

USE2006

The 27th Symposium

on

ULTRASONIC

ELECTRONICS

Nov. 15-17, 2006 / Nagoya

第 27 回 超音波エレクトロニクス の基礎と応用に関するシンポジウム

講演プログラム

平成18年11月15日～17日 名古屋

主催：超音波シンポジウム運営委員会

共催：応用物理学会

協賛：映像情報メディア学会， 海洋音響学会， 超音波工業会， 電気学会，
電子情報通信学会， 日本生体医工学会， 日本音響学会， 日本化学会，
日本学術振興会弾性波素子技術第150委員会， 日本機械学会， 日本金属学会，
日本超音波医学会， 日本非破壊検査協会， 日本物理学会， 日本分光学会，
日本分析化学会， 日本分析機械工業会， IEEE UFFC Society Japan Chapter

第1日:11月15日(水)		
9:00 開会式		
9:15-10:15 超音波物性・材料、フォノン物性		座長：崔博坤（明治大）
A-1	液晶等方相における超音波光回折の偏光状態	宮下隼基† 松岡辰郎 香田忍（名大）
A-2	サファイア単結晶の弾性定数の精密測定	荒川元孝‡ 間谷泰雄 小田川裕之 櫛引淳一（東北大）
A-3	圧電性Ta ₂ O ₅ 単結晶薄膜の光学特性	森田功‡ 中川恭彦 垣尾省司（山梨大）
A-4	表面電極対で分極処理したPMN-PT結晶の分域	井出清志郎† 小針健太郎 辻俊宏 山中一司（東北大）
10:15-10:20 休憩		
10:20-11:50 パルク波デバイス		座長：渡部泰明（首都大）
B-1	水晶基板を用いた38GHz帯域通過型フィルタ	川幡健児† 浅村文雄（日本電波工業） 相川正義（佐賀大）
B-2	高音響インピーダンス電極を使用した圧電薄膜共振器	上田政則† 西原時弘 谷口眞司 横山剛 佐藤良夫（富士通研究所）
B-3	BAW共振器の周波数特性と電極形状の関係	浅井健吾† 磯部敦 松本久功（日立）
B-4	イオンビームエッチングによる水晶振動子の周波数変動	塩野忠久† 長田祐介（昭和真空） 中川恭彦（山梨大）
B-5	通信用電子回路技術に基づくQCMバイオセンサの共振周波数	若松俊一† 渡辺重徳 石井武仁 小川光明（日本電波工業） 愛澤秀信 黒澤茂（産総研）
B-6	周波数変化型単結晶シリコン2軸加速度センサの構成	菅原澄夫 斎藤隆†（石巻専修大）
11:50-13:00 昼食		
13:00-13:45 招待講演 1		座長：中山一司（東北大）
INV-1	超高分解能走査型非線形誘電率顕微鏡	長康雄†（東北大）
13:45-13:50 休憩		
13:50-14:35 水中音響		座長：土屋健伸（神奈川大）
C-1	送受波器回転型測定機構を用いたイカのターゲットストレングスパターン測定	石井憲† 澤田浩一（水工研）
C-2	位相共役波による音響通信の第1回実海域試験	志村拓也† 渡邊佳孝 越智寛（JAMSTEC）
C-3	実時間高分解能映像装置用水中音響レンズの波動的解析	松本さゆり‡（港空研） 土屋健伸 穴田哲夫 遠藤信行（神奈川大）
14:35-14:40 休憩		
14:40-15:40 医用超音波		座長：秋山いわき（湘南工科大）
D-1	水熱合成PZT多結晶膜を用いた1Dアレイ医用超音波プローブに関する基礎研究—次元アレイ超音波プローブの試作と音響特性の評価—	遠藤聡人‡ 川島徳道 竹内真一（桐蔭横浜大） 石河陸生 黒澤実（東工大）
D-2	医用超音波プローブレンズ用シリコーンゴムの音響減衰特性に与える酸化物微粉末添加物の効果	山下洋八†（東芝リサーチコンサルティング） 細野靖晴 逸見和弘（東芝）
D-3	組織熱パラメータの超音波温度計測に与える影響	炭親良† 柳村博幸（上智大）
D-4	心拍による動脈壁の位置変化の影響を低減したひずみ推定	長谷川英之† 金井浩（東北大）
15:40-15:45 休憩		
15:45-16:30 弾性表面波デバイス		座長：谷津田博美（日本無線）
E-1	良好な温度特性を持つ小形WCDMAフルバンド対応SAWデュプレクサ	門田道雄 中尾武志 西山健次† 木戸俊介 加藤雅則 表良一 米倉博 高田忠彦 北良一（村田製作所）
E-2	ダイヤモンドSAWの耐電力向上	河野秀逸‡ 梅田隆俊 藤井知（セイコーエプソン）
E-3	弾性表面波を用いたメタノール濃度センサ	野村徹 小野瀬康隆† 西田圭佑（芝浦工大） 望月隆義（スター精密）
16:30-19:00 Poster session 1		Chairman：Subaru Kudo (Ishinomaki Senshu Univ.)
P1-1	Study on the room-temperature aging of Cu thin films: Monitoring of elasticity by resonant-ultrasound spectroscopy	Nobutomo Nakamura†, Takeo Nakashima, Hirotsugu Ogi, Masahiko Hirao, Masayoshi Nishiyama (Osaka Univ.)
P1-2	Piezoelectric properties of (Bi _{1/2} Na _{1/2})TiO ₃ -based ferroelectric ceramics	Yasufumi Ozawa†, Kazusige Yoshii, Yuji Hiruma, Hajime Nagata, Tadashi Takenaka (Tokyo University of Science)
P1-3	Statistical mechanical calculation of the ultrasonic relaxation of salt solutions	Tsuyoshi Yamaguchi†, Tatsuro Matsuoka, Shinobu Koda (Nagoya Univ.)
P1-4	Ultrasonic study of h-BN machinable ceramic	Nobuo Kashiwagura†, Motoki Satoh, Masayuki Akita, Hiroaki Kamioka (Gifu Univ.)
P1-5	DC bias field dependence on high-power characteristics for PbTiO ₃ -Pb(Mg _{1/3} Nb _{2/3})O ₃ electrostrictive ceramics	Shuji Hayano†(Lead Techno), Mikio Umeda (Nagaoka Natl. Coll. Tech.), Sadayuki Takahashi (Lead Techno), Takahiro Wada (Ryukoku Univ.)
P1-6	Excitation and detection of ultrasound shear wave by EMAR under high pressure	Ryuichi Tarumi†, Yasunori Kawasaki, Hirotsugu Ogi, Masahiko Hirao, Tomoko Kagayama(Osaka Univ.)
P1-7	Observation of impulsive ultrasound waveform through micro-bubble	Takeki Sato†, Hiroshi Inoue (Akita Univ.)
P1-8	Elastic constants and piezoelectric coefficients of langasite single crystal at low temperatures	Hiroki Nitta†, Ryuichi Tarumi, Hirotsugu Ogi, Masahiko Hirao (Osaka Univ.)
P1-9	Dependence of physical properties on dopants in superstructure films	Shun Fujitsuka†, Satoru Noge, Takehiko Uno (Kanagawa Inst. of Tech.)
P1-10	Growth techniques of single crystal thin films on SiO ₂ substrates	Satoru Noge†, Takehiko Uno (Kanagawa Inst. of Tech.)
P1-11	Characteristics of receiving sensitivity of ultrasound sensor using a hydrothermal polycrystalline PZT thick film	Mutsuo Isikawa†, Masahiro Takase, Minoru Kurosawa (Tokyo Inst. Tech.), Hiroshi Kitsunai, Akito Endo, Tomohito Hasegawa, Shinichi Takeuchi (Toin Univ. of Yokohama)
P1-12	Aspect ratio dependence of electromechanical coupling coefficient k_{31} of lateral-excitation piezoelectric vibrator	Jungsoon Kim‡ (Tongmyong Univ.), Moojoon Kim, Kanglyeol Ha (Pukyong Univ.), Wenwu Cao (PennState Univ.)
P1-13	Characterization of all the elastic, piezoelectric, and dielectric constants of tetragonal PMN-PT single crystals	Sanghan Leet, Yongrae Roh (Kyungpook Nat. Univ.)
P1-14	Influence of viscosity loss on 3-D vibrations of VHF rectangular AT-cut quartz plates	Hitoshi Sekimoto†, Jun Tamura, Shigeyoshi Goka, Yasuaki Watanabe (Tokyo Metropolitan Univ.)
P1-15	Effects of sputtering gas on the formation of (11-20) textured ZnO films	Takayuki Kawamoto†, Mami Matsukawa, Yoshiaki Watanabe (Doshisha Univ.), Takahiko Yanagitani (AIST)
P1-16	Characteristics of shear mode FBAR using (11-20) textured ZnO films	Takahiko Yanagitani†, Masato Kiuchi (AIST), Mami Matsukawa, Yoshiaki Watanabe (Doshisha Univ.)
P1-17	Fundamental study on shear mode type solidly mounted resonator	Takehiko Uno†, Satoru Noge (Kanagawa Inst. Tech.)
P1-18	Resonators using Lamb wave on AT cut quartz	Yasuhiko Nakagawa†, Masayuki Momose, Shoji Kakio (Univ. Yamanashi)
P1-19	The effect of adding coils in dual-input twin-T quartz circuit	Koichi Hiram†, Yasuhiko Nakagawa (Univ. Yamanashi), Takeshi Yanagisawa (Tokyo Inst. Tech.)
P1-20	Equivalent network representation for length-extensional vibration modes in a side-plated piezoelectric bar with a varying parameter operating through the transverse piezoelectric effect	Ken Yamada† (Tohoku Gakuin Univ.)
P1-21	Power supply for RFID tag by a piezoelectric generator and its application	Masao Takeuchi†, Kenji Tairaku, Chikahide Takatsu (Tamagawa Univ.)
P1-22	Fundamental study of the information transmission system for wearable computing devices using ultrasonic	Shin-nosuke Suzuki†, Manabu Ishihara(Okayama NCT.), Tamotsu Katane, Osami Saito (Chiba Univ.), Kazuto Kobayashi (Honda Electronics Co., Ltd)
P1-23	Local characteristics of resonance patterns in piezoelectric one-dimensional composite system	Michio Ohki† (Natl. Def. Acad.)

P1-24	Analysis of vibration mode of antenna structure MEMS using beam theory and quantum mechanical examination of its quantized displacement Yoshitada Kobayashi†(Shinshu Univ.), Kiyoshi Ishikawa(Club Analyst), Takanori Suzuki, Hideaki Itoh (Shinshu Univ.)
P1-25	Mode coupling between two single defects in a sonic/phononic crystal Toyokatsu Miyashita†, Naoto Doi (Ryukoku Univ.)
P1-26	Experimental studies on defect-mode wave guides in a sonic/phononic crystal Toyokatsu Miyashita, Wataru Sato†, Yuta Nakaso, Ryota Mukuda (Ryukoku Univ.)
P1-27	A study on SAW streaming phenomenon based on temperature measurement and observation of streaming in liquids Shihoko Ito†, Mitsunori Sugimoto, Yoshikazu Matsui, Jun Kondoh (Shizuoka Univ.)
P1-28	Measurement of SAW on a quartz ball with proximate electrodes to improve waveforms of ball SAW device Satoshi Kai†, Kazunori Ohte, Tsuyoshi Mihara (Tohoku Univ.), Tsuneo Ohgi, Noritaka Nakaso (Toppan Printing Co., Ltd.), Ichitaro Satoh, Takeshi Fukiura, Hidekazu Tanaka (Yamatake Corp.), Kazushi Yamanaka (Tohoku Univ.)
P1-29	Evaluation of response time in ball surface acoustic wave hydrogen sensor Takuji Abe†, Naoya Iwata, Toshihiro Tsuji, Tsuyoshi Mihara (Tohoku Univ.), Shingo Akao, Kazuhiro Noguchi, Noritaka Nakaso(Toppan Printing Co., Ltd.), Dong Youn Sim (Ball Semiconductor Inc.),Yusuke Ebi, Takeshi Fukiura, Hidekazu Tanaka (Yamatake Corp.), Kazushi Yamanaka (Tohoku Univ.)
P1-30	SAW DNA sensor with micro-fluidic channels Jungyul Sakong (Kyungpook Nat. Univ.), Heesu Roh (Korea Science Academy), Yongrae Roh† (Kyungpook Nat. Univ.)
P1-31	Dynamic response of shear horizontal wave propagation in liquid crystal cell to molecular reorientation Masashi Aoki†, Ryotaro Ozaki (National Defense Acad.), Katsumi Yoshino (Shimane Univ.), Kohji Toda (Musashi Inst. Tech.), Hiroshi Moritake (National Defense Acad.)
P1-32	Study of high sensitivity sensor based on high order mode Lamb waves Wei Lin†, Li Fan, Changming Gan, Zhemín Zhu (Nanjing Univ.)
P1-33	Super low velocity/piezoelectric substrate structure with high reflections and application for SAW wide band resonators and low loss unidirectional transducer filters Yusuke Sato†, Kazuhiko Yamanouchi (Tohoku Inst. Tech.)
P1-34	Fabrication of Si/inlaid-IDT/LiNbO ₃ structure for acoustic boundary wave devices Nobuhiro Tai†, Tatsuya Omori, Ken-ya Hashimoto, Masatusune Yamaguchi (Chiba Univ.)
P1-35	Power flow angles for slanted finger SAW filters on langasite substrate Mikihiro Goto†, Hiromi Yatsuda (Japan Radio Co., Ltd.), Takao Chiba (Meisei Univ.)
P1-36	High frequency resonators with excellent temperature characteristic using edge reflection Michio Kadota†, Tetsuya Kimura, Daisuke Tamasaki (Murata Mfg. Co., Ltd.)
P1-37	Evaluation of velocity distribution of prototype ultrasonic surgical knife and coagulation of soft tissue for identification of optimum operation frequency Kosuke Ebin†, Hideyuki Hasegawa, Hiroshi Kanai (Tohoku Univ.)
P1-38	Performance evaluation of miniature ultrasonic probe using PZT poly-crystalline film deposited by hydrothermal method Tomohito Hasegawa†, Hiroshi Kitsunai, Norimichi Kawasima, Shinichi Takeuchi (Toin Univ. of Yokohama), Mutsuo Ishikawa, Minoru Kurosawa (Tokyo Inst. Tech.)
P1-39	Development of a mechanical scanning-type IVUS system using a miniature ultrasound motor Masayuki Tanabe†, Shangping Xie, Norio Tagawa, Tadashi Moriya (Tokyo Metropolitan Univ.)
P1-40	Imaging system for ultrasonic endoscopy by using transmitter-reciever pair in the pulse compression technique Naoki Ohno†, Shangping Xie, Masayuki Tanabe, Norio Tagawa, Tadashi Moriya (Tokyo Metropolitan Univ.)
P1-41	Spectroscopic imaging by using ultrasound velocity change caused by optical absorption Hiromichi Horinaka†, Toshiyuki Matsunaka, Tomoaki Ura, Takashi Mukaiyama, Naoki Nakamura, Kenji Wada (Osaka Prefecture Univ.)
P1-42	A study of photoacoustic resonance microscopy for biopsy Kanao Hatayama†, Satoshi Sakai, Taku Kanda, Hiroto Tateno, Yoko Tateno (Kagoshima Univ.)
P1-43	Research into a photoacoustic measurement of skeletal muscle in vivo Itsuki Takahara†, Hiroto Tateno, Yuu Tsurifune, Taro Takeno (Kagoshima Univ.)
P1-44	Optical visualization of local variation of microcapsules at a fluid bifurcation and its quantitative evaluation Yusuke Muramatsu†, Ikkou Mizobe, Yosuke Yatoji, Kohji Masuda(Tokyo Univ. of A&T), Ken Ishihara (Ehime Univ.)
P1-45	Microbubble generation from nano-sized ultrasound contrast agent Ken-ichi Kawabata†, Akiko Yoshizawa, Hideki Yoshikawa, Takashi Azuma, Shin-ichiro Umemura (Hitachi, Ltd.)
P1-46	Phantoms for a color Doppler ultrasonic diagnostic instruments Toshio Kondo†, Tomoji Yoshida (Tokushima Bunri Univ.), Shin-ichiro Umemura (Kyoto Univ.)
P1-47	Temperature rise in ultrasound-irradiated phantom contacted with acrylic plate Nobuyuki Endoh†, Takenobu Tsuchiya, Shou Oride, Tsunaki Tsuji, Kazuki Nagai, Sinterou Sugimura (Kanagawa Univ.)
P1-48	Analysis of scatterer structures in ultrasound images using probability density function Tadashi Yamaguchi†, Hiroyuki Furihata (Chiba Univ.), Naohisa Kamiyama (Toshiba Medical Systems), Lee Sung Ae, Hiroyuki Hachiya (Chiba Univ.)
P1-49	Computation for secondary wave of two frequency ultrasound propagating in biological tissues Iwaki Akiyama† (Shonan Inst. Tech.), Shigemi Saito (Tokai Univ.)
P1-50	Numerical simulation of sound wave propagation with sound absorption by digital Huygens' model Takao Tsuchiya† (Doshisha Univ.)
P1-51	Improving spatial resolution in separation of scatterers by simultaneous receiving of ultrasonic echoes with multi-channel transducer Yusaku Abe†, Hideyuki Hasegawa, Hiroshi Kanai (Tohoku Univ.)
P1-52	Evaluation experiment of ultrasound CT for the abdominal sound speed imaging Keisuke Nagomi†, Hiroshi Fujihiro, Akira Yamada (Tokyo Univ. of A&T)
P1-53	A study on the radiation pattern using focusing method for the 3-D medical acoustic imaging system with a reflector and a 2-D array Hirofumi Taki†, Toru Sato (Kyoto Univ.)
P1-54	Motion picture observation of subcutaneous microvessel with the high frequency ultrasound Shota Suzuki†, Akira Yamada (Tokyo Univ. of A&T)
P1-55	Motion-compensated frame-accumulation method for improved image quality of carotid artery Hideki Yoshikawa†, Takashi Azuma, Kazuaki Sasaki, Ken-ichi Kawabata (Hitachi, CRL), Canxing Xu, Siddhartha Sikdar, Ravi Managuli, Yongmin Kim (Univ. of Washington), Shin-ichiro Umemura (Hitachi, CRL)
P1-56	Development of instruction algorithm to control ultrasound probe to obtain standard cross section of heart by video stream Hirotaka Matsuura†, Ken'ichi Takara, Hiroto Inoue, Rui Takahashi, Kohji Masuda (Tokyo Univ. of A&T)
P1-57	Experimental study for automatic acquisition of cross section of heart by using the detective algorithm of mitral valve with a diagnosis robot Hiroto Inoue†, Takao Imai, Ken'ichi Takara, Taro Sakai, Yusuke Aoki, Kohji Masuda (Tokyo Univ. of A&T)
P1-58	An experiment of wideband underwater acoustic communication using QPSK Hiroshi Ochi†, Yoshitaka Watanabe, Takuya Shimura, Yusuke Yano (JAMSTEC)
P1-59	MSE-OFDM communication in multipath underwater acoustic channel Chun-Dan Lin† (China Univ. of Petroleum), Jong Rak Yoon (Pukyong National Univ.)
P1-60	Features of the broadband acoustic propagation in very shallow water Seongwook Lee†, Kyu-Chil Park, Jong Rak Yoon (Pukyong National Univ.), Phil-Ho Lee (Agency for Defense Development)
P1-61	Time domain analysis of sound propagation in shallow water -Influence of amplitude of reflected pulse wave from sea bottom with transition layer- Takenobu Tsuchiya† (Kanagawa Univ.), Sayuri Matsumoto (PARI), Nobuyuki Endoh (Kanagawa Univ.)
P1-62	An array beam pattern synthesis using partial constrained adaptive optimization Byung Doo Jun† (NEX1FUTURE Co., LTD.), Jun-Seok Lim (Sejong Univ.), Koeng-Mo Sung (Seoul National Univ.)
P1-63	Design of the broadband beamformer for passive sonar arrays Byung Doo Jun† (NEX1FUTURE Co., Ltd.), Moojoon Kim (Pukyong National Univ.), Koeng-Mo Sung (Seoul National Univ.)
P1-64	Examination on small sized and low power transducers for underwater acoustic communication Yoshitaka Ida†, Nobuaki Konishi, Yoshikazu Koike (Shibaura Inst. of Tech.)
P1-65	Motion compensation of synthetic aperture sonar with acceleration sensors Takao Sawa† (JAMSTEC, UEC), Tomoo Kamakura (UEC), Taro Aoki, Junichiro Tahara (JAMSTEC)
P1-66	Acoustics monitoring of water atmosphere in Lake Biwa Takaharu Kitamura†, Yoshiaki Watanabe (Doshisha Univ.)

第2日：11月16日(木)		
9:00-10:30 Measurement technique, Imaging, Non-destructive testing (English session)		
Chairman : Oliver B. Wright (Hokkaido Univ.)/Che-Hua Yang (Chang Gung Univ.)		
F-1	Integrity evaluation of rockbolts encapsulated by cement-mortar grouting using ultrasonic guided waves Shin-In Han†, In-Mo Lee (korea Univ.), Yong-Jun Lee (Posco E&C Co.), Jong-Sub Lee (Korea Univ.)	
F-2	Characterization of multi-layered tubes with inhomogeneous material properties using laser ultrasound technique Yu-An Lai†, Che-Hua Yang (Chang Gung Univ.)	
F-3	Wedge wave for machine tool inspection Chia-Hao Hsu, Sung-Nien Du†, Che-Hua Yang (Chang Gung Univ.)	
F-4	Imaging the propagation of a gigahertz ultrasonic pulse in a transparent medium Motonobu Tomoda† (Hokkaido Univ.), Roberto Li Voti (Universita di Roma), Osamu Matsuda, Oliver B. Wright (Hokkaido Univ.)	
F-5	Evaluation of ferroelectric domain boundary by ultrasonic atomic force microscopy using lateral bending mode Toshihiro Tsuji†, Kentaro Kobari, Seishiro Ide, Kazushi Yamanaka (Tohoku Univ.)	
F-6	Development of ultrasonic multiple access method by the M-sequence code Yong Wang†, Takehiko Suginouchi, Masahiko Hashimoto(Matsushita Electric Industrial Co., Ltd.), Hiroyuki Hachiya(Univ. Chiba)	
10:30-10:40 Break		
10:40-11:40 Medical ultrasound (English session) Chairman : Shin-ichiro Umemura (Kyoto Univ.)		
G-1	A study on pulse-inversion technique applied to semiintermodulated imaging in medical ultrasound with contrast agents Chung-You Wu† (Micro-Star Int'l Co., Ltd.), Wei-Huan Chao (National Taiwan Univ.),Yi-Hong Chou(Veterans General Hospital and National Yang-Ming Univ.)	
G-2	Micro bubble trapping by bubble nonlinear oscillation under pumping wave Yoshiki Yamakoshi†, Naritsugu Nakajima, Takashi Miwa (Gunma Univ.)	
G-3	Basic investigation on three-dimensional tissue elasticity microscope Tsuyoshi Shiina†, Masashi Yoshida, Makoto Yamakawa (Univ. Tsukuba), Naotaka Nitta (National Inst. Adv. Ind. Sci. Tech.)	
G-4	Ultrasonic transmission characteristics of in vitro human cancellous bone Isao Mano† (OYO Electric Co., Ltd.), Tadahito Yamamoto, Hiroshi Hagino, Ryota Teshima (Tottori Univ.), Masahiko Takada (Shiga Univ.), Toshiyuki Tsujimoto (Horiba, Ltd.), Takahiko Otani(Doshisha Univ.)	
11:40-13:00 Lunch		
13:00-13:45 Invited lecture 2 co-organized by IEEE Chairman : Tadashi Takenaka (Tokyo Univ. of Science)		
INV-2	The timing system of the European GNSS Galileo IEEE UFFC-S Distinguished Lecturer Andreas Bauch† (Physikalisch-Technische Bundesanstalt)	
13:45-13:55 Break		
13:55-14:40 Physical acoustics (English session) Chairman : Tomoo Kamakura (Univ. Electro-Commun.)		
H-1	Variation of high power air transducer Claes Hedberg†, Hamid Gazisaeidi (Blekinge Inst. Tech.)	
H-2	Ultrasonically enhanced diesel removal from soils Younguk Kim, Ji-Ho Park (Myongji Univ.), Sun-Mee Kim†, Jeehyeong Khim (Korea Univ.)	
H-3	Micro-Brillouin scattering study of acoustic properties of protein crystals Yuji Ike†, Eiji Hashimoto, Yuichi Sehimo, Seiji Kojima (Univ. Tsukuba)	
14:40-14:45 Break		
14:45-15:30 Device application (English session) Chairman : Ken-ya Hashimoto (Chiba Univ.)		
I-1	Multi-layered transducers using polyurea film Marie Nakazawa†, Masaya Tabaru, Kentaro Nakamura, Sadayuki Ueha (Tokyo Inst. Tech.), Akihiro Maezawa (Konica Minolta M.G. INC.)	
I-2	Integrated high temperature longitudinal, shear, and plate acoustic wave transducers Makiko Kobayashi†, Cheng-Kuei Jen, Yuu Ono (National Research Council Canada), Kuo-Ting Wu (McGill Univ.)	
I-3	Deposition of thin film based on SAW streaming Nobuaki Murochi†, Mitsunori Sugimoto, Yoshikazu Matsui, Jun Kondoh (Shizuoka Univ.)	
15:30-18:00 Poster session 2 Chairman : Jun Kondoh (Shizuoka Univ.)		
P2-2	Impulse response of energy modes with multiresolution analysis in piezoelectric transducer Michio Ohki† (Natl. Def. Acad.)	
P2-3	Experimental study on intermediate layer for air-coupled ultrasonic transducer with (0-3) composite materials Kazuki Saito†, Morimasa Nishihira, Kazuhiko Imano (Akita Univ.)	
P2-4	Propagation characteristics of negative group velocity of Lamb-type waves in a glass-water-glass layer Kojiro Nishimiya†(Univ. Tsukuba), Ken Yamamoto(Kobayashi Inst. Phys. Res.), Koichi Mizutani, Naoto Wakatsuki (Univ. Tsukuba)	
P2-5	A novel magnetic field sensor using piezoelectric vibrations Keita Dan†, Kentaro Nakamura, Sadayuki Ueha (Tokyo Inst. of Tech)	
P2-6	Numerical analysis for ultrasonic beam of variable line focus transducer Takahiro Aoyagi†, Marie Nakazawa, Kentaro Nakamura, Sadayuki Ueha (Tokyo Tech.)	
P2-7	Time response and spatial distribution of temperature rise due to absorption of ultrasound Chiaki Yamaya†, Hiroshi Inoue (Akita Univ.)	
P2-8	Observation of surface vibrational modes on gel surface by electric field tweezers system Maiko Hosoda†, Hideo Ogawa(TDU), Kenshiro Takagi(Univ. of Tokyo), Hiroyasu Nomura(TDU), Keiji Sakai (Univ. of Tokyo)	
P2-9	Characterization of circumferential waves in tubes with laser ultrasound measurements and theoretical modeling Chia-Wei Yeh†, Che-Hua Yang (Chang Gung Univ.)	
P2-10	Nondestructive characterization of zircaloy tubes with hydride rims I-Hung Liu† (National Taipei Univ. of Tech.) , Che-Hua Yang (Chang Gung Univ.)	
P2-11	Dispersion behaviors of wedge waves propagating along wedges tips with coatings Sheng-Wei Tang†(National Taipei Univ. of Tech.), Che-Hua Yang (Chang Gung Univ.)	
P2-12	Wedge waves propagating along piezoelectric wedges with fluid loading Wen-Chi Wang†(National Taipei Univ. of Tech.), Che-Hua Yang (Chang Gung Univ.)	
P2-13	The effects of fluid boundary conditions on the dispersion relations of guided waves propagating in piezoelectric plates Che-Hua Yang, Chia-Han Wu†, Kuen-Yi Tsai (Chang Gung Univ.)	
P2-14	Angle beam method to identify leaky Lamb wave modes in an elastic plate Young H. Kim† (Korea Science Academy), S. J. Song (Sungkyunkwan Univ.), S. D. Kwon (Andong National Univ.)	
P2-15	Discontinuity detection of rock mass by ultrasonic waves Jong-Sub Lee†, Seung-Sun Kim (Korea Univ.), Dong-Hyun Kim, Uk-Young Kim (GS E&C Co.), In-Mo Lee (Korea Univ.)	
P2-16	Rock property evaluation using wavelet transform analysis Sung-Won Lee†, Sung-Wan Hong (KICT), Jong-Sub Lee, In-Mo Lee (Korea Univ.)	
P2-17	Ultrasonic measurement of cylindrical rock specimens: Engineering modulus interpretation Min-Su Cha, Gye-Chun Cho† (Korea Adv. Inst. Sci. Tech.)	
P2-18	Detection of concrete crack using giant-magnetostriction vibrator Youhei Kawamura, Michinori Asaka†, Eui Seong Ha, Yu Ito (Univ. of Tsukuba), Koichi Okawa (Akita Univ.), Koichi Mizutani (Univ. of Tsukuba)	
P2-19	Validation of effectiveness on magnified cross-correlation analysis in frequency domain based on directivity of giant-magnetostriction vibrator Eui Seong Ha†, Youhei Kawamura, Koichi Mizutani (Univ. of Tsukuba), Koichi Okawa (Akita Univ.), Michinori Asaka (Univ. of Tsukuba)	
P2-20	Absolute measurement of surface vibrational distribution in piezoelectric devices using burst-wave driving Sunao Ishii†, Yasuaki Watanabe, Noriyuki Imaeda, Shigeyoshi Goka, Takayuki Sato, Hitoshi Sekimoto (Tokyo Metropolitan Univ.)	
P2-21	Quantitative characterization of two kinds of surface roughness parameters from air-coupled ultrasound scattering Deden Dian Sukmana†, Ikuo Ihara (Nagaoka Univ. Tech.)	
P2-22	Diagonally staggered grid for elastodynamic analysis by finite-difference time-domain method Masahiro Sato† (Akita Univ.)	
P2-23	Recognition system for WDM time-series optical coded labels using collinear acoustooptic devices without time gates Nobuo Goto† (Toyohashi Univ. of Tech), Yasumitsu Miyazaki (Aichi Univ. of Tech.)	

P2-24	Monolithically integrated tandem waveguide-type acoustoptic modulator driven by surface acoustic waves Shoji Kakio, Shinji Uotani, Motoki Kitamura†, Yasuhiko Nakagawa (Univ. of Yamanashi), Takefumi Hara, Hiromasa Ito (Tohoku Univ.), Tetsuya Kobayashi, Masayuki Watanabe (Optoquest Corp.)
P2-25	Beam-propagation analysis of RGB acoustoptic modulator driven by surface acoustic waves Hiroyuki Kawate†, Shoji Kakio, Yasuhiko Nakagawa (Univ. of Yamanashi), Takefumi Hara, Hiromasa Ito (Tohoku Univ.), Tetsuya Kobayashi, Masayuki Watanabe (Optoquest Corp.)
P2-26	Powerful potentiality of second order harmonic in nonlinear acoustic wave propagating on LiNbO ₃ substrate Yoshiaki Tokunaga, Masaki Suzuki, Masashi Imai† (Kanazawa Inst. Tech.)
P2-27	FBG vibration sensor array with temperature compensation using semiconductor optical amplifier tunable laser source Kiyoyuki Inamoto†, Satoshi Tanaka, Hiroki Yokosuka, Nobuaki Takahashi (National Defense Academy)
P2-28	Fast temperature-response operation of WDM FBG underwater acoustic sensor array Hiroki Yokosuka†, Satoshi Tanaka, Kiyoyuki Inamoto, Nobuaki Takahashi (National Defense Academy), Takao Sawa, Kenichi Asakawa (JAMSTEC)
P2-29	Basic study on fabrication technology of MEMS transducer Manabu Yokota†(Kanagawa Inst. of Tech.), Kouji Sakata (Fuji Electric System), Takanori Yamasaki, Keishin Koh, Kohji Hohkawa (Kanagawa Inst. of Tech.)
P2-30	Development of a high-sensitive electrodeless QCM immunosensor Kazuma Motohisa†, Kenichi Hatanaka, Toshinobu Ohmori, Hirotsugu Ogi, Masahiko Hirao (Univ. Osaka)
P2-31	Shape memory piezoelectric actuator Takeshi Morita†, Yoichi Kadota, Hiroshi Hosaka (Univ. of Tokyo)
P2-32	Load characteristics of a diagonally symmetric form ultrasonic motor using a LiNbO ₃ plate Koujiro Kawai†, Hideki Tamura (Yamagata Univ.), Takehiro Takano (Tohoku Inst. of Tech.), Yoshiro Tomikawa, Seiji Hirose (Yamagata Univ.), Manabu Aoyagi (Muroan Inst. of Tech.)
P2-33	Measurement of an imaginary part of complex Young's modulus of silicone rubber using impedance change of a quartz-crystal tuning-fork tactile sensor Hideaki Ito†(Shinshu Univ.)
P2-34	Assessment of paper's roughness using a quartz-crystal tuning-fork tactile sensor Yasuhiro Takeuchi†, Nobuhiro Yosii, Hideaki Itoh (Univ. Shinshu)
P2-35	Experimental study on sensitivity of piezoelectric vibratory tactile sensor Subaru Kudo† (Ishinomaki Senshu Univ.)
P2-36	Basic study on a threefold rotatory symmetric form quartz vibrator for triaxial gyrosensor Toshiaki Soneda†, Hideki Tamura, Yoshiro Tomikawa, Seiji Hirose (Yamagata Univ.)
P2-37	Packaging of SAW devices with small, low profile and hermetic performance Osamu Kawauchi, Kaoru Sakinada†, Yasufumi Kaneda, Satoru Ono (Fujitsu Media Devices Ltd.)
P2-38	Smaller SAW duplexer for US-PCS having good temperature characteristic Takeshi Nakao†, Michio Kadota, Kenji Nishiyama, Yasuharu Nakai, Daisuke Yamamoto, Yutaka Ishiura, Tomohisa Komura, Norihiko Takada, Ryoichi Kita (Murata Mfg. Co., Ltd.)
P2-39	Surface acoustic wave devices using AlGaIn/GaN heterostructures Takahiro Mizusawa†, Manabu Yokota, Keishin Koh, Kohji Hokawa (Kanagawa Inst. of Tech.) Kazumi Nishimura, Naoteru Sigekawa (NTT Photonics Lab.)
P2-40	Fabrication and evaluation of potassium niobate thin-film by RF sputtering Tatsunori Suzuki†, Hajime Kurosawa, Shoji Kakio, Yasuhiko Nakagawa (Univ. of Yamanashi)
P2-41	Reflection properties of SH-type SAW in periodic gold grating on langasite Satoshi Tanabe†, Shoji Kakio, Yasuhiko Nakagawa (Univ. of Yamanashi)
P2-42	Degradation of chlorinated compounds and phenol mixtures by ultrasound Myunghee Lim†, Younggyu Son, Qiongyuan Gao, Sunmee Kim (Korea Univ.), Younguk Kim (Myongji Univ.), Jeehyeong Khim (Korea Univ.)
P2-43	The effects of pH on the sonolysis of PCE Qiongyuan Gao†, Myunghee Lim, Sunmee Kim, Jongtae Kim (Korea Univ.), Younguk Kim (Myongji Univ.), Jeehyeong Khim (Korea Univ.)
P2-44	Effects of aqueous temperature on sonolysis of bisphenol A M. Helal Uddin†, Shin-ichi Hatanaka, Shigeo Hayashi (Univ. of Electro-Commun.)
P2-45	Effect of trabecular irregularity on fast and slow wave propagations in cancellous bone Atsushi Hosokawa† (Akashi National Coll. Tech.)
P2-46	Attenuation compensation of soft tissue for acoustic impedance measurement of in vivo bone by transducer vibration method Masasumi Yoshizawa†, Yuuta Nakamura, Masataka Ishiguro (Tokyo Metropol. Coll. of Ind. Tech.), Tadashi Moriya (Tokyo Metropol. Univ.)
P2-47	Longitudinal wave velocity and orientation of HAP crystallites in local area of bovine femoral cortical bone Yu Yamato† (Hamamatsu Univ. Sch. Med.), Hirofumi Mizukawa (Doshisha Univ.), Takahiko Yanagitani (AIST), Mami Matsukawa (Doshisha Univ.), Kaoru Yamazaki, Akira Nagano (Hamamatsu Univ. Sch. Med.)
P2-48	A study of osteoporosis by using twist oscillator Toru Taniguchi†, Hiroto Tateno, Syo Matsushita, Taro Tateno (Kagoshima Univ.)
P2-49	A Study of drugs infusion by ultrasonic method Megumi Fukuda†, Yuu Turifune, Kuninori Suzuki, Hiroto Tateno (Univ. Kagoshima)
P2-50	Ultrasonic strain-measurement-based shear modulus reconstruction: Case using lateral strain ratio Chikayoshi Sumi† (Sophia Univ.)
P2-51	Improvement of tissue elasticity image quality for anechoic area using iterative correction method Makoto Yamakawa†, Tsuyoshi Shiina (Univ. of Tsukuba)
P2-52	An approach to real-time imaging of local tissue elasticity utilizing aperture synthetic motion vector measurement system Atsushi Sanuga†, Shin-ichi Yagi (Univ. Meisei), Yuji Kondo, Kiyoshi Tamura (Aloka Co., Ltd.), Masakazu Sato (Microsonic Co., Ltd.)
P2-53	Analysis of tissue displacement induced by ultrasonic radiation force using MRI Naotaka Nitta†, Kazuhiro Homma, Keigo Hikishima (AIST)
P2-54	Tissue classification of artery wall based on elasticity distribution in region of interest determined by spatial resolution of ultrasound Kentaro Tsuzuki†, Hideyuki Hasegawa, Hiroshi Kanai (Tohoku Univ.), Masataka Ichiki (Sendai Hospital of East Railway Co.),
P2-55	Angular dependence of ultrasonic echo for imaging micro-order surface roughness Kazuki Kudo†, Hideyuki Hasegawa, Hiroshi Kanai (Tohoku Univ.)
P2-56	Ultrasonic measurement of change in elasticity of intima-media region for radial artery due to flow-mediated dilation Takuya Kaneko†, Hideyuki Hasegawa, Hiroshi Kanai (Tohoku Univ.)
P2-57	Imaging of transition in myocardial contraction and relaxation by measuring strain rate at high temporal resolution Hiroki Yoshia†, Hideyuki Hasegawa, Hiroshi Kanai (Tohoku Univ.), Motonao Tanaka (Tohoku Welfare Pension Hospital)
P2-58	Angular dependence of ultrasonic scattering from wire phantom mimicking myocardial fiber Teppei Onodera†, Hideyuki Hasegawa, Hiroshi Kanai (Tohoku Univ.)
P2-59	Ultrasonic measurement of distribution of longitudinal displacement along the radial direction of carotid arterial wall Takanori Numata†, Hideyuki Hasegawa, Hiroshi Kanai (Tohoku Univ.)
P2-60	A 2D-array of multi-degree-of-freedom ultrasonic actuators Yasuyuki Gohda†, Daisuke Koyama, Kentaro Nakamura, Sadayuki Ueha (Tokyo Inst. of Tech.)
P2-61	Behavior of microjets generated in molten metal Yasuo Saiki†, Takashi Kudo, Mamoru Kuwabara, Jian Yang (Nagoya Univ.)
P2-62	Study on scattering by SAW motor slider using FEM simulation Minoru Kuribayashi Kurosawa†, Yoshito Miyazaki, Takashi Shigematsu (Tokyo Inst. of Tech.)
P2-63	Effect of high intensity ultrasound on consolidation of soft clay Jong-Seb Lee, Woo-Jin Lee (Korea Univ.), Jung-Ha Hwang†, Young U. Kim (Myongji Univ.)
P2-64	Imperfections of parametrically generated sound beams caused by reflexions Dirk Olszewski†, Klaus Linhard (DaimlerChrysler Research and Technology)
P2-65	Optimum carrier frequency for ultrasound loudspeaker Dirk Olszewski† (DaimlerChrysler Research and Technology)
P2-66	Evaluation of piezoelectric power generator using barium titanate based ceramics Tatsunori Kakuda†, Tomoaki Futakuchi (Toyama Industrial Technology Center)
P2-67	Design of an absolutely aplanatic acoustic lens Yuji Sato†, Ayano Miyazaki, Youichi Miyazaki, Kazuyoshi Mori, Toshiaki Nakamura (National Defense Academy)
P2-68	Comparison of sound pressure fields focused by a spherical and three kinds of aspherical biconcave lenses Ayano Miyazaki†, Youichi Miyazaki, Yuji Sato, Kazuyoshi Mori, Toshiaki Nakamura (National Defense Academy)

P2-69	An analysis on focusing characteristics for phase continuous Fresnel lens using FDTD method Kazuyoshi Morit†, Ayano Miyazaki, Hanako Ogasawara, Toshiaki Nakamura (National Defense Academy), Yasuhito Takeuchi (Kagoshima Univ.)		
P2-70	Analysis of long-distance propagation time differences in the Central Pacific Hanako Ogasawara‡, Toshiaki Nakamura (National Defense Academy), Hidetoshi Fujimori (JAMSTEC), Koichi Mizutani (Univ. of Tsukuba)		
18:10	表彰式/Awarding ceremony		
18:40	懇親会/Banquet		
第3日:11月17日(金)			
9:00-10:15	強力超音波	座長：黒澤実(東工大)	
J-1	美顔器用高効率超音波振動ブロック	布村真人‡ 齋田至 篠井和康 安倍秀明(松下電工)	
J-2	非鉛系積層圧電セラミックスを用いた小型超音波モーター ー片持ち張り・屈曲2重モード利用モーターの試作-	土信田豊†(太陽誘電,山形大学) 岸本純明 石井佳輔 岸弘志(太陽誘電) 田村英樹 富川義朗 広瀬精二(山形大学)	
J-3	空中超音波による水霧を併用したガスの除去	三浦光†(日大)	
J-4	超音波によるメタンハイドレート分解促進機構に関する研究	田島大輔† 露木健一郎 戸梶慎一 三浦悟(鹿島建設)	
J-5	微小孔板の超音波振動による液滴生成実験	石川直行‡ 神田岳文 鈴森康一 吉澤秀和(岡山大学) 山田嘉昭(岡山県産業振興財団)	
10:15-10:20	休憩		
10:20-11:50	測定技術・映像法・非破壊検査	座長：大野正弘(千葉工大) / 平尾雅彦(大阪大)	
K-1	レーザ漏洩波探傷法を用いた微小き裂可視化技術の開発	三浦崇広† 落合誠 山本智 泉幹雄(東芝)	
K-2	符号付シュリーレン法を利用した音場測定	東隆‡(日立) 梅村晋一郎(京大)	
K-3	ガイド波を用いた流量計の理論解析と実験	佐藤治道†(産総研) Maxim Lebedev(東京計装) 明渡純(産総研)	
K-4	二層型圧電振動子を用いた金属棒中の閉じた亀裂からの高調波成分の実時間検出	福田誠‡ 西平守正 今野和彦(秋田大)	
K-5	ガスクロを用いたボールSAWセンサの多種類ガスへの応答解析	岩田尚也‡ 阿部卓司 辻俊宏 三原毅(東北大) 赤尾慎吾(東北大,凸版印刷) 山中一司(東北大)	
K-6	空中音波を用いた非接触型粘度計	伊藤正幸† 田井秀一 小林力(日大)	
11:50-13:00	昼食		
13:00-13:45	招待講演 3	座長：香田忍(名古屋大)	
INV-3	超音波の分子的生体作用と治療応用	近藤 隆† 趙 慶利 小川良平 田渕圭章(富山大)	
13:45-16:15	Poster session 3	Chairman : Keiji Sakai (Univ. of Tokyo.)	
P3-1	Two-dimensional anemometer with single pair of ultrasonic transducers by use of reflected wave	Ikumi Saito‡, Koichi Mizutani, Naoto Wakatsuki (Univ. of Tsukuba)	
P3-2	Crosswind velocity measurement using ultrasonic delay line	Akihiko Kon† (Univ. of Tsukuba, Yamatake Corp.), Koichi Mizutani, Naoto Wakatsuki (Univ. of Tsukuba)	
P3-3	Acoustic communication in air using DBPSK with influence by impulse response	Keiichi Mizutani‡ (Osaka Prefecture Univ.), Naoto Wakatsuki, Koichi Mizutani (Univ. of Tsukuba)	
P3-4	Measuring sound fields in air by Michelson interferometer	Shingo Shibata‡, Takeshi Ohbuchi, Koichi Mizutani, Naoto Wakatsuki (Univ. of Tsukuba)	
P3-5	Measurement of temperature distribution on the surface of acoustic reactor by use of thermal video system	Takashi Kubo‡, Jian Yang, Mamoru Kuwabara (Nagoya Univ.)	
P3-6	Applications of a pinhole-based low-frequency air-coupled ultrasonic system into precision displacement measurements	Katsuhiko Sasaki‡, Morimasa Nishihara, Kazuhiko Imano (Akita Univ.)	
P3-7	Precise position measurement of objects using an acoustic M-sequence signal in the air	Kuramitsu Nishihara‡, Tadashi Yamaguchi, Hiroyuki Hachiya (Chiba Univ.)	
P3-8	Calibration of hydrophone sensitivity using planar scanning method: Effect of nonlinear propagation	Tsuneo Kikuchi†, Masahiro Yoshioka, Sojun Sato (AIST)	
P3-9	Measurement of the acoustic property of small volume liquid sample beyond acoustic window	Shigemi Saito†(Tokai Univ.)	
P3-10	Measurements of intense ultrasound field in air using a fiber optic probe	Hiroyuki Takei‡, Takeshi Hasegawa, Kentaro Nakamura, Sadayuki Ueha (Tokyo Tech.)	
P3-11	Theoretical study of determining accurate acoustical physical constants of piezoelectric hexagonal single crystals	Yuji Ohashi‡, Mototaka Arakawa, Hiroyuki Odagawa, Jun-ichi Kushibiki (Tohoku Univ.)	
P3-12	High-resolution-acoustic imaging of material properties using scanning probe microscopy	Keiji Takata† (Hitachi, Ltd.)	
P3-13	An edge mode probe sensor for scanning probe microscopy	Kouji Honda‡, Takefumi Kanda, Koichi Suzumori (Okayama Univ.)	
P3-14	Comparison of ultrasonic hardness-tester hardness and micro-Vickers hardness	Ryoji Aoyagi† (Sendai National College of Technology), Kaoru Umezu (Sacra-tech)	
P3-15	Detection of backwall slit by laser ultrasonic technique	Hiroyuki Fukutomi, Tetsuo Fukuchi, Takeshi Okuyama†, Takashi Ogata (CRIEPI)	
P3-16	Development of a multi-beam laser ultrasonic system	Tetsuo Fukuchi†, Takeshi Okuyama, Hiroyuki Fukutomi, Takashi Ogata (CRIEPI)	
P3-17	Ultraviolet-laser excitation microscopic photothermal lens imaging for observing biological cells	Akira Harata†, Takashi Matuda, Satoshi Hirashima (Kyushu Univ.)	
P3-18	Ultrasonic transmission images using phase conjugate waves	Tatsuya Seki‡, Hiroaki Ishida, Masahiro Ohno (Chiba Inst. of Tech.)	
P3-19	Imaging of the vortex air flow profile by acoustic tomography	Kazuhiro Hayashi‡, Haiyue Li, Takaaki Ueki, Akira Yamada (Tokyo Univ. of A&T)	
P3-20	Discussion on transmission and reception of SV wave propagating along surface of test object	Tomonori Kimura†, Koichiro Misu, Shusou Wadaka (Mitsubishi Elecrtic Corp.), Mitsuhiro Koike (Ryoden Shonan Electronics Corp.)	
P3-21	On SH wave propagating in a pipe in the longitudinal direction	Takahiro Hayashi‡(Nagoya Inst. Tech.), Sachiro Sugimoto, Yoshihide Tanaka (Ryoden Syonan Electronics)	
P3-22	Generations of circumferential guided waves propagating in a pipe using a bulk shear wave sensor	Hideo Nishino†, Ryuichi Yokoyama, Kenichi Yoshida (Univ. Tokushima)	
P3-23	Higher harmonic imaging of minute damage in engineering materials	Morimasa Murase‡, Koichiro Kawashima (Ultrasonic Materials Diagnosis Lab.)	
P3-24	Nonlinear acoustic evaluation of creep damage in boiler heat exchange tubes	Toshihiro Ohtani† (Ebara Research Co.), Koichiro Kawashima (Ultrasonic Materials Diagnosis Lab.), Michael Drew, Paul Guagliard (Australian Nuclear Science & Technology Org.)	
P3-25	Optimization of input amplitude for closed-crack imaging by nonlinear response of acoustic waves	Yoshikazu Ohara†, Setsu Yamamoto, Tsuyoshi Mihara, Kazushi Yamanaka (Tohoku Univ.)	
P3-26	Ultrasonic measuring method of accumulated compressive elasticity strain energy on the compression stress strain metal beam using sing-around method	Masaaki Ohashi‡ (Shibaura Inst. of Tech.)	
P3-27	Evaluation of rubber viscoelasticity by pulse echo method	Junjie Chang† (Dalian Maritime Univ.)	
P3-28	Evaluation on elastic constants of an antifouling paint film using group delay spectrum method	Shinobu Sugawara†, Toshiaki Shibata (National Maritime Research Inst.)	
P3-29	Lateral resolution of 3D underground imaging	Liang Tao‡, Seiichi Motooka (Chiba Inst. Tech.)	
P3-30	Sound radiation analysis of a board-type speaker based on Lamb wave propagation	Kazunori Kawashima‡, Naoto Wakatsuki, Koichi Mizutani (Univ. of Tsukuba)	
P3-31	Development of capacitive ultrasonic sensor having parylene film by micromachining technique	Katsuhide Furukawa†, Seiji Aoyagi (Kansai Univ.), Kaoru Yamashita, Masanobu Okuyama (Osaka Univ.)	
P3-32	Integration technology of two-dimensional ultorasonic transducers	Yuji Terao‡, Manabu Yokota, Keishin Koh, Kohji Hokawa (Kanagawa Inst. of Tech.)	

P3-33	Thermal diffusivity of semi-insulating 6H-SiC single crystal wafers evaluated by photopyroelectric (PPE) method Watimakun Passapong†, Taichiro Mori, Hisashi Miyazaki, Yoichi Okamoto, Jun Morimoto (National Defense Academy), Toshihiko Hayashi, Hiromu Shiomi (SiXON, Ltd.)
P3-34	Nonradiative recombination process in semi-insulating 6H-SiC bulk single crystals evaluated by photoacoustic spectroscopy Taichiro Mori†, Wutimakun Passapong, Hisashi Miyazaki, Jun Morimoto (National Defense Academy), Toshihiko Hayashi, Hiromu Shiomi (SiXON, Ltd.)
P3-35	Structure and photoacoustic spectra of Y-doped Eu ₂ W ₂ O ₉ phosphor Atsushi Aruga†, Yoichi Okamoto, Masahiro Tsuchiya (Nat. Def. Acad.)
P3-36	Evaluation of weldment by photothermal electrochemical(PE) detection Yoichiro Hiwatashi, Ryota Kamata†, Haruo Endoh, Tsutomu Hoshimiya (Tohoku Gakuin Univ.)
P3-37	Nondestructive evaluation of wedge-shaped surface defects by photoacoustic microscopy Haruo Endoh, Naoki Ohtaki†, Yoichiro Hiwatashi, Tsutomu Hoshimiya (Tohoku Gakuin Univ.)
P3-38	Photoacoustic and photoelectrochemical characterization of CdSe quantum dots grafted onto fluorine-doped tin oxide (FTO) glass and nanostructured SnO ₂ electrode Taro Toyoda, Makoto Yanai†, Qing Shen (Univ. Electro-Commun.), Kenji Katayama (Chuo Univ.), Tsuguo Sawada (Tokyo Univ. A&T)
P3-39	Effect of interface states at SiO ₂ /Si boundaries on surface photovoltage and piezoelectric photothermal spectra Hiromitsu Hayashi†, Takahiro Kuroki, Atsuhiko Fukuyama(Univ. of Miyazaki),Maki Suemitsu(Tohoku Univ.), Tetsuo Ikari (Univ. of Miyazaki)
P3-40	Nondestructive image evaluation of welded zone of steel plate by photoacoustic microscope Naoki Ohtaki, Mika Hatakeyama†, Mamoru Suzuki, Haruo Endoh, Tsutomu Hoshimiya (Tohoku Gakuin Univ.), Masaru Kawakami, Yutaka Muraki, Takeshi Nakajima, Akihide Tominaga, Masami Takeshi (Suzuki Motor Corp.)
P3-41	Photoacoustic spectroscopy of CdSe quantum dots absorbed on nanostructured TiO ₂ electrode Taro Toyoda, Terumasa Uehata†, Qing Shen (Univ. Electro-Commun.)
P3-42	Direct measurement of optical absorption for Si-Ge-Au amorphous thin films by using PAS Hiroaki Takiguchi†, Yoichi Okamoto, Atsushi Aruga (National Defense Academy)
P3-43	Development of millisecond Brillouin spectroscopy Yasuo Minami†, Takeshi Yogi, Keiji Sakai (Univ. of Tokyo)
P3-44	Observation of induced shear acoustic phonons by Brillouin scattering Shigeo Murata†, Takayuki Kawamoto, Mami Matsukawa (Doshisha Univ.), Takahiko Yanagitani (AIST)
P3-45	Reconstruction of vibrating surface of ultrasonic transducer using O-CT and acoustical holography Takeshi Ohbuchi†, Shingo Shibata, Koichi Mizutani, Naoto Wakatsuki (Univ. of Tsukuba), Hiroyuki Masuyama (Toba Natl. Coll. Mar. Tech.)
P3-46	Sonoluminescence and Na-atom emission from SDS surfactant solutions Pak-Kon Choi†, Kouta Funayama (Meiji Univ.)
P3-47	Intensity variation in sonoluminescence by ultrasonic driving conditions Misun Jo†, Kwanho Mun, Moojoon Kim, Kanglyeol Ha (Pukyong Univ.), Jungsoon Kim (Tongmyong Univ.)
P3-48	Test temperature dependence on transesterification of triolein under ultrasonic irradiation condition Hoang Duc Hanh†, Nguyen The Dong, Kenji Okitsu, Yasuaki Maeda, Rokuro Nishimura (Osaka Pref. Univ.)
P3-49	Effect of ultrasound on surfactant aided soil washing for diesel decontamination Jeehyeong Khim, Sunmee Kim†, Myunghee Lim, Qiong Yuan, Anna Hwang (Korea Univ.), In-Chul Park, Younguk Kim (Myongji Univ.)
P3-50	Improvement in the flow rate of a miniature ultrasonic suction pump Takeshi Hasegawa†, Daisuke Koyama, Kentaro Nakamura, Sadayuki Ueha (Tokyo Tech.)
P3-51	A self-running ultrasonic levitated linear guide Daisuke Koyama†, Kentaro Nakamura, Sadayuki Ueha (Tokyo Inst. of Tech.)
P3-52	Development of a cylindrical type ultrasonic motor Yasuyuki Katsube†, Kazutaka Honma, Duala (FDK Corp.), Jun Kondoh (Shizuoka Univ.)
P3-53	An examination of a powder transportation device with groove using ultrasonic vibration Keisuke Okada†, Hideyuki Haruna, Yoshikazu Koike (Shibaura Inst. of Tech.)
P3-54	Nano-tip formation by nickel electroless plating under ultrasonic irradiation Shuji Mononobe† (Toyo Univ., Kanagawa Acad. Sci. Tech.)
P3-55	Extraction of catechins from green tea using ultrasound Hitoshi Koiwai†, Nobuyoshi Masuzawa (Musashi Inst. of Tech.)
P3-56	Influence of high power ultrasonic irradiation on primary nucleation process during solidification Kazumasa Yasuda†, Yasuo Saiki, Takashi Kudo, Mamoru Kuwabara, Jian Yang (Nagoya Univ.)
P3-57	Study of microphone with probe for measuring of high-intensity aerial ultrasonic sound waves Kennichi Komaba†, Yoichi Ito (Nihon Univ.)
P3-58	An in-wheel type micro ultrasonic motor using sector-shaped piezoelectric ceramics vibrators Yusuke Matsunaga†, Takefumi Kanda, Koichi Suzumori, Takashi Ichihara (Okayama Univ.)
P3-59	Vibration and welding characteristics of a complex vibration source using a (1,1) transverse vibration disk with 40-mm-diameter bolt-clamped Langevin type PZT transducers Jiromaru Tsujino, Tetsugi Ueoka†, Tohru Aoyama, Ryohei Karatsu (Kanagawa Univ.)
P3-60	Configuration of a 150 kHz ultrasonic welding equipment using a different sound velocity metal-ring-pair complex vibration converter Jiromaru Tsujino, Goh Kishimoto† (Kanagawa Univ.)
P3-61	Configuration of a 20 kHz ultrasonic complex vibration welding system using a transverse vibration welding tip and a complex vibration converter with diagonal slits Jiromaru Tsujino, Ryohei Karatsu†, Shun Tanaka, Tetsugi Ueoka (Kanagawa Univ.)
P3-62	Configuration of ultrasonic motors using different sound velocity metal-ring-pair vibration converters Jiromaru Tsujino, Yuu Kubodera†, Akimitsu Hirai (Kanagawa Univ.)
P3-63	Vibration and welding characteristics of a 27 kHz complex vibration source using a (2,1) transverse vibration disk and six bolt-clamped Langevin type PZT transducers Jiromaru Tsujino, Tohru Aoyama†, Ryohei Karatsu, Tetsugi Ueoka (Kanagawa Univ.)
P3-64	Vibration characteristics and dimensions of diagonal slits for a 27 kHz ultrasonics vibration converter Jiromaru Tsujino, Shun Tanaka†, Ryohei Karatsu, Tetsugi Ueoka (Kanagawa Univ.)
P3-65	Vibration and welding characteristics of a 27 kHz complex vibration source using longitudinal vibration disk and six bolt-clamped Langevin type PZT transducers Jiromaru Tsujino Takafumi Kyuzen†, Takaharu Doi, Tetsugi Ueoka (Kanagawa Univ.)
P3-66	A robot finger joint driven by multi-degree-of-freedom ultrasonic actuator Xiaofeng Zhang†, Yasuyuki Gouda, Daisuke Koyama, Kentaro Nakamura, Sadayuki Ueha (Tokyo Inst. of Tech), Masaki Takasan (Toyota Industries Corp.)
P3-67	Gyro-moment motor: Experimental studies of 2-phase-drive-type Yoshitaka Kimura† (Seikoh Giken Co., Ltd.), Yoshiro Tomikawa, Chiharu Kusakabe (Yamagata Univ.), Kouji Matsumoto, Toshio Tokairin (Seikoh Giken Co., Ltd.)
P3-68	Non-contact acoustic manipulation in air Teruyuki Kozuka†, Kyuichi Yasui, Toru Tuziuti, Atsuya Towata, Yasuo Iida (AIST)
P3-69	Application of phase adjuster for improvement in cooling effect of thermoacoustic cooling system Shin-ichi Sakamoto†, Yosuke Imamura, Yoshiaki Watanabe (Doshisha Univ.)
P3-70	Torque characteristics of a ultrasonic motor using a coiled stator Junichi Tsuchiya†, Tadashi Moriya (Tokyo Metropolitan Univ.)
16:15-16:45	光-超音波エレクトロニクス 座長：守本純（防衛大）
L-1	音響光学素子を用いた歪み・振動センサ 田中伸治† 山田清和 小林英晃 門田道雄（村田製作所）
L-2	圧電素子光熱分光法を用いたp-n接合シリコン界面におけるキャリア振る舞いの評価 内堀裕樹† 中馬博樹 福山敦彦 碓哲雄（宮崎大）
16:45-16:50	休憩
16:50-17:20	ソノケミストリー 座長：松岡辰郎（名古屋大）
M-1	カロリーメトリーによるソノリアクター用超音波振動子の評価 朝倉義幸†（本多電子, 名大） 松岡辰郎 香田忍（名大）
M-2	マイクロチャンネルにおけるリボソーム形成過程に対する超音波照射効果 飯田康夫† 辻内亨 安井久一 小塚晃透 砥綿篤哉（産総研）
17:25	閉会式

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	1 5 日 (水)	1 6 日 (木)	1 7 日 (金)
9	9:00～ 開 会 式		
10	9:15～10:15 A 超音波物性・材料 フォノン物理	9:00～10:30 F 測定技術・映像法 ・非破壊検査	9:00～10:15 J 強力超音波
	10:15～10:20 休憩		10:15～10:20 休憩
11	10:20～11:50 B バルク波デバイス	10:30～10:40 休憩 10:40～11:40 G 医用超音波	10:20～11:50 K 測定技術・映像法 ・非破壊検査
12	11:50～13:00 昼 食	11:40～13:00 昼 食	11:50～13:00 昼 食
13	13:00～13:45 INV1 招待講演 1 長 康雄 (東北大)	13:00～13:45 INV2 招待講演 2 Andreas Bauch (PTB)	13:00～13:45 INV3 招待講演 3 近藤 隆 (富山大)
	13:45～13:50 休憩	13:45～13:55 休憩	
14	13:50～14:35 C 水中音響	13:55～14:40 H 音響物理	
	14:35～14:40 休憩	14:40～14:45 休憩	
15	14:40～15:40 D 医用超音波	14:45～15:30 I デバイス応用	13:45～16:15 P3 ポスター発表
	15:40～15:45 休憩		
16	15:45～16:30 E 弾性表面波デバイス		
		15:30～18:00 P2 ポスター発表	16:15～16:45 L 光-超音波 エレクトロニクス
17	16:30～19:00 P1 ポスター発表		16:45～16:50 休憩 16:50～17:20 M ソノケミストリー
18		18:10～18:25 表 彰 式	17:25～ 閉 会 式
19		18:40～ 懇親会	