

The 11th Symposium on Theory of Machines and Mechanisms

Date: June 17, 2005

Place: Conference Room 304, 3rd Floor, Ichikawadai 3 Bldg. ,
Tokyo Tech (Ohokayama Campus)
2-12-1 Ohokayama, Meguro-ku, Tokyo 152-8552
(8 min. walk from Ohokayama Station, Tokyu Meguro-line and Ohimachi-line)

Program:

8:55 Opening Address by Hirofumi MIURA
President, Jc-IFTtoMM (Kogakuin University)

Session 1 : Dynamics (9:00-10:00)
Chair: Koji KIMURA(Tokyo Tech)

9:00 Identification of Nonlinear System by Higher Order Spectra
*Hiroyuki MATSUMOTO(Institute of Technologists), Hisami OHISHI(Kogakuin Univ.)
and Shinji YAMAKAWA(Kogakuin Univ.)

9:20 A Q-value Measurement based on the Open-loop Transfer Functions for Damping Evaluation
of AMB Rotors
*Hiroyuki FUJIWARA(NDA) , Makoto ITO(Graduate School, NDA), Kazuki IKENAGA
(Graduate School, NDA) and Osami MATSUSHITA(NDA)

9:40 Rotational Testing of Over-hung Rotor System and Its Evaluation with Q-value
*Makoto ITO(Graduate School, NDA), Hiroyuki FUJIWARA(NDA) and
Osami MATSUSHITA(NDA)

Session 2 : Simulations (10:10-11:10)
Chair: Masafumi OKADA(Tokyo Tech)

10:10 Spinal Information Processing Method and Its Application to Motor Learning Support System
*Mihoko OTAKE(Univ. of Tokyo, JST) and Yoshihiko NAKAMURA(Univ. of Tokyo)

10:30 Control Software Simulator for Mechatronics Systems
*Shoichi MOTOHASHI(InterDesign Technologies), Mitsunobu YOSHIDA(Toshiba) and
Hiroshi SAKAI(Toshiba Socio-Systems)

10:50 Reciprocal Spaces and Dual Spaces for the Analysis of Parallel Mechanisms
*Koichi SUGIMOTO(Tokyo Tech), Hadi Tavakoli Nia(Sharif University of Technology) and
Atsuko ENOMOTO(Hitachi)

Session 3 : Analysis of Mechanisms (11:20-12:20)
Chair: Takaaki OIWA (Shizuoka Univ.)

11:20 Analyses of Three Dimensional Motion of the Drive Shaft of the Tripod, Rzeppa CVJ Line
*Takashi MATSUURA(Graduate School, Yamagata Univ.), Katsumi WATANABE
(Yamagata Univ.) and Katsuhiko MURAKAMI(Graduate School, Yamagata Univ.)

11:40 A Vehicle that Moves to All Directions on One Spherical Rubber Tire
*Tatsuro ENDO(Graduate School, Univ. of Tokyo) and Yoshihiko NAKAMURA(Univ. of Tokyo)

12:00 Flow Control of Reciprocal Pump with a Hydraulic Lost Motion Mechanism
*Akira NAITO(Nagaoka Univ. of Technology) and Yoshiaki KONISHI(NIKKISO)

12:20 Luncheon

Session 4 : Measurement and Sensing (13:50-15:10)
Chair: Koichi SUGIMOTO (Tokyo Tech)

13:50 Miniaturized Three-dimensional Touch Probe System Based on Fiber Optic Displacement Sensors
- Prototype of Miniaturized Probe -
*Takaaki OIWA(Shizuoka Univ.) and Toshio TANAKA(Shizuoka Univ.)

- 14:10 Measurement of Young's Modulus of Thin Film by Resonant Method
*Yoshiaki FUJIGAKI(Graduate School, Kogakuin Univ.), Kenji SUZUKI(Kogakuin Univ.), Hirofumi MIURA(Kogakuin Univ.) and Hideaki TAKANOBU(Kogakuin Univ.)
- 14:30 ZMP Measurement of Biped Walking Robot with a Tactile Sensor to Detect a Center of Two-dimensional Force Distribution
*Takuma ARAKI(Graduate School, Univ. of Electro-Communications), Yuki YAHO(Graduate School, Univ. of Electro-Communications) and Makoto SHIMOJO(Univ. of Electro-Communications)
- 14:50 Dynamic Characteristics of Floating Object Measured by a Magnetic Suspension and Balance System - Added Mass of Spherical and Ellipsoid Models -
* Hiroyuki FUJIWARA(NDA) , Masahiro KOBAYASHI(NDA) and Osami MATSUSHITA(NDA)
- 15:10 Break
- Session 5 : Design of Mechanisms (15:30-16:50)
Chair: Norio INOU(Tokyo Tech)
- 15:30 100g-100N Robot Finger with Load-Sensitive Continuously Variable Transmission
*Takeshi TAKAGI (Graduate School, Tokyo Tech) and Toru OMATA(Tokyo Tech)
- 15:50 Development of a Mechanical Prosthetic Knee Joint Which Responds on Different Walking Speeds
*Keiichi TSUKISHIRO(Otto Bock Japan)
- 16:10 Experimental Study on the Gear Noise Behavior of Helical Gearing System
*Takeshi WATANABE(Fuji Heavy Industries), Yoshikazu MIYOSHI(Fuji Heavy Industries) and Kohei SAIKI(Fuji Heavy Industries)
- 16:30 Design of Shaft Drive CVT for Improvement of Efficiency and Torque Capacity
*Yukihito NARITA(Graduate School, Tohoku Univ.), Masashi YAMANAKA(Tohoku Univ.) and Katsumi INOUE(Tohoku Univ.)
- Session 6 : Motion Control of Robots (17:00-18:00)
Chair: Masato YASHIMA(NDA)
- 17:00 Motion Control of Hyper Redundant Robots by Use of Learning Control Based on Linear Combination of Error History
*Daisuke MATSUURA (Graduate School, Tokyo Tech), Nobuyuki IWATSUKI(Tokyo Tech) and Masafumi OKADA(Tokyo Tech)
- 17:20 Motion Control of a Casting Manipulator with a Large Working Space (High-Speed Casting Experiment and Its Analysis)
Shinsuke IZUMI(Graduate School, Tokyo Tech), *Yokio TAKEDA(Tokyo Tech) and Masaru HIGUCHI(Tokyo Tech)
- 17:40 Transformable Robotic System Adapting to Mechanical Environment
*Yosuke SUZUKI (Graduate School, Tokyo Tech), Hitoshi KIMURA(Tokyo Tech), Michihiko KOSEKI(Tokyo Tech) and Norio INOU(Tokyo Tech)
- 18:00 Closing Address by Haruo HOUJOH
Vice President, Jc-IFTtoMM(Tokyo Tech)
- 18:05 Annual Meeting 2005 (18:05-18:40)
Address from president:
Hirofumi MIURA (Kogakuin University)
Chair : Nobuyuki IWATSUKI (Tokyo Tech)
- 19:00 Wine party
at Seminar Room 655, 6th Floor, Ishikawadai 1 Bldg.
The fee is 5,000 Jpn yen and free for students.