber-end	Kentaro Matsuda and Ryo Nagase(Chiba Inst. of Tech.)
P2-28 MS	Imaging ellipsometry for surface roughness measurements	Yong Bum Seo and Ki-Nam Joo(Chosun Univ.)
P2-29 MS	Investigation on accuracy improvement in hexapod-type measurement device for six degree-of-freedom relative motions	Kazuki Kobayashi ,Takaaki Oiwa, Junichi Asama and Kenji Terabayashi (Shizuoka Univ.)
P2-30 MS	Roundness Measurement Method for Large Bearing Parts of Wind Power Generator	Jongyoup Shim, Jeong-Seok Oh and Chun-Hong Park(KIMM)
P2-31 MS	Interferometric measurement of the carriage slide out-of-straightness error motions	Ryo Kobayashi, Daiki Matsuura, Yuki Shimizu, So Ito ,Wei Gao(Tohoku Univ.) , Jeong Seok Oh and Chun Hong Park(KIMM)
P2-32 MS	Quantitative measurement of shear force of a single adhesion cell using a positioned self-sensitive cantilever	Shigetaka Hashimoto, Makoto Adachi and Futoshi Iwata(Shizuoka Univ.)
P2-33 MS	A multi-probe surface encoder for multi-degree-of-freedom position measurement	Yuki Shimizu, Ryo Aihara, Yingdi Cai, Xinghui Li, So Ito and Wei Gao (Tohoku Univ.)
P2-34 MS	Measurement of angular displacement by using a femtosecond laser	Jun Tamada, Yukitoshi Kudo, Yuki Shimizu, So Ito and Wei Gao(Tohoku Univ.)
P2-35 MD	Experiments and Simulations on Shimmy Phenomena of Cart Casters	Yu Matsumoto(Grad. Sch., Kinki Univ.), Seiki Nishikawa, Kiyoshi Ioi(Kinki Univ.), Atsushi Suda(National Inst. of Tech., Maizuru College) and Masaharu Tagami (Kinki Univ.)
P2-36 MD	Cutting Force Simulation in the NC Milling Process	Segon Heo, Chan-Hong Lee and Chun Hong Park(KIMM)
P2-37 MD	Hardware-in-the-loop simulation for machine tool energy consumption estimation	Wonkyun Lee, Seong Hyeon Kim, Jaesang Park, Chan-Young Lee, Joo Yeong Kim, Sang Jo Lee and Byung-Kwon Min (Yonsei Univ.)
P2-38 SY	Comparison of Energy Efficiency of Linear Motor and Ball Screw Drives	Ryoma Iwase, Ryuta Sato and Keiichi Shirase(Kobe Univ.)
P2-39 SY	A "movable" machine tool with long coarse linear axes under real-time volumetric error compensation by a laser tracker	Soichi Ibaraki, Kohei Yuasa (Kyoto Univ.),Naoto Saito, Takayuki Kataoka and Noriaki Kojima (Komatsu, Ltd.)
P2-40 SY	Development of a single cell electroprortation method using a positioned theta type nano pipette	Satoshi Sakurai, Koji Yamazaki(Shizuoka Univ.), Tatsuo Ushiki(Nigata Univ.) and Futoshi Iwata (Shizuoka Univ.)

P2-41 SY	Motion error analysis of a precision linear stage driven by a ballscrew	Chun-Hong Park, Jeong Seok Oh, Gyungho Khim and Chang Ju Kim(KIMM)
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