

Special Issue 2007 JSPE Technology Award

Lecture

- **The Development of Superprecision Elliptical-vibration Cutting**
Seiji HAMADA and Takasi UEYAMA534
- **Development and Practical Application of MQCJ-Lubricated Angular Contact Ball Bearings for Machine Tool Main Spindles**
Masatsugu MORI, Yoshinobu AKAMATSU, Mineo KOYAMA,
Futoshi KOSUGI, Hiroshi TAKIUCHI and Takuji KOBAYASHI539
- **Development of High-acceleration and Ultra-precision Linear Motor Drive Machine Tool Equipped with the Anti-vibration System**
Kazuo NAKAMOTO, Masahiro ANZAI and Shinichi MATSUMOTO543

Episode

- **Episode 1/Seiji HAMADA**547
- **Episode 2/Masatsugu MORI and Mineo KOYAMA**549
- **Episode 3/Kazuo NAKAMOTO**551
- **My Experience in Precision Engineering**
Shoichi KURODA576
- **Gravure**
Taga Electric Co., Ltd./NTN Corporation/Sodick Co., Ltd.531
- **Student Forum**
Keep Craftsmanship! Japanese Small Factories' Potentials : Aerospace571

Lecture

- **The Prospect of Semiconductor Industry after 45 nm Generation** Takashi YUNOGAMI554
- **Research, Patent, and Industrialization in Nanoimprint Technology**
Yoshihiro TODOKORO558
- **Early Study on Nanoimprint Lithography in the 1970s**
Susumu FUJIMORI565
- **Introduction of Laboratories**
Ultra-precision Mechatronics Laboratory, Department of Mechanical Systems Engineering/Center for Ultra-Precision Technology, Shinshu University577
Robotics Lab., Toyo University579

- Information 645
- Corporate Members 666
- JSPE Membership Guidance 668
- From the Lecture Committee 告 6-1

Paper

- Super-Resolution Optical Measurement for Ultra-Precision Machined Surface Defects by Using Structured Light Illumination Shift (2nd report) ————— 581
—Experimental Verification of Resolution Property by Standing Wave Illumination Shift—
Shin USUKI, Hiroaki NISHIOKA, Satoru TAKAHASHI and Kiyoshi TAKAMASU
- Development of Three-dimensional Internal Information Acquisition System based on Consecutive Precision Machining ————— 587
Naomichi FURUSHIRO, Hideo YOKOTA, Kazuhiro FUJISAKI, Yutaka YAMAGATA, Mitsunori KOKUBO, Ryutaro HIMENO, Akitake MAKINOCHI and Toshiro HIGUCHI
- Study of new algorithm for weighting coefficient and sensor angle in three-point method ————— 593
Hiroshi SASE, Kengo FUJIMAKI and Kimiyuki MITSUI
- Design of Magnetic Wheels and Drive Motor in Pipe-Surface Inspection Robot ————— 598
Toshihiro YUKAWA and Hideharu OKANO
- Consideration for Uncertainty Evaluation Method with Uncorrected Deflection ————— 604
Youichi BITOU and Kensei EHARA
- Nanoscopic Mechanical Removal Processing of Nano-sheet by AFM Probe (2nd Report) ————— 611
—High Precision Groove Processing Mechanism and Examination to Optimal Processing Condition—
Takamasa SAKAI, Yoshiteru KAWAKAMI, Kazuya DEMURA and Tohru IHARA
- Real-time Compensation of Circular Interpolation Motion Error by Inverse Transfer Function Based on Friction Analysis ————— 616
Toru UNNO, Yoshitaka MORIMOTO, Yoshio ICHIDA and Ryunosuke SATO
- Quadrant Glitch Compensator Based on Friction Characteristics in Microscopic Region ————— 622
Ryuta SATO, Yoshimichi TERASHIMA and Masaomi TSUTSUMI
- Fabrication of Micro Ni-W Electroplated Diamond Tools and Their Application to Grooving of Brittle Materials ————— 627
—Improvement of Tool Quality and Machining Performance—
Hiromichi ONIKURA, Osamu OHNISHI, Kunio NISHIHARA and Weichen KUO
- The Accuracy of Cone Frustum Machined by Five-axis Machine Tool with Tilting Table ————— 632
Tetsuya MATSUSHITA, Tadahiro OKI and Atsushi MATSUBARA
- TOC Scheduling in Consideration of Stochastic Operation Times ————— 637
Kenji KURASHIGE, Masayuki Ejiri and Yoshimasa KAMEYAMA

Short Article

- Proposed Air Spring Model with Inverted Taper ————— 643
Shinji WAKUI, Taishi TOMII and Masato TAKAHASHI