

The 46th Symposium on Ultrasonic Electronics (USE 2025) Program

○ Speaker

* Applying to Young Scientists Award

12 November (Wed)

9:45-10:00 **Opening Ceremony**

10:00-11:00 **Piezoelectric devices I • Ocean acoustics I**

Chair: Takenobu Tsuchiya (Kanagawa Univ.)

1J1-1* **Evaluation of mechanical Q factor of piezoelectric films and metal films by pulse-echo technique**
[[[S4375]]] ○Cocono Mita^{1,2}, Yohkoh Shimano^{1,2}, Takahiko Yanagitani^{1,2} (¹Waseda Univ., ²ZAIKEN)

1J1-2* **Fabrication and evaluation of pseudo plate wave resonators using bonded structures with periodic voids**
[[[S4309]]] ○Shumpei Kobayashi, Masashi Suzuki, Shoji Kakio (Univ. of Yamanashi)

1J1-3* **Preliminary study on OSDM-based underwater acoustic communication with sparse Bayesian channel estimation**
[[[S4374]]] ○Ryoichi Ishijima, Tadashi Ebihara, Naoto Wakatsuki, Yuka Maeda (Univ. of Tsukuba)

1J1-4* **Numerical simulation of effects of fish school density and arrangement on multiple scattering in fish school**
[[[S4400]]] ○Ryusuke Miyamoto, Seiji Akiyama (Tokyo Univ. Marine Sci. Tech.)

11:00-11:25 **Plenary Talk I**

Chair: Yoshikazu Ohara (Tohoku Univ.)

1PL **Characterization of Nanomaterials Using Picosecond Ultrasonics: Applications and Perspectives**
○Akira Nagakubo (Tohoku Univ.)

11:25-13:00 **Lunch Time**

13:00-15:00 **Poster Session**

Chair: Masashi Suzuki (Univ. of Yamanashi)

1P1-1 **Phononic rainbow trapping and phase time in one-dimensional gradient-index superlattices**
[[[S4247]]] Kohki Imoto, ○Seiji Mizuno (Hokkaido Univ.)

1P1-2* **Frequency Controlled Switching in Topological Phononic Crystals for Biosensing Applications**
[[[S4334]]] ○Hiroki Okita, Ambuj Kumar Gautam, Hirotsugu Ogi (Osaka Univ.)

1P1-3* **Design of Non-Hermitian Acoustic Cloaking Metamaterials using Sound-Absorbing Materials and Phase-Controlled Speakers**
[[[S4314]]] ○Riki Hara, Yuri Fukaya, Kenji Tsuruta (Okayama Univ.)

1P1-4 **Improved mechanical quality factor Q_m of piezoelectric bar mode vibrators with a low mechanical stress sample fixture**
[[[S4256]]] ○Hiroshi Maiwa¹, Shintaro Matsumoto¹, Yu Xiang¹, Yan Sun¹, Yohachi (John) Yamashita^{1,2}
(¹Shonan Inst. of Tech., ²NC State Univ.)

1P1-5* **A study on the relationship between mass distribution of legs and vibration duration of tuning forks**
[[[S4223]]] ○Takahiro Ueno¹, Sho Ostuka¹, Seiji Nakagawa^{1,2} (¹Chiba Univ., ²Chiba Univ. Hosp.)

1P1-6* **Effects of Surface Adsorption on Viscosity Measurements of Coffee Beverages**
[[[S4288]]] ○Ayuto Nakao, Taichi Hirano (Meiji Univ.)

1P1-7 **Dynamics of Microparticles in Suspension Induced by Ultrasonic Irradiation**
[[[S4305]]] ○Mao Yamada, Tomohisa Norisuye (Kyoto Inst. of Tech.)

1P2-1* **Directivity synthesis of airborne sonar transducer through vibration distribution design**
[[[S4280]]] ○Kazuma Aoki, Yuji Wada, Kentaro Nakamura (Science Tokyo)

- 1P2-2*** **Resistive MHz ultrasonic receiver using carbon nanomaterials**
[[[S4279]]]
○Kazunobu Matsumoto, Yuji Wada, Kentaro Nakamura (Science Tokyo)
- 1P2-3** **Development of Point-Focusing EMATs with Large Incident Angles Beyond Conventional Design Limit**
[[[S4230]]]
○Takashi Takishita^{1,2}, Hirotsugu Ogi² (¹KOBE STEEL, ²Osaka Univ.)
- 1P2-4** **Nonlinear ultrasonic response to plastic strain at circumferential notches under tension stress Effect of tensile-induced plastic strain at Circumferential notches on nonlinear ultrasonic properties**
[[[S4316]]]
○Yutaka Ishii, Toshihiro Ohtani, Toshihito Ohmi (Shonan Inst. of Tech.)
- 1P2-5** **Thickness measurement using guided wave occurred by air-coupled ultrasonic**
[[[S4268]]]
○Yuusuke Tanaka, Taku Asakawa, Yukio Ogura (Japan Probe)
- 1P2-6** **Study on oscillatory behavior of microdroplet impact on substrate**
[[[S4358]]]
○Mika Iga¹, Satoshi Ishida¹, Masami Kadonaga², Shujiro Mitani², Keiji Sakai²
(¹Nippon Paint Corporate Solutions, ²Univ. of Tokyo)
- 1P2-7*** **Study of Ultra-High Frequency Acoustic Properties of Soft Matter Using Multilayer Graphene Oscillators**
[[[S4349]]]
○Shuhei Izuma¹, Masamitsu Tachibana², Mutsuaki Murakami², Hirotsugu Ogi¹ (¹Osaka Univ., ²KANEKA)
- 1P2-8*** **Simultaneous monitoring of live cell mechanics and morphology using electrode-free QCM and dark-filed microscopy**
[[[S4267]]]
○Motoyuki Hamana, Natsumi Fujiwara, Hirotsugu Ogi (Osaka Univ.)
- 1P2-9** **Evaluation of acoustic streaming on ultrasonic power measurement using radiation force balance method**
[[[S4328]]]
○Takeyoshi Uchida¹, Choyu Uehara² (¹NMIJ, AIST, ²Shimane Univ. Hosp.)
- 1P2-10** **Measurement of frequency response of heterodyne inter-ferometer for calibrating phase of hydrophone sensitivity using electro-optic modulator**
[[[S4337]]]
○Yusuke Chiba, Hideaki Nozato, Masahiro Yoshioka (AIST)
- 1P2-11*** **Noise Suppression Method for Passive Localization: Simulation of Cross-Correlation Using Mean Signal and Inverse Filter**
[[[S4195]]]
○Hirotaka Obo, Yuki Fujita, Masahisa Ishii, Hideki Moriyama (NARO)
- 1P2-12** **Sound speed measurement with a laser doppler vibrometer and its application to air temperature monitoring**
[[[S4252]]]
○Manabu Takahashi¹, Ikuro Ihara² (¹NIT, Sendai College, ²Nagaoka Univ. of Tech.)
- 1P2-13*** **Feature analysis of echo signals using wearable ultrasonic transducers for silent speech recognition**
[[[S4286]]]
○Takumi Kanaya¹, Naoki Tano¹, Mototaka Arakawa², Yuu Ono³, Marie Tabaru¹
(¹Science Tokyo, ²Tohoku Univ., ³Carleton Univ.)
- 1P3-1*** **Polarization control of AlN growth using sputtering gas ratio and application to third overtone mode SMR**
[[[S4371]]]
○Ayaka Hanai¹, Takahiko Yanagitani² (¹Waseda Univ., ²ZAIKEN)
- 1P3-2*** **Correlation of Q_m and TCV of SiO₂ sputter films investigated by GHz pulse-echo technique**
[[[S4373]]]
○Nana Shimazaki^{1,2}, Takahiko Yanagitani^{1,2} (¹Waseda Univ., ²ZAIKEN)
- 1P3-3*** **High overtone mode SMR using polarization-inverted Sc_{0.4}Al_{0.6}N thin films**
[[[S4377]]]
○Nanami Suzuki^{1,2}, Wataru Shimoyama^{1,2}, Takahiko Yanagitani^{1,2} (¹Waseda Univ., ²ZAIKEN)
- 1P3-4*** **Fundamental study for viscosity measurement by shear-horizontal-mode acoustic waves transmitted circumferentially around ZnO film/silica glass pipe structure**
[[[S4423]]]
○Sodai Yamaguchi¹, Shinji Takayanagi², Takahiko Yanagitani³ (¹Doshisha Univ., ²Waseda Univ.)
- 1P3-5** **Mitigation of Hybrid Mode Responses by SAW Velocity Reduction in TC-SAW Resonators**
[[[S4200]]]
○Qiu hao Wang, Zijiang Yang, Ting Wu, Wanli Cai, Jingfu Bao, Ken-ya Hashimoto
(Univ. of Electronic Sci. and Tech. of China)
- 1P3-6** **Linear Characterization of Wafer Probes for Nonlinearity Measurement of RF SAW/BAW Deices**
[[[S4202]]]
○Wanli Cai, Yuanyuan Liu, Zijiang Yang, Hao Liu, Qiu hao Wang, Jingfu Bao, Ken-ya Hashimoto
(Univ. of Electronic Sci. and Tech. of China)

- 1P3-7** **A resonant characteristic analysis method for a flexensional transducer with a barrel-shaped shell**
[[[S4211]]]
○Moojoon Kim¹, Jungsoon Kim² (¹Pukyong Natl. Univ., ²Tongmyong Univ.)
- 1P3-8*** **Study on Antibody Immobilization Process in Shear Horizontal Surface Acoustic Wave Biosensor**
[[[S4212]]]
○Shingo Murakami, Jun Kondoh (Shizuoka Univ.)
- 1P3-9*** **Development of micro-acoustic resonator for analysis of viscoelastic properties of biomolecular condensates**
[[[S4289]]]
○Taichi Yoshikawa, Hirotsugu Ogi, Kichitaro Nakajima (Osaka Univ.)
- 1P3-10*** **QCM Gas Sensor Using Compressive Stress PdAu Alloy as Hydrogen Sensitive Layer**
[[[S4318]]]
○Takato Otake¹, Hikaru Motohashi¹, Manabu Suzuki¹, Fumihito Kato¹, Hirotsugu Ogi² (¹Nippon Inst. of Tech., ²Osaka Univ.)
- 1P3-11** **Vibration Characteristics of a Complex Bar Resonator with a Square Cross Section and Diagonal Slits**
[[[S4292]]]
○Subaru Kudo (Ishinomaki Senshu Univ.)
- 1P4-1** **Effect of electric-pulse application on single-bubble sonoluminescence**
[[[S4254]]]
○Hyang-Bok Lee^{1,2} (¹Japan Women's Univ., ²ORDIST)
- 1P4-2*** **Relationship between bubble vibration and sonoluminescence intensity at different static pressures**
[[[S4222]]]
○Shuta Nakamura, Ken Yamamoto (Kansai Univ.)
- 1P4-3*** **Effects of surfactant addition and liquid surface stabilization control on the initial growth of cavitation bubbles**
[[[S4240]]]
○Taiki Ohashi¹, Hyang-Bok Lee^{2,3}, Ken Yamamoto¹ (¹Kansai Univ., ²ORDIST, ³Japan Women's Univ.)
- 1P4-4*** **High-Throughput Acoustofluidic Blood Plasma Separation Using a Miniaturized Focusing Transducer (ELIPS)**
[[[S4341]]]
○Zhirui Chen¹, Wei Qiu², Chikahiro Imashiro¹, Takeshi Morita¹ (¹Univ. of Tokyo, ²Lund Univ.)
- 1P4-5*** **High-power SAW device with elliptical reflector focusing structures**
[[[S4333]]]
○Kyohei Yamada¹, Shoki Teiri¹, Shinsuke Itoh², Takashi Kasashima², Chikahiro Imashiro¹, Takeshi Morita¹ (¹Univ. of Tokyo, ²Niterra)
- 1P4-6** **Noncontact grasping using acoustic streaming air pressure and negative acoustic radiation force**
[[[S4361]]]
Yuta Fujioka¹, Yimeng Wang¹, Hideki Tamura², Kohei Aono³, ○Manabu Aoyagi¹ (¹Muroran Inst. of Tech., ²Tohoku Inst. of Tech., ³Seidensha Electronics)
- 1P4-7*** **Effects of noise exposure on bone-conducted speech perception during wearing earplugs**
[[[S4225]]]
○Kazusa Uchida¹, Sho Otsuka¹, Seiji Nakagawa^{1,2} (¹Chiba Univ., ²Chiba Univ. Hosp.)
- 1P4-8*** **Basic study on an ultrasonic sound source comprising a multilayered piezoelectric actuator and aluminum film**
[[[S4257]]]
○Haruki Takahashi, Hikaru Miura, Takuya Asami (Nihon Univ.)
- 1P4-9*** **Refractive index control using ultrasonic vibration and nanoparticles**
[[[S4385]]]
○Ryoya Mizuno¹, Yuto Miyai¹, Hidetaka Ichikawa¹, Akira Emota², Daisuke Koyama¹ (¹Doshisha Univ., ²DERUTAENU)
- 1P5-1** **Compensation of acoustic signal using a pseudo transmission path and application to a 3D ultrasonic microscope for biological use**
[[[S4192]]]
○Yasuharu Ogiso¹, Kazuto Kobayashi¹, Naohiro Hozumi² (¹Honda Electronics, ²Toyohashi Univ. of Tech.)
- 1P5-2** **The effect of local mechanical stimulation for PC12 cells by focused ultrasound on neuronal differentiation**
[[[S4208]]]
○Midori Uno, Natsumi Fujiwara, Hiroki Okita, Kichitaro Nakajima, Hirotsugu Ogi (Osaka Univ.)
- 1P5-3** **Acoustic Imaging of Brain Organoids with Coded Excitation**
[[[S4215]]]
○Anowarul Habib¹, Paula Casasano Mateos², Vishesh Kumar Dubey¹, Mukesh Varshney², Azeem Ahmad², Balpreet Singh Ahluwalia², Frank Melandso² (¹UiT The Arctic Univ. of Norway, ²Karolinska Inst. of Tech.)
- 1P5-4*** **Accuracy improvement of vascular network extraction in ultrasound volumes using bifurcation likelihood estimation in 3D U-Net**
[[[S4224]]]
○Yukino Takahashi¹, Kaori Shinoda¹, Takeru Kurihara¹, Shinya Onogi², Yoshikazu Nakajima², Yoshihiro Edamoto³, Takumi Noda¹, Kohji Masuda¹ (¹Tokyo Univ. of A&T, ²Science Tokyo, ³Secomedic Hosp.)

- 1P5-5** **Investigation of signal selection method in receive beamforming**
[[[S4327]]]
○Hideyuki Hasegawa¹, Masaaki Omura¹, Ryo Nagaoka¹, Kozue Saito² (¹Univ. of Toyama, ²Nara Med Univ.)
- 1P5-6*** **Investigation of the effect of SAW swimmer on cell viability**
[[[S4235]]]
○Jeong Chan Lee¹, Yukiji Fujiwara¹, Tomoya Tanaka¹, Shinya Kumagai², Minoru Sasaki¹, Deqing Kong¹
(¹Toyota Inst. of Tech., ²Meijo Univ.)
- 1P5-7** **Simultaneous Observation of Piezoelectric and Ultrasound Signals in Cancellous Bone**
[[[S4241]]]
○Atsushi Hosokawa (Natl. Inst. Tech., Akashi Coll.)
- 1P5-8** **Deep-leaning using SAM, PSPNet and U-net toward automated ultrasound diagnosis -Application to carotid artery**
[[[S4242]]]
○Zhiwei Gao, Chikayoshi Sumi (Sophia Univ.)
- 1P5-9** **Mapping of Bubbles Generated by Flextensional Transducer Based on Spatial Coherence of Acoustic Cavitation Noise**
[[[S4246]]]
○Takanobu Kuroyama¹, Shinya Yamamoto², Naohiro Sugita², Tadahiko Shinshi², Hanako Ogasawara¹, Kazuyoshi Mori¹
(¹Natl. Defense Academy, ²Science Tokyo)
- 1P5-10*** **Investigation of Frequency Characteristics of ultrasound-stimulated C2C12 cellular Calcium Response**
[[[S4260]]]
○Nagisa Tsujimura, Takeshi Morita, Chikahiro Imashiro (Univ. of Tokyo)
- 1P5-11 *** **Study on effects of interstitial fluid pressure on shear wave propagation characteristics in biological tissues**
[[[S4261]]]
○Kento Shimizu¹, Naoki Tano¹, Ren Koda², Yoshiki Yamkoshi², Marie Tabaru¹ (¹Science Tokyo, ²Gunma Univ.)
- 1P5-12** **Discriminating microbubbles based on frequency spectrum analysis can improve the accuracy of viscosity estimation**
[[[S4266]]]
○Kenji Yoshida¹, Masaaki Omura², Shinnosuke Hirata¹, Tadashi Yamaguchi¹ (¹Chiba Univ., ²Univ. of Toyama)
- 1P5-13*** **Blood Flow Visualization with Spatiotemporal Deep Learning Using ConvLSTM**
[[[S4271]]]
○Hongpeng Wang, Jiayi Li, Masaaki Omura, Ryo Nagaoka, Shangce Gao, Hideyuki Hasegawa (Univ. of Toyama)
- 1P5-14*** **Vessel wall segmentation via deep learning of ultrasound simulation-based dataset**
[[[S4272]]]
○Yuri Hamai, Masaaki Omura, Ryo Nagaoka, Shangce Gao, Hideyuki Hasegawa (Univ. of Toyama)
- 1P5-15*** **A Study on CNN-Based Classification of Heart Rate Variability Using Acoustic Analysis Techniques**
[[[S4284]]]
○Niina Hasegawa, Motoaki Sano (Toin Univ.of Yokohama)
- 1P5-16*** **Estimation of Vascular Age Using Korotkoff Sound Analysis With Convolutional Neural Networks**
[[[S4287]]]
○Yuka Ito, Motoaki Sano (Toin Univ.of Yokohama)
- 1P5-17*** **A study on measurement of blood vessel tissue by acoustic microscope using high-frequency range probe**
[[[S4291]]]
○Rena Kobayashi¹, Mototaka Arakawa¹, Takuro Ishii¹, Kazuto Kobayashi², Yoshihumi Saijo¹
(¹Tohoku Univ., ²Honda Electronics)
- 1P5-18*** **In Vivo Measurement of Ultrasound Attenuation in Dorsal Hand Vein Considering Blood Flow**
[[[S4293]]]
○Haruto Niiyama¹, Mototaka Arakawa¹, Takuro Ishii¹, Satoshi Yashiro², Yasushi Ishigaki², Yoshifumi Saijo¹
(¹Tohoku Univ., ²Iwate Med Univ.)
- 1P5-19*** **Investigation of propagation characteristics of distantly-presented bone-conducted ultrasound by measurements of surface vibrations of the trunk**
[[[S4294]]]
○Naoya Takahashi¹, Sho Otsuka¹, Seiji Nakagawa^{1,2} (¹Chiba Univ., ²Chiba Univ. Hosp.)
- 1P6-1*** **Effect of excess delay and Doppler spreads on communication quality of orthogonal signal division multiplexing**
[[[S4203]]]
○Junnosuke Yoshita, Tadashi Ebihara, Naoto Wakatsuki, Yuka Maeda (Univ. of Tsukuba)
- 1P6-2** **Application of a block sparse adaptive equalization to the mobile underwater acoustic communication channel**
[[[S4226]]]
○Yukihiro Kida, Mitsuyasu Deguchim, Yoshitaka Watanabe, Takuya Shimura (JAMSTEC)
- 1P6-3*** **Simulation of long-baseline acoustic positioning utilizing propagation delay profiles in a multipath environment**
[[[S4213]]]
○Taiga Saito¹, Tadashi Ebihara¹, Yuji Sato¹, Atsushi Tsuchiya¹, Naoto Wakatsuki¹, Keiichi Zempo¹, Tohru Yoshihara²
(¹Univ. of Tsukuba, ²Aomi Construction)

1P6-4* Numerical computation of propagation delays in non-uniform underwater sound speed fields via the variational method
[[[S4413]]]
○Atsushi Tsuchiya¹, Tadashi Ebihara¹, Yuji Sato¹, Naoto Wakatsuki¹, Tohru Yoshihara²
(¹Univ. of Tsukuba, ²Aomi Construction)

1P6-5 Low frequency whale calls detected with ocean bottom seismic networks off the east and south coasts of Japan
[[[S4420]]]
○Ryoichi Iwase¹, Takeshi Nakamura², Masashi Mochizuki³ (¹JAMSTEC, ²CRIEPI, ³NIED)

1P6-6* Fundamental study on an underwater acoustic positioning method utilizing reflected signals in multipath environment
[[[S4426]]]
○Naoto Imazu¹, Tadashi Ebihara¹, Atsushi Tsuchiya¹, Naoto Wakatsuki¹, Tohru Yoshihara²
(¹Univ. of Tsukuba, ²Aomi Construction)

15:15-16:30 Measurement techniques I • Biomedical ultrasound I

Chair: Shohei Mori(Tohoku Univ.)

1J2-1 Quantifying acoustic properties of squeaky cheese using sonography and high-speed photography
[[[S4193]]]
Sofia Voimanen¹, Eedit Koivukangas¹, Elina Nurkkala¹, Craig S. Carlson^{1,2,3}, Mamoru Hashimoto⁴, Nobuki Kudo⁴, Anu Hopia⁵, ○Michiel Postema^{1,2}
(¹Tampere Univ., ²Univ. of Witwatersrand, ³Aalto Univ., ⁴Hokkaido Univ., ⁵Univ. of Turku)

1J2-2* Spatial Visualization Using Laser Ultrasound Generation and Hydrophone Detection
[[[S4237]]]
○Wakana Matsumoto¹, Takahiro Hayashi¹, Naoki Mori¹, Francesco Simonetti² (¹Osaka Univ., ²Univ. of Cincinnati)

1J2-3* Simulation of Airflow Field Reconstruction Using Asynchronous Acoustic Time-of-Flight Measurement
[[[S4338]]]
○Yuki Fujita¹, Tadashi Ebihara², Naoto Wakatsuki² (¹NARO, ²Univ. of Tsukuba)

1J2-4 Live-cell nuclear rheology and mechanical-stimulation effect studied by acoustic-radiation-force microscopy
[[[S4228]]]
○Natsumi Fujiwara, Hiroki Okita, Midori Uno, Taketo Sato, Nobutomo Nakamura, Kanta Adachi, Kichitaro Nakajima, Mee-Hae Kim, Masahiro Kino-oka, Hirotsugu Ogi (Osaka Univ.)

1J2-5* Evaluation of effects from change of speed of sound on temporal frequency of shear wave for shear wave elastography
[[[S4366]]]
○Taise Takagi, Ryo Nagaoka, Masaaki Omura, Hideyuki Hasegawa (Univ. of Toyama)

16:30-17:15 Ultrasonic properties I

Chair: Kentaro Nakamura(Science Tokyo)

1J3-1* Numerical Analysis of Wave Propagation in a Waveguide Consisting of One-Dimensionally Aligned Tubes
[[[S4232]]]
○Akira Sasaki, Naoki Mori, Takahiro Hayashi (Osaka Univ.)

1J3-2 Viscoelastic Analysis of a Single Particle Using a Sugar Alcohol Droplet as a Model System
[[[S4306]]]
○Kazuto Tsuji, Tomohisa Norisuye (Kyoto Inst. of Tech.)

1J3-3* Processing of Freestanding KNbO₃ Films into Geometric Shapes Using Laser-Induced Thermal Stress
[[[S4407]]]
○Yosuke Uchida^{1,3}, Nao Saito², Masashi Ikegami², Ryosuke Uchibayashi³, Hiroshi Funakubo⁴, Daisuke Koyama⁵, Masaki Kyoso¹, Mutsuo Ishikawa²
(¹Tokyo City Univ., ²Toin Univ.of Yokohama, ³Tokyo Univ. of Tech., ⁴Science Tokyo, ⁵Doshisha Univ.)

17:30-18:15 Steering Committee Meeting

13 November (Thu)

9:00-10:00 Biomedical ultrasound II

Chair: Marie Tabaru(Science Tokyo)

2E1-1* High-frequency ultrafast ultrasound imaging of whole cerebral vasculature in mice
[[[S4393]]]
○Yoshihisa Kaneko¹, Hiroyuki Igarashi¹, Haruya Yagishita¹, Anam Bhatti², Takuya Sasaki¹, Yoshifumi Saijo¹, Takuro Ishii¹ (¹Tohoku Univ., ²LabTAU, INSERM)

- 2E1-2*** **Local Adaptive Window Phase Gradient Elastography for Evaluation of Heterogeneous Elastic Tissue**
[[[S4398]]]
○Naoki Tano¹, Kento Shimizu¹, Ren Koda², Kei Konno³, Yoshiki Yamakoshi², Marie Tabaru¹
(¹Science Tokyo, ²Gunma Univ., ³Jichi Med Univ.)
- 2E1-3*** **Study on the relationship between absorber number density and echo-envelope statistics in photoacoustic images**
[[[S4365]]]
○Chihiro Nara¹, Azin Khodaverdi², Tobias Erlöv², John Albinsson², Magnus Cinthio², Kenji Yoshida¹, Tadashi Yamaguchi¹, Shinnosuke Hirata¹ (¹Chiba Univ., ²Lund Univ.)
- 2E1-4*** **Optical measurement of high-pressure acoustic field generated by high-intensity focused ultrasound exposure involving multiply reflected waves**
[[[S4336]]]
○Yuma Ono¹, Shohei Mori¹, Shin Yoshizawa^{1,2} (¹Tohoku Univ., ²SONIRE Therapeutics)
- 10:00-10:45 Ultrasonic properties II • Measurement techniques II**
Chair: Takahiro Hayashi(Osaka Univ.)
- 2E2-1** **Experimental imaging of topological boundary modes in a hexagonal flexural wave machine**
[[[S4245]]]
○Motonobu Tomoda^{1,2}, Hayato Takeda², Ryoya Minami², Osamu Matsuda², Oliver B. Wright^{2,3}
(¹Oita Univ., ²Hokkaido Univ., ³Osaka Univ.)
- 2E2-2*** **Deep learning determination of elastic constants of hexagonal materials using visualized resonant ultrasound spectrum**
[[[S4251]]]
○Kazuya Kohira¹, Shota Nakamura¹, Hiroki Fukuda¹, Kazuhiro Kyotani², Hirotsugu Ogi¹ (¹Osaka Univ., ²Insight K. K.)
- 2E2-3** **Practical closed-crack imaging using different-voltage fundamental wave amplitude difference (DV-FAD) with improved calibration**
[[[S4331]]]
○Toshiki Yoshikawa, Yudai Yashiro, Akira Nagakubo, Yoshikazu Ohara (Tohoku Univ.)
- 10:45-11:35 Plenary Talk II** **Chair: Jun Kondoh(Shizuoka Univ.)**
- 2PL** **Mathematical Considerations for Some Underwater Acoustic Sensors**
○Moojoon Kim (Pukyong Natl. Univ.)
- 11:35-13:00 Lunch Time**
- 13:00-15:00 Poseter Session** **Chair: Kazuyoshi Mori (Natl. Defense Academy)**
- 2P1-1*** **Multi-resonant sound absorption with multilayered membrane-type acoustic metasurfaces**
[[[S4303]]]
○Wataru Hamaguchi, Yusuke Hata, Yuri Fukaya, Kenji Tsuruta (Okayama Univ.)
- 2P1-2** **Thermal control of topological hinge modes with a temperature dependent material**
[[[S4390]]]
○Yusuke Hata, Yuri Fukaya, Kenji Tsuruta (Okayama Univ.)
- 2P1-3*** **Analysis on acoustic propagation speed of granular media with different densities and diameters for soil evaluation**
[[[S4383]]]
○Xiaotian Sun¹, Jinyi Zhao¹, Munehiro Ebato², Kentaro Nakamura¹, Marie Tabaru¹ (¹Science Tokyo, ²NARO)
- 2P1-4*** **Nanoparticle Sizing of Highly Concentrated Samples with a Wide Particle Size Distribution**
[[[S4304]]]
○Mayuko Hirano, Tomohisa Norisuye (Kyoto Inst. of Tech.)
- 2P1-5*** **Photoacoustic studies of a bone-to-tendon transition**
[[[S4414]]]
○Md Zahirul Alam Chowdhury, Shoma Ozawa, Taiga Wada, Yuta Murakami, Mami Matsukawa (Doshisha Univ.)
- 2P1-6*** **Characteristics and Magnetic Field Orientation of Ca- and Eu-Substituted Sr₂NaNb₅O₁₅ Lead-Free Piezoelectric Ceramics**
[[[S4194]]]
○Linrun Xie¹, Jiahao Jin¹, Yutaka Doshida¹, Satoshi Tanaka², Hideki Tamura³, Yoshiki Takano⁴, Satoshi Demura⁴
(¹Ashikaga Univ., ²Nagaoka Univ. of Tech., ³Tohoku Inst. of Tech., ⁴Nihon Univ.)
- 2P1-7*** **Calcination effect and Crystal orientation behavior of Ag₂O and CuO added KNN Lead-free Piezoelectric ceramics under High-Magnetic-Fields**
[[[S4197]]]
○Jun Li¹, Xiaowei Liu¹, Yutaka Doshida¹, Satoshi Tanaka², Hideki Tamura³, Yoshiki Takano⁴, Satoshi Demura⁴
(¹Ashikaga Univ., ²Nagaoka Univ. of Tech., ³Tohoku Inst. of Tech., ⁴Nihon Univ.)

- 2P2-1**
[[[S4210]]] **Evaluation of a low-noise preamplifier for a wideband flextensional hydrophone in underwater-acoustic applications**
○Jungsoon Kim¹, Moojoon Kim² (¹Tongmyong Univ., ²Pukyong Natl. Univ.)
- 2P2-2**
[[[S4243]]] **Measurement of ultra-low viscosity under steady shear flow by suspended EMS system**
○Maiko Hosoda¹, Yoshikazu Yamakawa², Keiji Sakai³ (¹Tokyo Denki Univ., ²Triple-Eye, ³Univ. of Tokyo)
- 2P2-3***
[[[S4253]]] **Experimental Study of Super-resolution Ultrasonography with High Concentration UCAs**
○Junseok An¹, Naohiro Sugita¹, Shinnosuke Hirata², Tadahiko Shinshi¹ (¹Science Tokyo, ²Chiba Univ.)
- 2P2-4***
[[[S4342]]] **Fundamental study on enhancing the practical applicability of a 3D ultrasonic phased array imaging method for internal inspection of concrete structures**
○Yuto Fujikawa¹, Tomoki Nagata², Hyo Eun Joo³, Yuya Takahashi³, Timothy James Ulrich^{4,5}, Yoshikazu Ohara¹ (¹Tohoku Univ., ²EPFL, ³Univ. of Tokyo, ⁴Los Alamos National Laboratory, ⁵Texas A&M Univ.)
- 2P2-5**
[[[S4394]]] **Simplification of Ultrasonic Transducer Structure by Selective Wiring of Receive Electrodes**
Wenlan Dong, ○Norio Tagawa (Tokyo Met Univ.)
- 2P2-6***
[[[S4326]]] **Microscale imaging of acoustic properties of minerals (granite) based on cross-correlation analysis**
○Rikuta Uehara¹, Naoki Tano¹, Yuki Kawaguchi², Kazuto Kobayashi², Munehiro Ebato³, Akihiro Matsutani¹, Marie Tabaru¹ (¹Science Tokyo, ²Honda Electric, ³NARO)
- 2P2-7***
[[[S4244]]] **Withdraw**
- 2P2-8**
[[[S4325]]] **Attention-driven spatio-temporal graph networks for full-field acceleration prediction**
○Adarsh Gupta¹, Shivam Ojha¹, Shahrul Kadri Ayop², Anowarul Habib³ (¹Indian Inst. of Tech., ²Sultan Idris Edu. Univ., ³UiT The Arctic Univ. of Norway)
- 2P2-9**
[[[S4229]]] **Detection of subwavelength-depth line-scratch flaw on inner wall of steel tube using aspherical line-focus ultrasonic probe**
○Toshihiro Tsuji¹, Takuya Kusaka¹, Tsuyoshi Mihara¹, Yoshio Udagawa², Shingo Mimura³ (¹Shimane Univ., ²Imaging Supersonic Laboratories, ³Chuo Spring)
- 2P2-10**
[[[S4367]]] **Reconstruction of Corrupted Signal in Carbon Composite using Kalman Filter**
○Anshuman Mondal¹, Shivam Ojha¹, Amit Shelke¹, Anowarul Habib² (¹Indian Inst. of Tech., ²UiT The Arctic Univ. of Norway)
- 2P2-11**
[[[S4221]]] **High accuracy array ultrasonic imaging of internal defects in multi-layered curved components based on frequency-domain full wave inversion and circular coherence factor**
○Tiantian Zhu, Jingtao Yu, Yuxuan Zhou, Zhenggan Zhou, Wenbin Zhou (Beihang Univ.)
- 2P2-12***
[[[S4250]]] **Real-Time Measurement of Vibration-Driven DNA Denaturation: Denaturation Rate as a Function of the Amount of DNA Solution**
○Wang Yuchen, Tadzunu Suzuki, Seiji Yoneda, Shigeo Yamaguchi (Kanagawa Univ.)
- 2P2-13***
[[[S4274]]] **Numerical simulation of bottom echo detection by pitch-catch method using high-intensity airborne ultrasounds**
○Kyosuke Shimizu¹, Youichi Ito², Ayumu Osumi² (¹Ehime Univ., ²Nihon Univ.)
- 2P3-1***
[[[S4299]]] **Propulsion force characteristics of an underwater circular lithium niobate ultrasonic transducer**
○Ryuhei Otani, Minoru Sasaki, Deqing Kong (Toyota Inst. of Tech.)
- 2P3-2***
[[[S4388]]] **Vector measurement of non-linear harmonic responses generated in RF-SAW devices and its application to time domain analysis**
○Temma Doi, Naoya Tsutsui, Yasuhiro Kawaguchi, Tatsuya Omori (Chiba Univ.)
- 2P3-3***
[[[S4392]]] **2D visualization of linear- and 2nd order harmonic-impulse responses observed on an RF-SAW transversal filter**
○Yasuhiro Kawaguchi, Masatoshi Kurosu, Temma Doi, Tatsuya Omori (Chiba Univ.)
- 2P3-4***
[[[S4236]]] **Thickness-extensional Second Order Mode Bulk Wave Resonator Using Face-bonded X-cut Quartz Thin Plates**
○Chihana Ukawa, Michio Kadota, Shuji Tanaka (Tohoku Univ.)
- 2P3-5***
[[[S4283]]] **Strip-type bulk acoustic resonator with bandwidth over 10% and good temperature stability using X-cut LiTaO₃**
○Jian Wang, Yong Guo, Shuji Tanaka (Tohoku Univ.)

- 2P3-6*** **Analysis of SMR-type thickness-shear mode resonators**
[[[S4312]]]
○Hikaru Nakajima¹, Masashi Suzuki¹, Shoji Kakio¹, Yuji Ohashi², Jun-ichi Kushibiki³
(¹Univ. of Yamanashi, ²Univ. of Akita Pref., ³Tohoku Univ.)
- 2P3-7** **Analysis of Nano-Well Phononic Crystal on Si₃N₄/X-cut LiNbO₃/SiC Heterostructure**
[[[S4209]]]
○Jingfu Bao¹, Temesgen Bailie Workie^{1,2}, Mohammed Awad¹, Zijiang Yang¹, Ken-ya Hashimoto¹
(¹Univ. of Electronic Sci. and Tech. of China, ²Tiantong Ruihong Technology)
- 2P3-8** **One-die filter bank for 1.8 - 2.7 GHz system employing low loss multi-layered surface acoustic wave substrate**
[[[S4332]]]
○Ryohei Komiyama, Shinji Takeuchi, Takahiro Hasegawa, Takayuki Suzuki (TAIYO YUDEN Mobile Technology)
- 2P3-9*** **3-layer polarization-inverted GeAlN films BAW resonator fabricated by controlling Ar/N₂ gas ratio**
[[[S4233]]]
○Aoi Yamamoto, Masashi Suzuki, Shoji Kakio (Univ. of Yamanashi)
- 2P3-10*** **A piezoelectric micromachined ultrasonic transducer based on 40% ScAlN thick films without MEMS technology**
[[[S4425]]]
○Itsuki Endo^{1,2}, Takahiko Yanagitani^{1,2} (¹Waseda Univ., ²ZAIKEN)
- 2P4-1** **Sonochemical Production of Hydrogen in sonoelectrochemical processes**
[[[S4384]]]
Iseul Na, Chaewoon Hwang, Yeji Lee, ○Younggyu Son (Kumoh Natl. Inst. Tech.)
- 2P4-2*** **Sonochemical degradation of CCl₄ and the effect of mixed gases**
[[[S4369]]]
○Aerfate Abulikemu, Kenji Okitsu (Osaka Met. Univ.)
- 2P4-3*** **Study of preload mechanism for small piezoelectric transducers with hollow structure for cryogenic environments**
[[[S4249]]]
○Souta Mimura, Takefumi Kanda , Daisuke Yamaguchi , Kazuki Kubo , Shuichi Wakimoto (Okayama Univ.)
- 2P4-4*** **A fundamental study on the durability of an airborne ultrasonic sound source focusing on vibration stress**
[[[S4258]]]
○Yuta Kakinuma, Hikaru Miura, Takuya Asami (Nihon Univ.)
- 2P4-5*** **Effect of ultrasonic incidence time on adhesive bonding using layer resonance**
[[[S4360]]]
○Yuya Tsukada, Toru Hakkaku, Naoki Mori, Takahiro Hayashi (Osaka Univ.)
- 2P4-6*** **A Data-Driven Approach for Real-time Torque Estimation in an Ultrasonic Motor-Driven Gripper System**
[[[S4350]]]
○Yanbo Wang¹, Tatsuki Sasamura², Takeshi Morita¹ (¹Univ. of Tokyo, ²Lund Univ.)
- 2P4-7** **Anisotropic elastic properties estimation of powder bed fusion printed metal for ultrasonic tools**
[[[S4262]]]
○Yuji Wada, Kentaro Nakamura (Science Tokyo)
- 2P4-8*** **Ultrasonic levitation of micro droplet at sub-MHz**
[[[S4275]]]
○Hanaka Hashimoto, Yuji Wada, Kentaro Nakamura (Science Tokyo)
- 2P5-1*** **A study on enhancement of delineation of thoracic spine gap using steering-transmitted ultrasound**
[[[S4296]]]
○Yusuke Soejima, Mototaka Arakawa, Takuro Ishii, Eiko Onishi, Masanori Yamauchi, Yoshifumi Saijo (Tohoku Univ.)
- 2P5-2*** **Estimation of fatty liver grades using a multi-stream CNN based on ultrasound images**
[[[S4298]]]
○Daisuke Okazaki¹, Hidemi Unozawa², Takayuki Kondo², Kenji Yoshida¹, Tadashi Yamaguchi¹, Shinnosuke Hirata¹
(¹Chiba Univ., ²Chiba Univ. Hosp.)
- 2P5-3*** **Evaluation of the speed of sound in tissue mimicking phantoms using opposed planar transducer and matrix array probe**
[[[S4302]]]
○Mizuki Hashimoto, Kenji Yoshida, Tadashi Yamaguchi, Shinnosuke Hirata (Chiba Univ.)
- 2P5-4** **Investigation of Selective Removal Method for High-intensity Non-speckle Signals Originating from Acoustic Structures**
[[[S4307]]]
○Shohei Mori¹, Shin Yoshizawa^{1,2} (¹Tohoku Univ., ²SONIRE Therapeutics)
- 2P5-5** **Noninvasive Temperature Monitoring during High-Intensity Focused Ultrasound Treatment using Magnetic Particles**
[[[S4317]]]
○Ryo Takagi, Zhiwei Tay (AIST)

- 2P5-6** **Wearable ultrasound irradiation device having flexible administration distance**
[[[S4319]]]
○Yoshiaki Sasaki¹, Tsubasa Soita¹, Ryota Kawamae¹, Munenari Itoh², Hirotaka James Okano², Yuta Kurashina¹
(¹Tokyo Univ. of A&T, ²Jikei Univ. School of Med.)
- 2P5-7** **Development of a method for capturing confocal images of periodically moving objects at frequencies beyond the frame rate**
[[[S4320]]]
○Kanta Adachi, Seita Mukai, Kenichi Higami, Takumi Saito, Nobutomo Nakamura (Osaka Univ.)
- 2P5-8** **Deep-learning about segmentation and differentiation toward automated ultrasound diagnosis -Application to breast tumors**
[[[S4323]]]
○Chunwei Chen, Chikayoshi Sumi (Sophia Univ.)
- 2P5-9*** **Simulation Study about Deep Learning Quantitative Imaging on Ultrasound Echoic Properties, and Filtering and Converting of Specular and Speckle Signals with Branching Model**
[[[S4324]]]
○Wilson Rodriguez, Yicheng Gao, Chikayoshi Sumi (Sophia Univ.)
- 2P5-10*** **Study of cell retention using lipid bubbles under interferential acoustic field for a vessel like structure in millimeter-scale channels**
[[[S4372]]]
○Ayako Noguchi¹, Hideaki Tsuchida¹, Yoshitaka Miyamoto², Daiki Omata³, Ryo Suzuki³, Kohji Masuda¹
(¹Tokyo Univ. of A&T, ²National Center for Child Health and Development, ³Teikyo Univ.)
- 2P5-11*** **Performance Evaluation of Instantaneous Velocity Measurement Using Ultrasonic Dual-Chirp Plane-Wave Transmission**
[[[S4329]]]
○Satoshi Nakayama, Norio Tagawa (Tokyo Met Univ.)
- 2P5-12** **Basic investigation on effects from spatial coherence information on accuracy of 2D flow estimation method using speckle tracking technique**
[[[S4330]]]
○Ryo Nagaoka¹, Liao Jing², Kei Kaneko², Muhammad Shiddiq Sayyid Hashuro³, Masaaki Omura¹, Hitomi Anzai², Makoto Ohta², Hideyuki Hasegawa¹ (¹Univ. of Toyama, ²Tohoku Univ., ³Bandung Inst. of Tech.)
- 2P5-13** **Investigation of Temperature Monitoring Method Using Thermal Strain Imaging in Tissue Mimicking Phantom Exposed to High-Intensity Focused Ultrasound**
[[[S4335]]]
○Naoki Iso¹, Shohei Mori¹, Shin Yoshizawa^{1,2} (¹Tohoku Univ., ²SONIRE Therapeutics)
- 2P5-14*** **Evaluation of cavitation activity in the modulated sound field formed by a multipole ultrasonic transducer**
[[[S4343]]]
○Yusuke Yamasaki, Shinya Yamamoto, Naohiro Sugita, Tadahiko Shinshi (Science Tokyo)
- 2P5-15*** **Analysis of Acoustic Streaming in the Spherical Cavity of a Low-Frequency Ultrasonic Transducer for Transdermal Drug Delivery**
[[[S4346]]]
○Shinya Yamamoto, Naohiro Sugita, Tadahiko Shinshi (Science Tokyo)
- 2P5-16*** **Region-segmented Continuous Shear Wave Imaging for Visualization of Small Elastic Structures**
[[[S4351]]]
○Kotaro Iwauchi¹, Ren Koda¹, Naoki Tano², Marie Tabaru², Yoshiki Yamakoshi¹ (¹Gunma Univ., ²Science Tokyo)
- 2P5-17*** **Verification of relationship between wavelength and liver structure in amplitude envelope statistics**
[[[S4356]]]
○Mami Shirai¹, Shohei Mori², Zhang Tingzhen¹, Jonathan Mamou³, Cameron Hoering³, Jeffrey Ketterling³, Shinnosuke Hirata¹, Kenji Yoshida¹, Tadashi Yamaguchi¹ (¹Chiba Univ., ²Tohoku Univ., ³Weill Cornell Med.)
- 2P5-18** **Relationship between the intensity of focused ultrasound superimposed on ultrasound imaging pulse and cavitation bubble detection sensitivity**
[[[S4357]]]
○Kensuke Ito¹, Shohei Mori¹, Shin Yoshizawa^{1,2} (¹Tohoku Univ., ²SONIRE Therapeutics)
- 2P5-19*** **Acoustically induced electric polarization of patellar tendons associated with joint angle variation**
[[[S4359]]]
○Taishi Goto¹, Haruya Inoko¹, Akio Tanaka¹, Nobuto Kaitoh^{1,2}, Kenji Ikushima^{1,2} (¹Tokyo Univ. of A&T, ²ASEMtech)
- 2P5-20*** **Application of the Complex Amplitude Subtraction Method for Measuring Liver Elasticity Using Continuous Shear Wave Imaging**
[[[S4364]]]
○Takato Kuwabara¹, Ren Koda¹, Naoki Tano², Marie Tabaru², Yoshiki Yamakoshi¹ (¹Gunma Univ., ²Science Tokyo)
- 2P6-1** **Performance of Underwater Acoustic Frequency Diversity Communication using Parallel Generative Artificial Intelligence**
[[[S4216]]]
○Sanghoo Shin, Jihyun Park, Kyu-Chil Park (Pukyong Natl. Univ.)

- 2P6-2** **Propagation characteristics of underwater sound radiated by floating offshore wind power generation off the coast of the Goto Islands**
[[[S4405]]]
○Takenobu Tsuchiya, Fumiya Komatsu, Nobuyuki Endoh (Kanagawa Univ.)
- 2P6-3** **Ray-tracing-based underwater acoustic positioning in a very shallow water considering temperature distribution**
[[[S4218]]]
○Yuji Sato¹, Tadashi Ebihara¹, Atsushi Tsuchiya¹, Naoto Wakatsuki¹, Tohru Yoshihara²
(¹Univ. of Tsukuba, ²Aomi Construction)
- 2P6-4** **Sea current speed comparison between transect-based acoustic tomography and spatially averaged ADCP measurements**
[[[S4248]]]
○Young Geul Yoon¹, Wan-Gu Kim¹, Seong Hyeon Kim¹, Yohan Chweh², Byoung-Nam Kim¹
(¹Korea Inst. of Tech., ²Underwater Survey Technology 21)
- 2P6-5** **Comparison of underwater acoustic localization signals using biomimetic pulse train and M-sequence signals**
[[[S4378]]]
○Hanako Ogasawara, Takanobu Kuroyama, Kazuyoshi Mori (Natl. Defense Academy)
- 2P6-6*** **Time-of-arrival measurement of direct waves based on database matching for underwater acoustic positioning using multiple beacons**
[[[S4406]]]
○Taisei Kiriya¹, Tadashi Ebihara¹, Yuji Sato¹, Atsushi Tsuchiya¹, Naoto Wakatsuki¹, Tohru Yoshihara²
(¹Univ. of Tsukuba, ²Aomi Construction)
- 15:15-16:30** **Piezoelectric devices II • High power ultrasound I • Ocean acoustics II**
Chair: Makiko Kobayashi(Kumamoto Univ.)
- 2E3-1** **Contactless measurement of bulk modulus of biomolecular colloids through acoustic trapping**
[[[S4276]]]
○Kichitaro Nakajima, Hirotsugu Ogi (Osaka Univ.)
- 2E3-2*** **On Nonlinearity Measurement of RF SAW/BAW Deices Using Wafer Probes**
[[[S4204]]]
○Yuanyuan Liu, Wanli Cai, Hao Liu, Yongyuan Zhang, Jingfu Bao, Ken-ya Hashimoto
(Univ. of Electronic Sci. and Tech. of China)
- 2E3-3*** **Ultrasonic vibration grinding of next-generation semiconductor substrate materials**
[[[S4259]]]
○Thanawan Bunphen¹, Hibiki Haruta², Sutasn Thipprakmas¹, Peerapong Kasuriya¹, Masahiko Jin²
(¹King Mongkut's Univ. of Tech., ²Nippon Inst. of Tech.)
- 2E3-4*** **Ultrasonic Detection of Amyloid Seeds under Crowded Conditions through Ultrasonic Cavitation**
[[[S4344]]]
○Tomoki Ota, Kichitaro Nakajima, Keiichi Yamaguchi, Yuji Goto, Hirotsugu Ogi (Osaka Univ.)
- 2E3-5** **Numerical Stability Analysis of RLS-Based Equalization in Underwater Acoustic Channels**
[[[S4214]]]
○Mitsuyau Deguchi, Yukihiro Kida, Yoshitaka Watanabe, Takuya Shimura (JAMSTEC)
- 16:45-17:15** **Award Ceremony**
- 17:30-19:30** **Banquet**

14 November (Fri)

- 9:00-9:25** **Plenary Talk III** **Chair: Mami Matsukawa (Doshisha Univ.)**
- 3PL** **Equipment developments and applications of wide range spectroscopy of viscosity**
○Taichi Hirano (Meiji Univ.)
- 9:30-11:30** **Poseter Session** **Chair: Subaru Kudo(Ishinomaki Senshu Univ.)**
- 3P1-1*** **Characteristics and Crystal-orientation behavior of Na-site Eu-substituted $\text{Sr}_2\text{NaNb}_5\text{O}_{15}$ Lead-Free Piezoelectric Ceramics under a High-Magnetic-Field**
[[[S4199]]]
○Jiahao Jin¹, Linrun Xie¹, Yutaka Doshida¹, Satoshi Tanaka², Hideki Tamura³, Yoshiki Takano⁴, Satoshi Demura⁴
(¹Ashikaga Univ., ²Nagaoka Univ. of Tech., ³Tohoku Inst. of Tech., ⁴Nihon Univ.)

- 3P1-2*** **Properties and Crystal-orientation behavior of CuO-added $K_{0.5}Na_{0.5}NbO_3$ Lead-Free Piezoelectric Ceramics using a High-Magnetic-Field**
[[[S4198]]]
○Xiaowei Liu¹, Jun Li¹, Yutaka Doshida¹, Satoshi Tanaka², Hideki Tamura³, Yoshiki Takano⁴, Satoshi Demura⁴
(¹Ashikaga Univ., ²Nagaoka Univ. of Tech., ³Tohoku Inst. of Tech., ⁴Nihon Univ.)
- 3P1-3*** **Effect of polymer filing on $Pb(Zr,Ti)O_3/Pb(Zr,Ti)O_3$**
[[[S4347]]]
○Yukino Tokushige¹, Billah Mohamm Moutashim¹, Hiroyuki Odagawa², Makiko Kobayashi¹
(¹Kumamoto Univ., ²Kumamoto-NIT)
- 3P1-4*** **Design of Underwater Sound Absorber With Membrane-Type Acoustic Metasurface**
[[[S4404]]]
○Takuya Kato, Yuri Fukaya, Kenji Tsuruta (Okayama Univ.)
- 3P1-5** **Ultrasound Measurement by Surface Plasmon Resonance type Sensors**
[[[S4313]]]
○Ayumi Matsudera, Kota Dezao, Mami Matsukawa (Doshisha Univ.)
- 3P1-6** **Automaton-based analysis of wave propagation in a multilayer medium**
[[[S4363]]]
○Shinobu Sugasawa (National Maritime Research Inst.)
- 3P1-7** **Electromagnetic Momentum and Potentials in Dielectric and Piezoelectric Materials**
[[[S4190]]]
○Michio Ohki (Natl. Defense Academy)
- 3P2-1** **Investigation on Arrangement of Sound Source Element to Improve Reflection Point Search Results Using Single Element Rectangular Sound Source**
[[[S4322]]]
○Hiroyuki Masuyama (NIT,Toba College)
- 3P2-2** **Reference-Crack-Based Evaluation of the Suitability of Phased Array Equipment for Fundamental Wave Amplitude Difference**
[[[S4424]]]
○Yudai Yashiro¹, Cong Zhu Sun², Benoit Lepage², Yoshikazu Ohara¹ (¹Tohoku Univ., ²Evident CANADA Inc.)
- 3P2-3** **Quantitative model for bright spot generation in ultrasound echoes induced by Fe ion irradiation in water**
[[[S4308]]]
○Masanori Kobayashi¹, Osamu Okudaira¹, Naoya Shikazono², Satoshi Kodaira³, Kazuhiro Terasawa⁴, Nagaya Okada⁵
(¹Chiba Inst. of Tech., ²QST-KPSI, ³QST-NIRS, ⁴Keio Univ., ⁵Honda Electric)
- 3P2-4*** **Photoacoustic responses of liquid-filled soft thin tube (1) Two-dimensional imaging**
[[[S4281]]]
○Takato Hosono, Yuji Wada, Kentaro Nakamura (Science Tokyo)
- 3P2-5*** **Development of a rod buffer for a linear array probe**
[[[S4354]]]
○Kohei Nishiuchi, Mingqian Xia, Takahiro Hayashi, Naoki Mori (Osaka Univ.)
- 3P2-6*** **Photoacoustic responses of liquid-filled soft thin tube (2) Frequency response analysis via continuous excitation**
[[[S4282]]]
○Kyohei Misutani, Yuji Wada, Kentaro Nakamura (Science Tokyo)
- 3P2-7*** **Development of Ultrasonic Imaging Techniques for 3D Structural Evaluation of Multilayered Cultured Cells**
[[[S4345]]]
○Daiki Yamanaka¹, Yuki Kawaguchi², Ryo Nagaoka³, Yuki Ogura⁴, Naohiro Hozumi¹, Kazuto Kobayashi², Sachiko Yoshida¹ (¹Toyohashi Univ. of Tech., ²Honda Electric, ³Univ. of Toyama, ⁴Shiseido Co., Ltd, MIRAI Inst. of Tech.)
- 3P2-8*** **Three-dimensional finite-difference time-domain simulation of moving sound sources: point source arrays and circular sources**
[[[S4205]]]
○Kei Inoue, Takao Tsuchiya (Doshisha Univ.)
- 3P2-9*** **Defect Imaging Using Phase Information of Lamb Waves Propagating in a Metal Plate with Multiple Defects**
[[[S4238]]]
○Chikao Ishikawa¹, Kyosuke Shimizu², Youichi Ito¹, Ayumu Osumi¹ (¹Nihon Univ., ²Ehime Univ.)
- 3P2-10*** **Computer analysis of elastic and pressure waves propagating through the spherical shell and its surroundings**
[[[S4231]]]
○So Nishida, Koji Aizawa (Kanazawa Inst. of Tech.)
- 3P2-11*** **Hydrogen gas detection using nanogap Au/Pd nanoparticles**
[[[S4295]]]
○Ryo Miyamoto, Kanta Adachi, Nobutomo Nakamura (Osaka Univ.)
- 3P2-12*** **Fabrication of nanogap Pd nanoparticles on PDMS using resistive spectroscopy**
[[[S4270]]]
○Shota Ueda, Kanta Adachi, Nobutomo Nakamura (Osaka Univ.)

- 3P2-13*** **Study on disaggregation kinetics of amyloid-fibril network on a liquid-solid interface by wireless quartz crystal microbalance**
[[[S4389]]]
○Tina Kondo, Tomoki Ota, Kichitaro Nakajima, Hirotsugu Ogi (Osaka Univ.)
- 3P3-1*** **Improvement of initial crystallinity and piezoelectricity of c-axis parallel oriented ZnO films grown by DC bias sputtering**
[[[S4421]]]
○Yuya Yoshida¹, Shinji Takayanagi¹, Takahiko Yanagitani² (¹Doshisha Univ., ²Waseda Univ.)
- 3P3-2*** **Enabling spurious-free and wideband surface acoustic wave resonator by piston design and heavy film overlaying**
[[[S4239]]]
○Yiming Liu, Yong Guo, Shuji Tanaka (Tohoku Univ.)
- 3P3-3*** **SAW transverse modes suppression on LiNbO₃ substrate by proton exchanged layer**
[[[S4311]]]
○Masahiro Kawahara, Masashi Suzuki, Shoji Kakio (Univ. of Yamanashi)
- 3P3-4*** **Analysis of leaky surface acoustic waves on Ca₃TaGa₃Si₂O₁₄/high-velocity substrate bonded structures**
[[[S4310]]]
○Yuya Kobayashi¹, Masashi Suzuki¹, Shoji Kakio¹, Noritoshi Kimura² (¹Univ. of Yamanashi, ²Piezo Studio)
- 3P3-5*** **Micro Particle Ejection by Jetting Effects Induced from Surface Acoustic Wave Device**
[[[S4265]]]
○Shun Koda, Kosuke Wakayama, Sakura Takahashi, Yuta Kurashina (Tokyo Univ. of A&T)
- 3P3-6*** **Observation of particle formation under continuous supply of solution with surface acoustic wave device**
[[[S4263]]]
○Toshihiro Yamamoto, Kosuke Wakayama, Yuta Kurashina (Tokyo Univ. of A&T)
- 3P3-7*** **Study on Liquid Supply Method of Surface Acoustic Wave Atomizer and Its Application to Chemical Spraying**
[[[S4234]]]
○Sohei Uno, Hiroki Ichihara, Jun Kondoh (Shizuoka Univ.)
- 3P3-8** **Comparison of Genetic Algorithm and Simulate Annealing for Optimization of DMS filter design**
[[[S4201]]]
○Muxiang Su, Yang Zijiang, Hao Liu, Wuting, Jingfu Bao, Ken-ya Hashimoto (Univ. of Electronic Sci. and Tech. of China)
- 3P3-9*** **Reusable High-Frequency Integrated Wireless QCM Biosensor Array**
[[[S4380]]]
○Ryo Umetsu¹, Manabu Suzuki¹, Fumihito Kato¹, Hirotsugu Ogi² (¹Nippon Inst. of Tech., ²Osaka Univ.)
- 3P3-10*** **Real-Time Measurement of Gas Flow Rate in Microchannel Using Quartz Crystal Microbalance**
[[[S4301]]]
○Zhenyu Ji¹, Zhixiang Guo¹, Fumihito Kato¹, Hirotsugu Ogi² (¹Nippon Inst. of Tech., ²Osaka Univ.)
- 3P4-1** **Sonochemical Removal of Per- and Polyfluoroalkyl Substances (PFAS)**
[[[S4355]]]
○Jongbok Choi, Dukyoung Lee, Younggyu Son (Kumoh Natl. Inst. Tech.)
- 3P4-2** **Improvement of CO₂ desorption rate from CO₂ loaded TEA solution at low temperature using sonication combined with CO₂ bubbling**
[[[S4403]]]
○Hirokazu Okawa, Kento Ishizuka, Tomoka Fujita, Jie Ren, Takahiro Kato (Akita Univ.)
- 3P4-3*** **Basic study on a transducer for 40 kHz prismatic shape with 4 mm square vibrating surface**
[[[S4273]]]
○Yusuke Tsukamoto, Hikaru Miura, Takuya Asami (Nihon Univ.)
- 3P4-4*** **Investigation on electrical power efficiency of ultrasonic atomizer**
[[[S4278]]]
○Shumpei Higo, Yuji Wada, Kentaro Nakamura (Science Tokyo)
- 3P4-5*** **Obtaining the nonlinear constants in piezoelectric 31-mode by constant current measurements**
[[[S4207]]]
○Naruhiro Iwama¹, Tatsuki Sasamura^{1,2}, Ryo Suzuki³, Takashi Kasashima³, Wei Qiu², Takeshi Morita¹ (¹Univ. of Tokyo, ²Lund Univ., ³Niterra)
- 3P4-6** **A basic analysis of the propagation of aerial ultrasonic waves and the resulting sound field generated with structures smaller than the wavelength**
[[[S4255]]]
○Hideki Tamura¹, Takashi Kasashima², Asuka Tsujii², Manabu Aoyagi³ (¹Tohoku Inst. of Tech., ²Niterra, ³Muroran Inst. of Tech.)
- 3P4-7*** **Basic Study on Thermoacoustic Power Generation -Stability Analysis of Low Frequency Thermoacoustic Prime mover-**
[[[S4217]]]
○Kotaro Yoshida, Shin-ichi Sakamoto, Satoshi Hirayama (Univ. of Shiga Pref.)

- 3P5-1** **Verification of relationship between distribution of spherical scatterers and frequency dependence of acoustic characteristics**
[[[S4368]]]
○Miyu Nagaoka¹, Jonathan Mamou², Cameron Hoerig², Emilie Franceschini³, Shinnosuke Hirata¹, Kenji Yoshida¹, Tadashi Yamaguchi¹ (¹Chiba Univ., ²Weill Cornell Med., ³Aix-Marseille Univ.)
- 3P5-2*** **Edge Device Implementation of Shape Estimation AI for Flexible Ultrasound Probes**
[[[S4370]]]
○Takumi Noda¹, Sena Sakai¹, Ryoma Shoji¹, Takashi Azuma², Kohji Masuda¹ (¹Tokyo Univ. of A&T, ²Lily MedTech)
- 3P5-3** **Quantitative evaluation of lymphedema mice using ultrasound echo-envelope statistical analysis**
[[[S4227]]]
○Joceline Theda Kadarman¹, Chihiro Nara¹, Shinsuke Akita¹, Nobuyuki Mitsukawa¹, Cameron Hoerig², Jonathan Mamou², Shohei Mori³, Kenji Yoshida¹, Tadashi Yamaguchi¹, Shinnosuke Hirata¹ (¹Chiba Univ., ²Weill Cornell Med., ³Tohoku Univ.)
- 3P5-4*** **Investigation of high-resolution processing in micro flow imaging on rabbit pup brain using high-frequency ultrasound**
[[[S4379]]]
○Ryo Sugiura¹, Masaaki Omura¹, Ryo Nagaoka¹, Magnus Gram², Amanda Kristiansso², Magnus Cinthio², Hideyuki Hasegawa¹ (¹Univ. of Toyama, ²Lund Univ.)
- 3P5-5*** **Effects of low intensity pulse ultrasound and poly-L-lactic acid film on the fracture of rat tibia**
[[[S4381]]]
○Yuta Murakami¹, Shouta Kitajima¹, Taiga Wada¹, Takamitsu Maeda¹, Shouma Ozawa¹, Masaaki Onishi², Miwa Nakajima³, Motohiro Inoue⁴, Mami Matsukawa¹ (¹Doshisha Univ., ²Hyogo Med.Univ, ³Acupuncture and Moxibustion Med. Doktor Res. Inst., ⁴Takarazuka Univ. of Medical and Health Care)
- 3P5-6** **Effect of two-layer model geometry in cartilage tissue on speed-of-sound measurement**
[[[S4386]]]
○Naotaka Nitta, Keigo Hikishima (AIST)
- 3P5-7*** **Variation in proliferation of vascular endothelial cells adhered on wall surface in response to ultrasound irradiation conditions**
[[[S4391]]]
○Kanta Muramatsu¹, Ayako Noguchi¹, Yoshitaka Miyamoto², Takashi Mochizuki³, Kohji Masuda¹ (¹Tokyo Univ. of A&T, ²National Center for Child Health and Development, ³Medical Ultrasound Lab.)
- 3P5-8** **Precise ultrasound harmonic imaging**
[[[S4395]]]
○Chikayoshi Sumi (Sophia Univ.)
- 3P5-9** **Evaluation of influence of transmitted wavefront control on image quality in ring-array ultrasound diagnostic system**
[[[S4397]]]
○Eriko Ito¹, Mototaka Arakawa², Takashi Azuma³, Norio Sekine¹ (¹Tokyo Met Univ., ²Tohoku Univ., ³Lily MedTech)
- 3P5-10*** **Distortion product otoacoustic emission suppression induced by bone-conducted ultrasound**
[[[S4399]]]
○Irwansyah¹, Naoya Takahashi¹, Sho Otsuka¹, Seiji Nakagawa^{1,2} (¹Chiba Univ., ²Chiba Univ. Hosp.)
- 3P5-11*** **Evaluation of quantitiveness of a multi-wavelength photoacoustic tomography system**
[[[S4401]]]
○Ao Oue, Daisuke Nishimae, I Gede Eka Sulistyawan, Riku Suzuki, Takuro Ishii, Yoshifumi Saijo (Tohoku Univ.)
- 3P5-12*** **Fundamental Validation of Microwave-Induced Thermoacoustic Tomography Using a Hemispherical Array Sensor**
[[[S4402]]]
○Yoshiki Mizuguchi, Masaya Shimizu, Daisuke Nishimae, Takuro Ishii, Yoshifumi Saijo (Tohoku Univ.)
- 3P5-13*** **Construction of a simulation environment and accuracy evaluation for estimating blood flow velocity using 15 MHz ultrasound**
[[[S4408]]]
○Yuto Minamihata, Masaaki Omura, Ryo Nagaoka, Hideyuki Hasegawa (Univ. of Toyama)
- 3P5-14*** **Simulation of transmission noise-derived artifacts in a ring-type ultrasound**
[[[S4409]]]
○Riku Kumon¹, Takashi Azuma², Norio Sekine¹ (¹Tokyo Met Univ., ²Lily MedTech)
- 3P5-15*** **Fetal Size Measurement Using a Multistatic Transducer**
[[[S4410]]]
○Xuefei Liu, Norio Tagawa (Tokyo Met Univ.)
- 3P5-16** **Characteristics of Frequency- and Temporal-resolutions by Bone-conducted Stimuli Presented to the Facial Parts**
[[[S4412]]]
○Seiji Nakagawa^{1,2}, Ko Uemura¹, Sho Otsuka¹ (¹Chiba Univ., ²Chiba Univ. Hosp.)
- 3P5-17*** **Features and age dependence of carotid pulse waveforms measured by a piezoelectric sensor**
[[[S4415]]]
○Tomoya Ikeda¹, Koki Akiyoshi¹, Miho Ohsaki¹, Daisuke Koyama¹, Kimiaki Shirahama¹, Kozue Saito², Hiroshi Yamagami³, Mami Matsukawa¹ (¹Doshisha Univ., ²Nara Med Univ., ³Univ. of Tsukuba)

- 3P5-18*** **Shear Wave Propagation Near the Pleura in Relation to Lung Tissue Density Changes Observed with Continuous Shear Wave Imaging**
[[[S4416]]]
○Kazumasa Ohsawa¹, Ren Koda¹, Hayato Taniguchi², Yasuyuki Shiraishi³, Naoki Tano⁴, Marie Tabaru⁴, Yoshiki Yamakoshi¹ (¹Gunma Univ., ²Yokohama City Univ. Med Ctr., ³Tohoku Univ., ⁴Science Tokyo)
- 3P5-19*** **Measurements and Machine-learning Based Classification of Bowel Sounds Before and After Defecation**
[[[S4418]]]
○Shuto Kawabata¹, Sho Otsuka¹, Seiji Nakagawa^{1,2} (¹Chiba Univ., ²Chiba Univ. Hosp.)
- 3P5-20*** **Single particle measurement using ultrasound-based flow cytometry module**
[[[S4419]]]
○Masako Akiyama¹, Kazuyo Ito¹, Takanobu Takenouchi¹, Soshi Yoshida¹, Kazuki Tamura², Takashi Ikuta³, Yoshino daisuke¹ (¹Tokyo Univ. of A&T, ²Hamamatsu Univ. School of Med., ³Keio Univ.)
- 3P6-1*** **Comparison of detection performance between conventional cross-correlation and local optimal detectors for stealthy localization bio-mimic signals**
[[[S4219]]]
○Ravega R. Ruben, Takanobu Kuroyama, Hanako Ogasawara, Kazuyoshi Mori (Natl. Defense Academy)
- 3P6-2*** **Measurement of BER and Investigation of Optimal Conditions for Underwater Ultrasonic Communication using a Laser Hydrophone**
[[[S4427]]]
○Rin Furuya, Norio Tsuda, Daisuke Mizushima, (Aichi Inst. of Tech.,)
- 3P6-3*** **Fundamental study on accuracy verification of underwater acoustic positioning using database matching**
[[[S4396]]]
○Riku Sato¹, Tadashi Ebihara¹, Naoto Wakatsuki¹, Atsushi Tsuchiya¹, Tohru Yoshihara² (¹Univ. of Tsukuba, ²Aomi Construction)
- 3P6-4** **Influence of station-to-station line orientation in estimating sea current speed using coastal acoustic tomography**
[[[S4264]]]
○Wan-Gu Kim¹, Young Geul Yoon¹, Ho Youn Ji¹, Min-Seok Choi¹, Bok Kyoung Choi¹, Byoung-Nam Kim¹, Siwoo Lee² (¹Korea Inst. of Tech., ²Underwater Survey Technology 21)
- 3P6-5*** **Simulation of sound wave propagation for underwater positioning based on parameters measured in multiple shallow water areas**
[[[S4353]]]
○Kodai Ono¹, Tadashi Ebihara¹, Naoto Wakatsuki¹, Atsushi Tsuchiya¹, Yuji Sato¹, Tohru Yoshihara² (¹Univ. of Tsukuba, ²Aomi Construction)
- 3P6-6*** **Chaotic Encryption-Based Image Transformation to Improve Visual Quality in Underwater Communication**
[[[S4362]]]
○Hyunsoo Jeong¹, Sanghoo Shin¹, Jihyun Park², Kyu-Chil Park¹ (¹Pukyong Natl. Univ., ²Acoustic and Vibration Engineering)
- 11:30-13:00 Lunch Time**
- 4PL 13:00-13:55 Plenary Talk IV Chair: Hideyuki Nomura (Univ. of Electro-Comm.)**
Noncontact acoustic inspection technology using acoustic irradiation induced vibration and high-sensitivity laser Doppler vibrometer
○Tsuneyoshi Sugimoto (Toin Univ. of Yokohama)
- 14:00-15:00 Biomedical ultrasound III Chair: Shinnosuke Hirata(Chiba Univ.)**
- 3J1-1** **Automatic completion of blood vessel structures in 3D ultrasound images using non-rigid registration**
[[[S4220]]]
○Kaho Takahashi¹, Kanau Sato¹, Shinya Onogi², Yoshikazu Nakajima², Yoshihiro Edamoto², Takumi Noda¹, Kohji Masuda¹ (¹Tokyo Univ. of A&T, ²Science Tokyo, ³Secomedic Hosp.)
- 3J1-2*** **Withdraw**
[[[S4300]]]
- 3J1-3*** **Control of drug release using microbubbles for ultrasound-triggered drug delivery system**
[[[S4411]]]
○Mako Negishi¹, Tomoya Kamio¹, Ryo Suzuki², Hidehiro Oana¹, Tomoaki Watamura¹, Shu Takagi¹ (¹Univ. of Tokyo, ²Teikyo Univ.)
- 3J1-4** **Acoustic and optical observation of nonlinear oscillation nanobubbles exposed to ultrasound**
[[[S4340]]]
○Yota Yaguchi¹, Shunsuke Sato¹, Shohei Mori¹, Hideyuki Okamoto², Yoko Endo-Takahashi², Yoichi Negishi², Shin Yoshizawa¹ (¹Tohoku Univ., ²Tokyo Univ. Pharm. and Life Sci.)

15:15-16:15 Measurement techniques III • Piezoelectric devices III

Chair: Tatsuya Omori(Chiba Univ.)

3J2-1* **Non-contact detection of contact state of copper balls using resonant vibration of lithium niobate**
[[[S4285]]] ○Aya Yoshida, Kanta Adachi, Hirotsugu Ogi, Nobutomo Nakamura (Osaka Univ.)

3J2-2* **Miniaturization of a non-contact elasticity measurement system using a stepped-plate transducer and parabolic reflector**
[[[S4348]]] ○Keiya Yamashita, Kentaro Nakamura, Marie Tabaru (Science Tokyo)

3J2-3 **High-Frequency Bulk Acoustic Wave Resonators with Thickness Shear and Extensional Modes in LiNbO₃ Thin Plates with Acoustic Multilayers**
[[[S4196]]] ○Michio Kadota, Fuyuko Yamashita, Shuji Tanaka (Tohoku Univ.)

3J2-4* **Higher Order Spurious Elimination of LLSAW Devices on X-Cut LiNbO₃ Film with Acoustic Bragg Reflector**
[[[S4191]]] ○Sho Nagatomo¹, Hiromu Okunaga¹, Masakazu Mimura¹, Tetsuya Kimura² (¹Murata Manufacturing, ²Resonant Inc.)

16:15-17:00 High power ultrasound II

Chair: Hirokazu Okawa(Akita Univ.)

3J3-1* **Visualization of the effect of high-frequency ultrasound on intracellular reactive oxygen species using an oxidative stress response sensor**
[[[S4269]]] ○Kotaro Fujishiro¹, Satoshi Okada², Takahiro Kuchimaru³, Yuta Kurashina¹
(¹Tokyo Univ. of A&T, ²Science Tokyo, ³Jichi Med Univ.)

3J3-2* **Geometric optimization for piezoelectric-driven acoustic fields with plane-wave superposition**
[[[S4352]]] ○Shoki Ieiri, Takeshi Morita (Univ. of Tokyo)

3J3-3 **Novel parametric speaker design for wide-angle directional control**
[[[S4376]]] ○Toshiki Imamura, Kenji Ikeda (SECOM)

17:10~17:25 Closing Ceremony