2002 JSEM Annual Conference on Experimental Mechanics

Monday Morning, August 5, 2002

8:00	Registration		
9:00	Opening (A103) Chair of Executive Committee, Yoshiharu MORIMOTO		
Rooms	A103	A104	A203
Session/ Chair	Thermography I Koji YAMAGUCHI	Image Processing Toshiki KIHARA	Biomechanics, Composites and Optical Methods Yoshifumi SASAKI
9:10	55 Recent progresses in thermographic NDT based on transient temperature measurement Takahide SAKAGAMI, Shiro KUBO	49 Thermal Deformation Measurement by Two-directional Integrated Phase-Shifting Moire Interferometry Yuko YAMAMOTO, Yoshiharu MORIMOTO, Takanori NOMURA, Motoharu FUJIGAKI, Satoru YONEYAMA	1 A study on Strenght Analysis of Different Phase Shaft Subjected to Torsional Load Yutaka AKACHI, Tsutomu EZUMI
9:30	33 On Surface Characteristics of Inkstone by Infrared Thermography Youichi HIEDA, Arao KAMOI, Kunitoshi YOSHIHIRA	9 An Application of Computer Image-processing to Nickel Foil Strain Gages(On the effect of the crystal grain diameter) Masakatsu SUGIURA, Yoshinori OGAWA, Masao SHIRAISHI, Masaichiro SEIKA	36 Analysis of deformation of femur using one-shot holographic interferometry Satoshi KAKUNAI, Yuya SHIMAZAKI, Yan XI ZHE, Tohru SAKAMOTO, Masayoshi ABO
9:50	69 The newest trend and application examples of infrared thermography and infrared camera. Hisakazu KATO	31 Attempt at Phase Shifting Moire Interferometry by Using Wedged Glass Plate Yasuyuki MORITA, Kazuo ARAKAWA, Mitsugu TOUDOU	45 Research on Behaviors of Stress Wave Propagation in Composite Materials Using a Dynamic Photoelastic Method Takanori TOJO, Yoshiaki SAWA
10:10	59 Identification of Local Thinning by Infrared Thermography and RSM Nagahisa OGASAWARA, Hiroki KITAYAMA, Norimasa CHIBA, Masaki SHIRATORI, Qiang YU	14 Characteristic Evaluation of Check Valves for Liquid Foods Kimiyoshi OGINO, Eisaku UMEZAKI, Katsunori FUTASE	27 Reserch on Propagation of Impact Stress Waves from Tibia to Knee Joint of Man Yoshiharu MASUDA, Shozo HASHIMOTO
10:30	Break		
Session/ Chair	Innovative Optical Methods I Motoharu FUJIGAKI	Biomechancis I Yoshiharu MASUDA	Non-destructive Evaluation Yorinobu MURATA
10:50	12 Shape Measurement Method by Projection of Frequency Modulated Grating Yasuyuki IKEDA, Yoshiharu MORIMOTO, Motoharu FUJIGAKI, Satoru YONEYAMA	23 Photoelastic Stress Analysis of the Mandibular Molar Area in Implant System with Three Superstructureucture Hidemi ITOH, Kazuaki MISUMUMA, Shiniti ITOH, Hiroko NAKAHARA, Tomofumi SASAKI	54 Estimation of defect depth in concrete structures using lock-in thermography Shiro NAKAMURA, Takahide SAKAGAMI, Shiro KUBO, Yasushi KAWASHIMA, Tatsuhito KOMIYAMA
11:10	17 Development of a Multi-Point Displacement Extensometer Toshio MADA, Kazuo ARAKAWA	16 An Identification Algorithm for in vivo Three-Dimensional Displacement Field based on X-Ray CT Images Yoichi NAKAMOTO, Osamu KUWAZURU, Nobuhiro YOSHIKAWA	65 Acoustic Emission Source Location Analysis in Cryogenic FRP Tank Yoshihiro MIZUTANI, Kenta NAGAHAMA, Takayuki SHIMODA and Yoshiki MORINO
11:30	30 A torque measurement methad for high speed response Yoshio NAKA, Daisuke TAJIMA, Takaaki SHINTO, Yasuhiro KOSHIMOTO	19 Stress Analysis of Abutment teeth in Distal Extension mandibular - Role of Rest of Circumferential Clasps Yoshiyuki SATO, Toshiro OHASHI, Hidemi ITOH, Tomofumi SASAKI, Masaaki SATO, Shoki TAKAHASHI	52 Measuring high accuracy stress using acoustoelasticity of surface SH-wave Fumiya Nakatani, Hiroki Toda, Yorinobu Murata, Takayuki Umemoto
11:50	71 Measurement of Surface Displacement using hase-Shifting Digital Holography Hirokazu Matuzaki, Masahisa Takasi, Itirou Yamaguti, Junniti Kato, Gou Murasawa	64 Theremoelasic stress analysis of biomaterials for mechanical compatibility evaluation Koji HYODO, Masayoshi INOMOTO, Syunpei MIYAKAWA, Tetsuya TATEISHI	46 Searing Strain Measurement Methods by Using Piezoelectric Polymer Film Shigeru KUROSAKI, Taku EGUCHI
12:10	Break, Exhibition		
13:00	Exhibition (A202) Chair: Masafumi MIWA		

Monday Afternoon, August 5, 2002

13:30	Annual Buisiness Meeting (A101)		
Session/ Chair	Plenary Lecture (A101) Yoshiharu MORIMOTO		
13:50	Moire Interferometry - A Powerful Technique for Solid Mechanics D. Post, Virginia Polytechnic Institute and State University		
14:50	Break		
Rooms	A103	A104	A203
Session/ Chair	Special Session: Present Situation and needs in industry Akira KATO	Thermography II Takahide SAKAGAMI	Innovative Optical Methods II Yoshihiro MIZUTANI
15:10		66 Thermoelastic Damage Characterization of Fabric Composite Laminates under Cyclic Creep and Fatigue Loadings Toshiyuki UENOYA, Toru FUJII	53 A Study of Digital Scattered Light Photoelasticity using Unpolarized Light Toshiki KIHARA
15:30		18 Quantitative Evaluation Method of Damage in FRP by Infrared Thermography Ken KURASHIKI, Qing-Qing NI, Masaharu IWAMOTO, Takeo TEZUKA	3 Mesasurment of Deflection Distribution Using Phase-shifting Digital Holography Isao TAKAHASHI, Yoshiharu MORIMOTO, Takanori NOMURA, Satoru YONEYAMA, Motoharu FUJIGAKI
15:50		22 Study on Effect of Environmental Factors to Affect the Instrumentation of Infrared Radiometer by Use of Collimator Arao KAMOI, Yoshizou OKAMOTO	34 Measurement of the bending of cantilever beam produced in a electroless plating by TV holographic interferometry Hiromichi HAYASHIHARA, Satoshi KAKUNAI, Tohru SAKAMOTO, Hitoshi MATSUDA
16:10		56 Internal damage growth behavior of composite laminates under tension-compression fatigue loading monitered by infra-red stress imaging system Koji YAMAGUCHI, Isao KIMPARA, Kiyoshi KAWAI, Hiroshi YAMAMOTO	67 Development of Integrated Phase-shifting Method Using Correlation by Digital Micro-mirror Device Gao Qian, Motoharu FUJIGAKI, Yoshiharu MORIMOTO
16:40	Tour of Faculty of Systems Engineering, Wakayama University		
17:30	Banquet		

Tuesday Morning, August 6, 2002

Rooms	A103	A104	A203
Session/ Chair	Optical Methods and Strength of Materials Manabu TOMINAGA	Biomechanics II Hidemi ITO	Impact Yasumi ITO
9:10	10 Estimation of surface crack configuration using infrared stress analysis system Masanori KIKUCHI, Tatsuya MAEDA	24 Stress Transfer Characteristics of Various Implant Designs Satoshi MURAYAMA, Hidemi ITOH, Hiroko NAKAHARA, Toshifumi KUROE and Noboru OHATA	7 Impact tensile and compressive properties of extruded pure magnesium rod Takashi YOKOYAMA, Takeshi MAYAMA
9:30	6 Fatigue Strengths of Notched Specimens of Nuclear Grade Stainless Steel and Strain Measurement by ESPI Junko MATAKI, Takeshi OGAWA	39 Fringe and strain distributions on the model and natural ligaments Kouji YAMAMOTO, Akira KUMABE, Teizou HIRANO, Shunji HIROKAWA and Takashi KAWADA	15 Dynamic Contact Time Measurements on Impacted Golf Balls Haruo Komatsu, Tetuo Simizu, Toshio Mada, Masanori Satou, Kazuo Arakawa
9:50	32 Evaluation of governing condition for dynamic crack using optical experimental method Toshihisa NISHIOKA, Kazunori MATSUMOTO, Takehiro FUJIMOTO and Keigo SAKAKURA	41 Wing Characteristics and Flapping Behavior of Flying Insects Seiichi SUDO, Koji TSUYUKI and Kazuhiko KANNO	76 Laser Shock Processing with Q-switched Nd:YAG and the Industrial Applications Yuji SANO
10:10	62 Measurement of Stress Intensity Factor in 3-D Stress Field near Stationary Crack Tips by Interferometry Kenichi SAKAUE, Shinichi SUZUKI	25 Stress Analysis of Abutment Teeth and Alveolar Bone of Unilateral Distal Extension Tomofumi SASAKI, Hidemi ITOH, Satoshi MURAYAMA, Tuyoshi TAIRA, Hiroko NAKAHARA	50 Propagation of Shock Wave and High-Velocity-Deformation on Impact Hitoshi MATSUMOTO
10:30	Break		
Session/ Chair	Speckle, Correlation and PIV I Masakazu UCHINO	Composites Satoshi SOMIYA	Strength of Materials Katsunori FUTASE
10:50	70 Visualization of Trangent Flow Around Colliding Bubbles Tomomasa UEMURA, Yuya AKAMATSU, Noriyoshi YONEHARA and Yasufumi YAMAMOTO	47 The Effect of Combination of Materials on Deformation Behavior of Shape Memory Alloy Composites Go MURASAWA, Keiichiro TOHGO	4 Pore water pressure behaviour of a saturated granular material due to simple shear action Kazuhito KOMIYA
11:10	68 Whole field strain measurement using image correlation with sub-pixel resolution Akira KATO and Hisanao WATE	75 Through-Thickness Compressive Characteristics of Laminated Composites at High Rates of Strain Takashi YOKOYAMA and Naoki MORIWAKI	26 Stress Analysis of Abutment Teeth and Alveolar Bone of Unilateral Distal Extension Kazuhiko TIBA, Hidemi ITOH, Tomofumi SASAKI, Satoshi MURAYAMA, Hiroko NAKAHARA and Tomohiko AOKI
11:30	35 Flow Structures of Cross Flow over a Tube Bundle Chikako Iwaki, Kar Hooi Cheong, Goichi Matsui, Hideaki Monji	42 Inhibition effect of fatigue crack propagation of TiNi fiber reinforced / polycarbonate composite material Cheong Cheon LEE, Akira SHIMAMOTO, Tetsuya NEMOTO	11 Study on the Crack Growth Path under Mixed Mode Condition for Low Cycle Fatigue Problem in Aluminum Alloy Masanori KIKUCHI, Toshiaki SATO
11:50	63 Kinked Interface Crack Deformation Measurement by Speckle Pattern Correlation Toshihisa NISHIOKA, Jianliang YAO, Takehiro FUJIMOTO, Satoshi FUKUMAN	73 Modeling and Experimental Verification of Tensile Failure Mechanism of CFRP strand Ryuju KOGA, Masayuki NAKADA, Yasusi MIYANO, Rokuro MUKI	51 Photoelastic stress analysis of orthodontic force during upper molar distalization Compare Pendulum Appliance with Distal Jet Tsuyoshi TERATANI, Fumitaka OHTA, Kazuyuki YANAGIHARA, Hidemi ITO, Hiroyuki ISHIKAWA
12:10	Break		
13:00	Short Coarse: Speckle Interferometry Lecturer: Satoru TOYOOKA, Demonstration: Hiroo SUGIHARA, Chair: Eisaku UMEZAKI		

Tuesday Afternoot, August 6, 2002

Rooms	A103	A104	A203
Session/ Chair	Optical Methods and Strength of Materials II Takehiro FUJIMOTO	Polymers Yasuhi MIYANO	Civil Engineering and Structural Mechanics Kazuhito KOMIYA
13:30	72 Tooth Displacement Analysis of Plastic Spur Gear Using Optical Method Masaki FUJIKAWA, Masahisa TAKASHI	20 Shear Strength of Araldite Epoxy Adhesive by Compression Loading and Asymmetric 4-point Bending Takeyasu KISHI, Takahiro YOSHIDA	57 Estimation of water cement ratio in fresh concrete using ultrasonic wave Kenta Sumikawa, Hiroki Toda, ・ Yorinobu Murata, Kengo Futagami
13:50	48 Vibration analysis of thin plate by holographic interferometry and 3D-optic FEM Hiroshi NATSUDA, Yusuke OISHI, Takanari KANBARA	74 Study of Fracture Mechanisms on Glass Fiber Reinforced Polycarbonate by AE methods Tomohiko Sekiguchi, Satoshi Somiya	5 Temperature effect on a gel hardening time of a cement-Na2O-3SiO2aq grout Shinobu SATO, Kazuhito KOMIYA, Tsutomu WATANABE
14:10	28 Observation of Luders Band on Carbon Steel by DESPI Manabu TOMINAGA, Satoru TOYOOKA, Teruo SAKAMOTO	38 Production of the 3D micro structure using the micro stereolithography Yuki OTA, Hiroshi KAWAGUCHI, Masafumi MIWA, Shigeki TSUCHITANI and Reizo KANEKO	60 Investigation of the Force Produced between Vehicles and a Road Surface After Collision Yasumi Itoh
14:30	61 Measurement of Stress Intensity Factor in Three Dimensional Stress Field near Crack Tips by Caustic Method Shinichi SUZUKI, Kenichi SAKAUE	2 Tearing Force and Molecular Orientation in Nylon Film Relating to the Ease of Opening of Liquid Packing Bags Katsunori FUTASE, Eisaku UMEZAKI, Yukihiko KAMADA	40 Application of Cross-Correlation Method with Sub-pixel Accuracy in Two Dimensional Model Tests Katsutoshi UENO, Li Y. HAI, Sreng SOKKHEANG, Tetsuya SADANO and Toshiyuki HAGIWARA
14:50	Break		77 Thermodynamics State Equation for the Mercury Porosimety Hideyuki UTSUMI and Shinsaku TADA
Session/ Chair	Speckle, Correlation and PIV II Tomomasa UEMURA	Strength of Materials II Go MURASAWA	
15:10	8 Simultaneous Two-directional Measurement System of In-plane Deformation using DSPI and Particle Measurement of Electronics Devices Masakazu UCHINO, Yasuyuki Morita, Mitsugu Toudou, Kazuo	29 On thermal stress and strength of circular quench-hardened plate glass Koji SHIMIZU, Hirokazu WADA	
15:30	44 Measurement of the wake of vortex generator by 3-D PTV Isao MISU, Hideaki TANAKA, Tooru CHIBA	21 Basic Study by Tensile Load to Elliptic Inclusion Tetsuo NOGUCHI, Tsutomu EZUMI	
15:50	43 Phase analysys of Subtraction-Addition Method for Dynamic ESPI Satoru Toyooka, Violeta Madjarova, Hirofumi Kadono	58 Development and performance of biaxial fatigue tester Akira SHIMAMOTO, Seiji KOGANEI	
16:10	13 Measurement of Deformation of Recycled Paper Using Electronic Speckle Pattern Interferometry Jyunnosuke TAKAKUWA, Eisaku UMEZAKI, Katsunori FUTASE	37 Young's modulus measurements of the 3D micro structures made by micro-stereolithography Kazuchika DOUOKA, Hiroshi KAWAGUCHI, Masafumi MIWA, Shigeki TSUCHITANI and Reizo KANEKO	
16:30	Closing (A103) President: Masahisa TAKASHI		