

The 44th Symposium on Ultrasonic Electronics (USE 2023) Program

○ Speaker

* Applying to Young Scientists Award

Monday, November 13

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

10:00-10:45 **Ultrasonic properties I • Piezoelectric devices I**

Chair: Shinji Takayanagi (Doshisha Univ.)

1J1-1* **Performance comparison of cell phantoms developed for optical-resolution photoacoustic microscopy**
[[[S3825]]] ○Daisuke Nishimae, Takuro Ishii, Koetsu Ogasawara, Yoshifumi Saijo (Tohoku Univ.)

1J1-2 **9.5-12 GHz Solidly Mounted Bulk Acoustic Wave Resonators Utilizing TE Overtone Mode**
[[[S3729]]] ○Michio Kadota, Fuyuko Yamashita, Shuji Tanaka (Tohoku Univ.)

1J1-3 **Analysis and verification on 2nd order nonlinearity in RF bulk acoustic wave devices employing temperature compensated films**
[[[S3707]]] ○Masanori Ueda¹, Toshio Nishizawa¹, Shinji Taniguchi², Ken-ya Hashimoto³
(¹Taiyo Yuden Mobile Technologies, ²Taiyo Yuden, ³Univ. of Electronic Sci. and Tech. of China)

10:45-11:30 **Measurement techniques I**

Chair: Takahiro Hayashi (Osaka Univ.)

1J2-1* **Development of a high-frequency phonon biosensor using graphite thin film resonator and theoretical calculation**
[[[S3723]]] ○Ryo Hirose¹, Akira Nagakubo¹, Masamitsu Tachibana², Mitsuaki Murakami², Hirotsugu Ogi¹
(¹Osaka Univ., ²KANEKA Corporation)

1J2-2* **Self-localization Method Using Time-of-arrival and Direction-of-arrival of Sound Waves Measured Based on the Doppler Effect**
[[[S3906]]] ○Atsushi Tsuchiya, Naoto Wakatsuki, Tadashi Ebihara, Keiichi Zempo, Koichi Mizutani (Univ. of Tsukuba)

1J2-3 **Plant Management by a Ball SAW Gas Chromatograph Installed on a Drone**
[[[S3760]]] ○Kazushi Yamanaka¹, Takamitsu Iwaya¹, Shingo Akao¹, Tatsuhiko Okano¹, Nobuo Takeda¹, Takahiro Kusama², Kanji Yamanashi², Hirokatsu Hirayama², Yasunori Kikuchi³, Hideo Itoh⁴
(¹Ball Wave Inc., ²JDRONE Co.,Ltd., ³RTF, FIPO, ⁴FIPO)

11:30-13:15 **Lunch Time**

13:15-14:05 **Plenary Talk I** **Chair: Hideyuki Nomura (Univ. of Electro-Commun.)**

1PL **Ultrasensitive wireless QCM bio/gas sensors**
Hirotsugu Ogi (Osaka Univ.)

14:15-16:15 **Poster Session**

Chair: Kazuyoshi Mori (Nati. Defense Academy)

1P1-1* **Deep tissue optical absorption spectroscopy using laser-induced ultrasonic pulse**
[[[S3687]]] ○Keisuke Kodama, Yusuke Oshima, Takashi Katagiri (Univ. of Toyama)

1P1-2 **Relationship between Displacement Current and Magnetic Field from the Viewpoint of Roentgen Current in Dielectric and Piezoelectric Materials**
[[[S3705]]] ○Michio Ohki (Natl. Defense Academy)

1P1-3 **EMS viscometer designed for measurement of low viscosity in low shear rate region**
[[[S3722]]] ○Maiko Hosoda¹, Yoshikazu Yamakawa², Keiji Sakai³ (¹Tokyo Denki Univ., ²Triple Eye Co. LTD., ³Univ. of Tokyo)

- 1P1-4*** Crystal orientation behavior of rare earth substituted $\text{Sr}_2\text{NaNb}_5\text{O}_{15}$ lead-free piezoelectric ceramics under high magnetic field
[[[S3728]]]
○Gao Youneng¹, Shota Nakagawa¹, Yutaka Doshida¹, Ruka Sugawara², Satoshi Tanaka², Hideki Tamura³, Yoshiaki Takano⁴, Satoshi Demura⁴ (¹Ashikaga Univ., ²Nagaoka Univ. of Tech., ³Tohoku Inst. of Tech., ⁴Nihon Univ.)
- 1P1-5*** Verification of longitudinal and shear multiple scattering models in concentrated suspensions of silica nanoparticles
[[[S3817]]]
○Shinichirou Inui, Tomohisa Norisuye (Kyoto Inst. of Tech.)
- 1P1-6*** Emergence of Shear Wave Viscoelasticity with Drying of Droplet Observed by Longitudinal Ultrasonic Scattering Method
[[[S3733]]]
○Kenichiro Ishimoto, Tomohisa Norisuye (Kyoto Inst. of Tech.)
- 1P1-7*** Temperature dependence of elastic properties of NiO single crystal studied by resonant ultrasound spectroscopy
[[[S3734]]]
○Sho Hirano, Tomoki Hayashi, Hiroki Fukuda, Akira Nagakubo, Hirotsugu Ogi (Osaka Univ.)
- 1P1-8** Effects of laser-induced stress wave irradiation on *Saccharomyces cerevisiae*
[[[S3735]]]
○Kota Miyazaki, Koji Aizawa (Kanazawa Inst. of Tech.)
- 1P1-9** Experimental investigation into forming condition of airborne gel-like microparticles and preparing method for aqueous dispersion of them
[[[S3875]]]
○Taichi Hirano¹, Shujiro Mitani², Keiji Sakai² (¹Meiji Univ., ²Univ. of Tokyo)
- 1P2-1** 2-D Finite Difference-Time Domain Simulation of Moving Multipole Sources
[[[S3696]]]
○Takao Tsuchiya (Doshisha Univ.)
- 1P2-2** Study on movement measurement by noncontact acoustic inspection method using correlation processing
[[[S3769]]]
○Tsuneyoshi Sugimoto¹, Yutaka Nakagawa¹, Kazuko Sugimoto¹, Itsuki Uechi¹, Hitoshi Takagi¹, Noriyuki Utagawa², Yasukazu Nihei³ (¹Toin Univ. of Yokohama, ²SatoKogyo, ³FUJIFILM)
- 1P2-3** Frequency Compound Imaging of Defects in Metal Plate Using Airborne Ultrasound with Nonlinear Effect
[[[S3888]]]
○Ayumu Osumi, Fumiya Hamada, Kyosuke Shimizu, Youichi Ito (Nihon Univ.)
- 1P2-4*** Visualization of Guided Wave Propagation by Scanning Nonlinear Airborne Ultrasound Source Technique Using Compressed Sensing
[[[S3881]]]
○Fumiya Hamada, Kyosuke Shimizu, Ayumu Osumi, Youichi Ito (Nihon Univ.)
- 1P2-5*** Development of a real-time GHz resonant biosensor using asynchronous picosecond ultrasonics
[[[S3843]]]
○Kohei Sugaya, Akira Nagakubo, Hirotsugu Ogi (Osaka Univ.)
- 1P2-6** Measurement of nonlinear three-wave interaction by shear-vertical-wave point-focusing electromagnetic acoustic transducers
[[[S3818]]]
○Takashi Takishita^{1,2}, Hiroyuki Takamatsu¹, Hirotsugu Ogi² (¹KOBE STEEL, ²Osaka Univ.)
- 1P2-7*** Development of a simultaneous monitoring system for viscoelastic properties and morphological changes of cultured cells using wireless and electrodeless QCM
[[[S3814]]]
○Motoyuki Hamana, Natsumi Fujiwara, Satoshi Koga, Kazuyo Moro, Hirotsugu Ogi (Osaka Univ.)
- 1P2-8** Validation of acoustic cell imaging obtained by Z-scope impedance tomography
[[[S3759]]]
○Yuki Kawaguchi¹, Kazuto Kobayashi¹, Naohiro Hozumi², Sachiko Yoshida² (¹Honda Electronics, ²Toyohashi Univ. of Tech.)
- 1P2-9*** Spurious resonant phenomena of circumferential Lamb wave in axially propagating guided wave excitation by plural sensors located on the pipe girth
[[[S3754]]]
○Sora Yukawa, Masashi Ishikawa, Hideo Nishino (Tokushima Univ.)
- 1P2-10*** Ultrasonic wave propagation in a sphere sandwiched between blocks
[[[S3711]]]
○Daichi Tsunaki, Akira Sasaki, Naoki Mori, Takahiro Hayashi (Osaka Univ.)
- 1P2-11** Improving measurement system of laser speckle pulse method for observing vibrational modes in pure water
[[[S3731]]]
○Kengo Hara, Yuta Aoki, Yukihisa Suzuki, Yasuaki Watanabe (Tokyo Met Univ.)

- 1P2-12*** **Detection of subsurface defects using laser ultrasonics for process monitoring of metal additive manufacturing**
[[[S3737]]] ○Atsushi Yamasaki, Takahiro Hayashi, Naoki Mori (Osaka Univ.)
- 1P2-13*** **Numerical analysis of elastic wave resonator using deformation of tube**
[[[S3742]]] ○Akira Sasaki, Naoki Mori, Takahiro Hayashi (Osaka Univ.)
- 1P2-14*** **Frequency characteristics of LiNbO₃/TiO₂+SrCO₃ sol-gel composite ultrasonic transducer at high temperatures**
[[[S3749]]] ○Naoki Zaito, Takeshi Hamada, Mako Nakamura, Makiko Kobayashi (Kumamoto Univ.)
- 1P2-15*** **High-temperature flexible ultrasonic sensors using Bi₄Ti₃O₁₂/TiO₂+SrCO₃**
[[[S3750]]] ○Takeshi Hamada, Zaito Naoki, Mako Nakamura, Makiko Kobayashi (Kumamoto Univ.)
- 1P2-16*** **Finite element analysis of stress influence on reflection type fiber optic probe hydrophone output**
[[[S3756]]] ○Akikazu Waki, Shota Kokudai, Yuhei Asuka, Yoshikazu Koike (Sibaura Inst. of Tech.)
- 1P3-1** **Polarity inverted SiAlN/AlN film solid mounted resonators operating in high-overtone mode resonance**
[[[S3738]]] ○Masashi Suzuki, Jun Sekimoto, Kei Fukunaga, Shoji Kakio (Univ. of Yamanashi)
- 1P3-2** **Suppression of Higher-Order Modes of SAW Devices on Layered LiTaO₃/SiO₂/SiN/Si Substrate**
[[[S3862]]] Ryo Nakagawa, ○Motoki Ozasa, Hideki Iwamoto, Akira Michigami (Murata Manufacturing)
- 1P3-3** **SAW velocity reduction on the layer structure**
[[[S3803]]] ○Richeng Hu, Zhaohui Wu, Xinzhi Li, Bin Shi, Jingfu Bao, Ken-ya Hashimoto (Univ. of Electronic Sci. and Tech. of China)
- 1P3-4*** **Application of lossy overlay to for spurious suppression of I.H.P. SAW resonators with double busbar configuration**
[[[S3683]]] ○Yiwen He, Ying Yang, Zijiang Yang, Ting Wu, Jingfu Bao, Ken-ya Hashimoto (¹Univ. of Electronic Sci. and Tech. of China)
- 1P3-5** **Suppression of Spurious Responses Near Anti-Resonance in Temperature Compensated SAW Devices**
[[[S3685]]] ○Zijiang Yang, Yiwen He, Huayong Luo, Jingfu Bao, Ken-ya Hashimoto (Univ. of Electronic Sci. and Tech. of China)
- 1P3-6*** **Serially-connected strip-type acoustic wave resonator using X-40°Y LiNbO₃ – Feasibility study using macro model**
[[[S3833]]] ○Yong Guo, Michio Kadota, Shuji Tanaka (Tohoku Univ.)
- 1P3-7*** **Design of Transversal Piezoelectric Boundary Acoustic Wave Filter for Inverter Drive Circuit**
[[[S3887]]] ○Yutaka Mitsui¹, Shigeyoshi Goka¹, Kazuya Murakami², Shoji Kakio² (¹Tokyo Met Univ., ²Univ. of Yamanashi)
- 1P3-8** **The Study of Sensitivity on Piezoelectric Vibratory Tactile Sensor for Hardness Measurement**
[[[S3710]]] ○Subaru Kudo (Ishinomaki Senshu Univ.)
- 1P3-9** **Development of a CNN-based Vibration Data Analysis Framework for Bridge Health Care Monitoring Using SAW Sensors**
[[[S3702]]] Paramasivam Goundar Rachana , ○Jun Kondoh (Shizuoka Univ.)
- 1P3-10*** **Topological phononic waveguide design on surface of 3D object and its application to ball SAW sensor**
[[[S3871]]] ○Yuta Kono, Motoki Kataoka, Yusuke Hata, Kenji Tsuruta (Okayama Univ.)
- 1P4-1*** **Pressure and frequency dependences of mechanical and chemical effects by ultrasonic cavitation on amyloid fibril formation**
[[[S3855]]] ○Kakeru Hanada, Kichitaro Nakajima, Keiichi Yamaguchi, Yuji Goto, Hirotsugu Ogi (Osaka Univ.)
- 1P4-2** **Effect of vessel and liquid height on reaction rate in sonochemical reactor with indirect irradiation**
[[[S3763]]] ○Keiji Yasuda¹, Takashi Yamazaki¹, Yoshiyuki Asakura² (¹Nagoya Univ., ²Honda Electronics)
- 1P4-3*** **Effects of destruction of Euglena gracilis by ultrasonic cavitation**
[[[S3795]]] ○Yoshihito Azuma, Ken Yamamoto (Kansai Univ.)
- 1P4-4*** **Development of miniaturized sonoreactor for amyloid fibril assays**
[[[S3842]]] ○Tina Kondo, Kichitaro Nakajima, Keiichi Yamaguchi, Yuji Goto, Hirotsugu Ogi (Osaka Univ.)

- 1P4-5*** Physico-mathematical model of nonlinear acoustic properties of ultrasound contrast bubbles encapsulated by anisotropic shell
[[[S3921]]]
○Ryoki Kawahata¹, Tetsuya Kanagawa¹, Georges Chabouh² (¹Univ. of Tsukuba, ²Sorbonne Univ.)
- 1P4-6*** Surface acoustic wave excitation by an elliptical reflector transducer
[[[S3773]]]
○Kyohei Yamada¹, Shoki Ieiri¹, Shinsuke Itoh², Takashi Kasashima², Takeshi Morita¹
(¹Univ. of Tokyo, ²NGK SPARK PLUG)
- 1P4-7*** Evaluation of Transducer for Cryogenic Actuators by Equivalent Circuit Model
[[[S3693]]]
○Kazuki Kubo, Kairi Yagi, Takefumi Kanda, Daisuke Yamaguchi, Shuichi Wakimoto (Okayama Univ.)
- 1P4-8** Design of small ultrasonic sound source with square radiation surface
[[[S3785]]]
○Takuya Asami, Haruki Takahashi, Hikaru Miura (Nihon Univ.)
- 1P4-9*** Atomization amount of water by direct dropping using a transverse vibrating plate type ultrasonic source
[[[S3811]]]
○Ryuichi Igarashi, Yusuke Tsukamoto, Takaya Asami, Hikaru Miura (Nihon Univ.)
- 1P4-10*** Examination of complex vibration source with convex ring attached to step horn with hollow part
[[[S3860]]]
○Shunsuke Mizuno, Takuya Asami, Hikaru Miura (Nihon Univ.)
- 1P5-1*** Compound of echo-envelope statistics by beam steering for echo-envelope analysis of ultrasound image
[[[S3878]]]
○Chihiro Nara, Kenji Yoshida, Tadashi Yamaguchi, Shinnosuke Hirata (Chiba Univ.)
- 1P5-2*** Investigation on velocity vector estimation by crossed-shape probe
[[[S3730]]]
○Tatsuya Yano, Hiromu Fujisawa, Masaaki Omura, Ryo Nagaoka, Hideyuki Hasegawa (Univ. of Toyama)
- 1P5-3** Investigation on the method for estimation of average speed of sound with consideration of multi reflection
[[[S3736]]]
○Ryo Nagaoka, Masaaki Omura, Hideyuki Hasegawa (Univ. of Toyama)
- 1P5-4** Basic examination for selecting probability distribution model in ultrasound tissue characterization
[[[S3751]]]
○Shohei Mori¹, Mototaka Arakawa¹, Tadashi Yamaguchi², Hiroshi Kanai¹, Hiroyuki Hachiya³
(¹Tohoku Univ., ²Chiba Univ., ³Tokyo Tech.)
- 1P5-5*** Relationship between spatial distribution of intrahepatic tissues and analytical conditions for shear wave velocity evaluation
[[[S3761]]]
○Kodai Osato¹, Takuma Oguri², Naohisa Kamiyama², Shinnosuke Hirata¹, Kenji Yoshida¹, Tadashi Yamaguchi¹
(¹Chiba Univ., ²GE Healthcare)
- 1P5-6*** Experimental conditions for efficient retention of vascular endothelial cells on channel wall using microbubbles and acoustic interference
[[[S3770]]]
○Ayako Noguchi¹, Shunya Watanabe¹, Kota Konishi¹, Narumi Ogawa¹, Yoshitaka Miyamoto², Daiki Omata³,
Ryo Suzuki³, Kohji Masuda¹
(¹Tokyo Univ. of A&T, ²National Center for Child Health and Development, ³Teikyo Univ.)
- 1P5-7*** Experimental conditions for in situ culture of vascular endothelial cells retained to wall surface with microbubbles using acoustic radiation force
[[[S3758]]]
○Shunya Watanabe¹, Kota Konishi¹, Ayako Noguchi¹, Narumi Ogawa¹, Yoshitaka Miyamoto², Daiki Omata³,
Ryo Suzuki³, Kohji Masuda¹
(¹Tokyo Univ. of A&T, ²National Center for Child Health and Development, ³Teikyo Univ.)
- 1P5-8*** Effect of cavitation bubble position on temperature rise in bubble-enhanced ultrasonic heating.
[[[S3801]]]
○Taisuke Sato¹, Sota Kannoto¹, Shin Yoshizawa^{1,2} (¹Tohoku Univ., ²SONIRE Therapeutics)
- 1P5-9*** Effect of the intended shift in the propagation direction of the cavitation generation position on the coagulation position in bubble-enhanced ultrasonic heating
[[[S3805]]]
○Sota Kannoto¹, Shin Yoshizawa^{1,2} (¹Tohoku Univ., ²SONIRE Therapeutics)
- 1P5-10*** Effect of auricle and head sizes on propagation components of the cartilage conduction
[[[S3732]]]
○Akane Tamura¹, Sho Otsuka^{1,2}, Seiji Nakagawa^{1,2} (¹Chiba Univ., ²Chiba Univ. Hosp.)
- 1P5-11*** Anisotropic properties of acoustically induced electric polarization in soft biological fibrous tissues
[[[S3767]]]
○Junna Kikuchi, Yuki Sakakura, Kenji Ikushima (Tokyo Univ. of A&T)

- 1P5-12** **Speech perception by distantly-presented bone-conducted ultrasound: Assessment by phonetic-feature transmission analysis**
[[[S3826]]]
○Seiji Nakagawa^{1,2}, Koichiro Doi¹, Sho Otsuka^{1,2} (¹Chiba Univ., ²Chiba Univ. Hosp.)
- 1P5-13*** **Characteristics of vibrotactile perception by bone-conducted stimuli presented to the facial parts**
[[[S3841]]]
○Ko Uemura¹, Sho Otsuka^{1,2}, Seiji Nakagawa^{1,2} (¹Chiba Univ., ²Chiba Univ. Hosp.)
- 1P5-14*** **Effects of wearing earplugs on hearing of one's voice: Estimation of bone-conducted components**
[[[S3869]]]
○Asuka Miwa¹, Sho Otsuka^{1,2}, Seiji Nakagawa^{1,2} (¹Chiba Univ., ²Chiba Univ. Hosp.)
- 1P5-15*** **Speech perception by distantly-presented bone-conducted ultrasound: Effects of AM-method and speaker gender**
[[[S3932]]]
○Naoya Takahashi¹, Sho Otsuka^{1,2}, Seiji Nakagawa^{1,2} (¹Chiba Univ., ²Chiba Univ. Hosp.)
- 1P5-16*** **Exploring the Impact of Pinna Hardness and Vibrator Placement on Bone Conduction Through the Pinna**
[[[S3934]]]
○Irwansyah, Sho Otsuka, Seiji Nakagawa (Chiba Univ.)
- 1P5-17** **Effect of Ultrasound Attenuation on Piezoelectric Signal Generation in Cancellous Bone**
[[[S3698]]]
○Atsushi Hosokawa (Natl. Inst. Tech., Akashi Coll.)
- 1P5-18*** **Directional detection of acoustically induced electric polarization with a differential antenna**
[[[S3812]]]
○Yoshino Enomoto, Yuki Sakakura, Kenji Ikushima (Tokyo Univ. of A&T)
- 1P5-19*** **Ultrasonic wave properties in cortical part of the third metatarsal bone of Thoroughbred**
[[[S3823]]]
○Shuta Kodama¹, Taisei Tsubata¹, Ko Chiba², Norihisa Tamura³, Hiroshi Mita³, Mami Matsukawa¹ (¹Doshisha Univ., ²Nagasaki Univ., ³JRA Equine Research Institute)
- 1P6-1** **Hypocenter in the central sea area and their regional structural changes**
[[[S3695]]]
○Toshiaki Kikuchi¹, Koichi Mizutani² (¹Natl. Defense Academy, ²Univ. of Tsukuba)
- 1P6-2*** **Detection of free-swimming fish passing through narrow passage using MHz-band ultrasound**
[[[S3727]]]
○Ryusuke Miyamoto¹, Koichi Mizutani², Naoto Wakatsuki², Tadashi Ebihara², Seiji Akiyama¹ (¹Tokyo Univ. Marine Sci. Tech., ²Univ. of Tsukuba)
- 1P6-3** **Echo sounder transmitting narrow and broadband signals with a single transmitter using acoustic cavitation**
[[[S3782]]]
○Takanobu Kuroyama, Hanako Ogasawara, Kazuyoshi Mori (Natl. Defense Academy)
- 1P6-4*** **Measurement of Distance between Transmitter and Receiver Using Propagation Time of Underwater Acoustic Communication Signals with Orthogonal Signal Division Multiplexing Scheme**
[[[S3909]]]
○Ryoichi Ishijima, Tadashi Ebihara, Naoto Wakatsuki, Yuka Maeda, Koichi Mizutani (Univ. of Tsukuba)

16:30-17:45 High power ultrasound I • Biomedical ultrasound I

Chair: Tsuyoshi Shiina (Shibaura Inst. of Tech.)

- 1J3-1** **Quantitation and evaluation of nitrous acid, nitric acid, and hydrogen peroxide formed in ultrasonic cavitation bubbles**
[[[S3908]]]
○Kenji Okitsu^{1,2}, Riki Kunichika² (¹Osaka Met Univ., ²Osaka Pref. Univ.)
- 1J3-2** **Refractive index change and acoustic cavitation in water by high-intensity ultrasound radiation in the VHF range**
[[[S3894]]]
○Yuki Harada¹, Mutsuo Ishikawa², Mami Matsukawa¹, Daisuke Koyama¹ (¹Doshisha Univ., ²Toin Univ. of Yokohama)
- 1J3-3*** **Domain adaptation in simulation model construction for classification of non-speckle region**
[[[S3743]]]
○Yuga Mori, Shota Suzuki, Masaaki Omura, Ryo Nagaoka, Shangce Gao, Hideyuki Hasegawa (Univ. of Toyama)
- 1J3-4** **Application of continuous shear wave elastography method for liver viscoelasticity measurement**
[[[S3752]]]
○Ren Koda¹, Takato Kuwabara¹, Naoki Tano², Marie Tabaru², Shunichiro Tanigawa³, Naohisa Kamiyama³, Yoshiki Yamakoshi¹ (¹Gunma Univ., ²Tokyo Tech., ³GE HealthCare)
- 1J3-5*** **Development of efficient method of histotripsy by expanding cavitation region using ultrasound focus scanning in the direction of ultrasound propagation**
[[[S3863]]]
○Kazuki Takahashi¹, Shin Yosizawa^{1,2} (¹Tohoku Univ., ²SONIRE Therapeutics)

17:55-18:40 Steering Committee Meeting

9:00-10:15 Piezoelectric devices II • Biomedical ultrasound II

Chair: Kazuki Tamura (Hamamatsu Univ. School of Med.)

- 2E1-1*** **Use of Periodic Trenches in SMR- XBAR for Suppression of Transverse Mode Resonances and Lateral Leakage**
[[[S3691]]]
○Yiming Liu, Zhaohui Wu, Ying Yang, Jingfu Bao, Ken-ya Hashimoto (Univ. of Electronic Sci. and Tech. of China)
- 2E1-2*** **Multi-frequency ultrasonic atomization of circular plate by single parabolic reflector transducer**
[[[S3774]]]
○Weiquan Wang¹, Kyohei Yamada¹, Hiroshi Hasegawa², Kohsuke Hirano², Takeshi Morita¹
(¹Univ. of Tokyo, ²KAIJO Corp.)
- 2E1-3*** **Sonic cracking at low acoustic amplitudes**
[[[S3694]]]
○Nicole Anderton¹, Craig S. Carlson^{1,2}, Naoyuki Otake³, Hu Xinyue³, Momoka Yamasaku³, Nobuki Kudo³,
Michiel Postema^{1,2} (¹Tampere Univ., ²Univ. of Witwatersrand, ³Hokkaido Univ.)
- 2E1-4*** **Development of a focused ultrasound spectroscopic imaging system combined with optical imaging for applying mechanical stimulation on living cells**
[[[S3708]]]
○Natsumi Fujiwara, Takaki Matsumoto, Tan. Shao Ying, Akira Nagakubo, Kichitaro Nakajima, Masahiro Kino-oka,
Hirotsugu Ogi (Osaka Univ.)
- 2E1-5*** **Volumetric Imaging of Superficial Micro-vasculature using High-frequency Array Transducer: Phantom Study**
[[[S3845]]]
○Anam Bhatti, Takuro Ishii, Yoshifumi Saijo (Tohoku Univ.)

10:15-11:30 Ultrasonic properties II • High power ultrasound II • Ocean acoustics I

Chair: Daisuke Koyama (Doshisha Univ.)

- 2E2-1** **Deep-learning prediction of elastic constants for rectangular parallelepiped cubic materials using free-vibration resonant frequencies**
[[[S3699]]]
○Hiroki Fukuda¹, Akira Nagakubo¹, Oliver Bernard Wright^{1,2}, Kazuhiro Kyotani³, Hirotsugu Ogi¹
(¹Osaka Univ., ²Hokkaido Univ., ³Insight K. K.)
- 2E2-2** **Comparison of high-temperature DC poling and AC poling for lead perovskite relaxor-PbTiO₃ single crystals**
[[[S3929]]]
○Yohachi (John) Yamashita^{1,2}, Yushi Yamagata², Yu Xiang², Haiyan Sun², Hiroshi Maiwa², Hwang-Pill Kim¹,
Xiaoning Jiang¹ (¹NC State Univ., ²Shonan Inst. of Tech.)
- 2E2-3*** **Improvement of detection ability for amyloid fibril seeds by interaction between ultrasonic cavitation and surfactants**
[[[S3755]]]
○Tomoki Ota, Kichitaro Nakajima, Keiichi Yamaguchi, Yuji Goto, Hirotsugu Ogi (Osaka Univ.)
- 2E2-4*** **Effects of cavity disks on the generation of underwater acoustic streaming**
[[[S3853]]]
○Yimeng Wang¹, Kohei Aono², Manabu Aoyagi¹ (¹Muroran Inst. of Tech., ²SEIDENSHA ELECTRONICS)
- 2E2-5*** **Underwater Communication Enhancement using Cellular Automata and Image Processing**
[[[S3913]]]
○Hyunsoo Jeong, Jihyun Park, Kyu-Chil Park (Pukyong Natl. Univ.)

11:30-13:15 Lunch Time

13:15-14:05 Plenary Talk II (Cosponsored by IEEE Ultrasonics, Ferroelectrics and Frequency Control Society Japan Chapter)

Chair: Mami Matsukawa (Doshisha Univ.)

- 2PL** **Possible futures for medical ultrasound technology**
Kai E. Thomenius (Center for Ultrasound Research and Translation)
Distinguished Lecturer, IEEE-UFFC Society

14:15-16:15 Poster Session

Chair: Kenji Tsuruta (Okayama Univ.)

- 2P1-1*** **Material development of Pb(Zr,Ti)O₃/Pb(Zr,Ti)O₃ for biomedical ultrasound monitoring**
[[[S3838]]] ○Bingui Jiang¹, Masayuki Tanabe¹, Naoki Zaito¹, Mako Nakamura¹, Kosuke Sato², Toru Uda², Makiko Kobayashi¹ (1Kumamoto Univ., 2NOK)
- 2P1-2*** **Multilayer Acoustic Metasurfaces for Broadband Sound-Absorbing and Energy-Harvesting Devices**
[[[S3836]]] ○Akira Kojima, Kenji Tsuruta (Okayama Univ.)
- 2P1-3** **Changes in photoacoustic signal due to surface microstructure of cortical bone**
[[[S3821]]] ○Kuroiwa Takeru, Hattori Taishi, Mami Matsukawa (Doshisha Univ.)
- 2P1-4** **Valley vortex edge modes in a phononic crystal at ultrahigh frequencies**
[[[S3789]]] ○Paul Otsuka¹, Katsuya Nishimata¹, Motonobu Tomoda¹, Daiki Hatanaka², Hiroshi Yamaguchi², Kenji Tsuruta³, Osamu Matsuda¹ (1Hokkaido Univ., 2NTT Basic Laboratories, 3Okayama Univ.)
- 2P1-5*** **Characterization of elastic thin tube through laser-diode-based photoacoustic measurement**
[[[S3777]]] ○Wang Kun, Yuji Wada, Kentaro Nakamura (Tokyo Tech.)
- 2P1-6** **Manufacture of dye-sensitized solar cells using ultrasonically treated TiO₂**
[[[S3746]]] ○Dana Lee, Yeji Park, Huiwon Ju, Taeh Kim (Kumoh Natl. Inst. Tech.)
- 2P1-7** **Synthesis of NiFe/MoO₃@CFP Electrocatalyst for Water Splitting via Ultrasound-Assisted Method**
[[[S3747]]] ○Yongbeom Cho, Jonguk Kwon, Tae-Oh Kim (Kumoh Natl. Inst. Tech.)
- 2P1-8** **Sound velocity measurements in Japanese radish, watermelon and potato**
[[[S3709]]] ○Pak-Kon Choi, Takashi Ikeda (Meiji Univ.)
- 2P1-9** **Gen III Piezoelectric PMN-PZT Single Crystal Sensors and Actuators for Structural Health Monitoring Application**
[[[S3874]]] Dong-Ho Kim¹, Hyun-Taek Oh¹, Yohachi (John) Yamashita², ○Ho-Yong Lee^{1,3} (1Ceracomp, 2Shonan Inst. of Tech., 3Sunmoon Univ.)
- 2P1-10** **Brillouin Scattering Spectroscopy of Uniaxial Relaxor Ferroelectric Calcium Barium Niobate**
[[[S3688]]] ○Seiji Kojima¹, Md Aftabuzzaman^{1,2} (1Univ. of Tsukuba, 2Pabna Univ. Sci.Tech.)
- 2P2-1*** **Effect of baking conditions on acoustic properties of photoresist film**
[[[S3775]]] ○Hyelin Kim, Hironori Tohmyoh (Tohoku Univ.)
- 2P2-2** **Super-resolution ultrasound imaging with a single coding mask transducer**
[[[S3700]]] ○Mohammad Syaryadhi, Eiko Nakazawa, Norio Tagawa, Ming Yang (Tokyo Met Univ.)
- 2P2-3*** **Compared to soil physical properties of Japanese subsoils by using ultrasonic microscope**
[[[S3837]]] ○Chaity Saha¹, Yuki Kawaguchi², Yuji Maejima³, Kaori Momohara³, Munehiro Ebato³, Marie Tabaru¹ (1Tokyo Tech., 2Honda Electronics, 3NARO)
- 2P2-4*** **Rough handling accelerates tablet swelling in ultrasound**
[[[S3682]]] ○Craig S. Carlson^{1,2}, Michiel Postema^{1,2}, Nicole Anderton¹, Markus Hannula¹, Joona Sorjonen³, Hu Xinyue⁴, Naoyuki Otake⁴, Nobuki Kudo⁴, Jari Hyttinen¹, Jarkko Ketolainen³ (1Tampere Univ., 2Univ. of Witwatersrand, 3Univ. Eastern Finland, 4Hokkaido Univ.)
- 2P2-5*** **Characteristics of dividers and multipliers in measurement of crystal Qs by using phase noise**
[[[S3779]]] ○Yuta Aoki, Kengo Hara, Yasuaki Watanabe, Yukihisa Suzuki (Tokyo Met Univ.)
- 2P2-6** **Stable modeling of free boundaries of an anisotropic Lamé resonator in the finite difference time domain method using Lebedev grid**
[[[S3804]]] Koji Hasegawa, ○Ryo Kawagoe (Muroran Inst. of Tech.)
- 2P2-7*** **Zeta Potential Analysis of Submicron-sized Particles in Concentrated Suspension Using High-Intensity and High-Pulse-Rate Ultrasound**
[[[S3808]]] ○Mao Yamada, Mugen Shiroy, Tomohisa Norisuye (Kyoto Inst. of Tech.)
- 2P2-8*** **Study on viscoelastic properties of amyloid-fibril network during formation and disaggregation by wireless quartz crystal microbalance**
[[[S3809]]] ○Kazushi Fujita, Kichitaro Nakajima, Hirotsugu Ogi (Osaka Univ.)
- 2P2-9*** **Development of volatile-organic-compound gas sensor using wireless and electrodeless quartz crystal resonator**
[[[S3813]]] ○Tokiya Matsukura, Akira Nagakubo, Hirotsugu Ogi (Osaka Univ.)

- 2P2-10*** Nano- and Submicron-particle Sizing in Concentrated Suspension by Dynamic Ultrasound Scattering Technique
[[[S3816]]]
○Misaki Tani, Kana Kitao, Manami Yamane, Tomohisa Norisuye (Kyoto Inst. of Tech.)
- 2P2-11** Aroma components analysis of sake using internal standard by ball SAW gas chromatograph
[[[S3827]]]
○Shingo Akao, Takamitsu Iwaya, Tatsuhiro Okano, Nobuo Takeda, Yusuke Tsukahara, Toru Oizumi, Hideyuki Fukushi, Tomoki Tanaka, Maki Sugawara, Kumiko Tanaka, Akinobu Takeda, Kazushi Yamanaka (Ball Wave Inc.)
- 2P2-12** Quantitative analysis of intracellular conditioning in differentiating neuronal cells by Z-scope impedance tomography
[[[S3830]]]
○Maki Shibata¹, Daiki Yamanaka¹, Naohiro Hozumi¹, Yuki Kawaguchi², Kazuto Kobayashi², Sachiko Yoshida¹
(¹Toyohashi Univ. of Tech., ²Honda Electronics)
- 2P2-13** Depth-mapping of refractive index and sound velocity in transparent samples by time-domain Brillouin Scattering
[[[S3831]]]
○Motonobu Tomoda¹, Akihisa Kubota¹, Osamu Matsuda¹, Oliver B. Wright^{1,2} (¹Hokkaido Univ., ²Osaka Univ.)
- 2P2-14*** Development of Au nanoparticles with continuously changing gap size
[[[S3834]]]
○Kaichi Yatsugi¹, Nozomi Watanabe¹, Keishi Suga², Nobutomo Nakamura¹ (¹Osaka Univ., ²Tohoku Univ.)
- 2P2-15*** Resistance change of nanogap Au/Pd nanoparticles under hydrogen atmosphere
[[[S3848]]]
○Kazushi Yoshikawa, Nobutomo Nakamura (Osaka Univ.)
- 2P2-16*** Real-Time Observation of Vibration-Driven DNA Denaturation
[[[S3849]]]
○Yusuke Morohashi, Tadzunu Suzuki, Seiji Yoneda, Shigeo Yamaguchi (Kanagawa Univ.)
- 2P3-1** Use of Periodic 2D Pillar Array for Performance Enhancement of AlN-based SMR BAW Resonators
[[[S3697]]]
○Hua-yong Luo, Ting Wu, Zi-jiang Yang, Chang-yu Ye, Jing-fu Bao, Ken-ya Hashimoto (Univ. of Electronic Sci. and Tech. of China)
- 2P3-2*** S₀-Like Lamb Mode Resonator on LiNbO₃/SiO₂/SiC Structure
[[[S3800]]]
○Xinzhong Li, Richeng Hu, Zhaohui Wu, Yiwen He, Jingfu Bao, Ken-ya Hashimoto (Univ. of Electronic Sci. and Tech. of China)
- 2P3-3*** Wide Band First Shear Horizontal Mode Plate Wave Resonator on 175°YX LiNbO₃ Thin Plate
[[[S3840]]]
○Ferriady Setiawan, Michio Kadota, Shuji Tanaka (Tohoku Univ.)
- 2P3-4*** Resonance analysis of longitudinal leaky SAW third harmonic on bonded LiNbO₃/quartz structure
[[[S3851]]]
○Hibiki Morita¹, Masashi Suzuki¹, Shoji Kakio¹, Jun Mizuno² (¹Univ. of Yamanashi, ²Waseda Univ.)
- 2P3-5*** Analysis of propagation and resonance properties of longitudinal leaky SAW on LiNbO₃/SiC structure
[[[S3856]]]
○Ryo Takei¹, Masashi Suzuki¹, Shoji Kakio¹, Yasushi Yamamoto² (¹Univ. of Yamanashi, ²Yamamoto-ADEC LLC)
- 2P3-6** A study of resonance properties on leaky SAWs using LiTaO₃/SiC/Si structure
[[[S3935]]]
○Noriyuki Watanabe, Shoji Kakio (Univ. of Yamanashi)
- 2P3-7*** Fabrication of SAW device arrays on segmented piezoelectric substrates with concave structures
[[[S3832]]]
○Masahiro Iwasaki, Sunao Murakami, Takahiro Ito (Kyushu Inst. of Tech.)
- 2P3-8** Self-poling and DC poling of Mn doped Pb(Mg_{1/3}Nb_{2/3})O₃-Pb(ZrTi)O₃ single crystals grown by solid state crystal growth process
[[[S3865]]]
○Hiroshi Maiwa¹, Yushi Yamagata¹, Yu Xiang¹, Haiyan Sun¹, Ho-Yong Lee³, Yohachi (John) Yamashita^{1,2}
(¹Shonan Inst. of Tech., ²NC State Univ., ³Ceracomp)
- 2P3-9*** Effect of substrate dimensions on PZT/PZT piezoelectric microphone
[[[S3788]]]
○Ryota Ono¹, Naoki Zaito¹, Tadashi Sakata², Makiko Kobayashi¹ (¹Kumamoto Univ., ²Kumamoto Pref. College of Tech.)
- 2P4-1*** Sonochemical Production of H₂ using Water/alcohol Mixtures in a 300 kHz System
[[[S3866]]]
○Seokho Yoon, Taehui Park, Jongbok Choi, Younggyu Son (Kumoh Natl. Inst. Tech.)
- 2P4-2*** Effect of Gas Saturation on Sonochemical Generation of H₂O₂ and NO₂/NO₃⁻ in a 300 kHz Sonoreactor
[[[S3867]]]
○Taehui Park, Seokho Yoon, Younggyu Son (Kumoh Natl. Inst. Tech.)
- 2P4-3*** Geometric Optimization of 28-kHz Double-Bath Systems for Enhancing Sonophysical and Sonochemical Effects
[[[S3870]]]
○Mireu Song, Dukyoung Lee, Younggyu Son (Kumoh Natl. Inst. Tech.)

- 2P4-4** **Broadband noise of acoustic emission from a dancing single bubble**
[[[S3902]]] ○Hyang-Bok Lee¹, Pak-Kon Choi² (¹Japan Women's Univ., ²Meiji Univ.)
- 2P4-5** **Proposal of an ultrasonic generator for generating sterilization radicals**
[[[S3712]]] Jungsoon Kim¹, Jiwon Yoon², ○Moojoon Kim² (¹Tongmyong Univ., ²Pukyong Natl. Univ.)
- 2P4-6*** **Observation of acoustic streaming around a cylinder with a side hole for near-field acoustic levitation**
[[[S3901]]] ○Naoki Karakizawa¹, Kohei Aono², Manabu Aoyagi¹ (¹Muroran Inst. of Tech., ²SEIDENSHA ELECTRONICS)
- 2P4-7** **Basic analysis and trial of an ultrasonic levitation device using a spherical cavity resonator with a single 40kHz transducer**
[[[S3741]]] ○Hideki Tamura¹, Takehiro Takano¹, Manabu Aoyagi² (¹Tohoku Inst. of Tech., ²Muroran Inst. of Tech.)
- 2P4-8*** **A novel ultrasonic underwater propulsion system using a PZT ring transducer**
[[[S3852]]] ○Yuan Qian¹, Deqing Kong², Datki Nagasaki², Manabu Aoyagi², Minoru Kuribayashi Kurosawa¹ (¹Tokyo Tech., ²Muroran Inst. of Tech.)
- 2P4-9** **A Study on the installation position of semilunar PAs in thermoacoustic prime movers.**
[[[S3720]]] ○Shin-ichi Sakamoto, Takumi Matsumoto (Univ. of Shiga Pref.)
- 2P4-10*** **Haptic device using an ultrasonic motor with an elastic mechanism**
[[[S3879]]] ○Tomoya Senoue, Tatsuki Sasamura, Yukun Jiang, Takeshi Morita (Univ. of Tokyo)
- 2P4-11*** **Deep Reinforcement Learning PID Controller for Ultrasonic Linear Motor with Quadruped Stator**
[[[S3810]]] ○Yukun Jiang¹, Tatsuki Sasamura¹, Fangyi Wang¹, Abdullah Mustafa², Takeshi Morita¹ (¹Univ. of Tokyo, ²AIST)
- 2P5-1*** **Ultrasonic velocity change imaging for the human forearm**
[[[S3703]]] ○Koki Nakata¹, Hiroki Nakajima¹, Kenji Wada¹, Tetsuya Matsuyama¹, Koichi Okamoto¹, Toshiyuki Matsunaka² (¹Osaka Met Univ., ²TU Research Lab.)
- 2P5-2*** **Impact of Surrounding Colonic Tissue on Ultrasound Image Analysis of Retained Stool**
[[[S3745]]] ○Wanjing Bu¹, Shinryu Matsuoka¹, Junko Yotsuya², Masayuki Tanabe¹ (¹Kumamoto Univ., ²Fukui Univ.)
- 2P5-3** **Deep-leaning quantitative imaging regarding ultrasonic echoic and attenuation properties**
[[[S3776]]] ○Kaichen Hua, Yiran Li, Mengfei Zhang, Chikayoshi Sumi (Sophia Univ.)
- 2P5-4** **Deep-leaning using PSPNet, U-net and Yolo toward automated ultrasound differential diagnosis -Application to breast tumors**
[[[S3778]]] ○Junliang Xiao, Saki Tamatani, Yuka Hirano, Chikayoshi Sumi (Sophia Univ.)
- 2P5-5*** **Accuracy Assessment in Self-Measurement for Continuous Monitoring of Breast Tumor Volume**
[[[S3784]]] ○Takuma Kitagawa, Masayuki Tanabe (Kumamoto Univ.)
- 2P5-6*** **Visualization of blood flow by clutter filtering based on deep learning**
[[[S3798]]] ○Hongpeng Wang, Masaaki Omura, Ryo Nagaoka, Shangce Gao, Hideyuki Hasegawa (Univ. of Toyama)
- 2P5-7*** **3D Ultrasound Imaging Using A Single Sensor with Distributed Electrodes and Coding Mask**
[[[S3861]]] ○Eiko Nakazawa, Muhammad Syaryadhi, Norio Tagawa (Tokyo Met Univ.)
- 2P5-8*** **Analysis of Specific Rotational Movements of Muscle Fibers by Ultrasound Imaging**
[[[S3930]]] ○Junna Yoneda¹, Norio Tagawa¹, Kota Bokuda² (¹Tokyo Met Univ., ²Tokyo Met Neurological Hosp.)
- 2P5-9*** **High-resolution Ultrasound Imaging in Both Range and Lateral Directions Using Subspace Methods**
[[[S3928]]] ○Jie Zheng, Norio Tagawa (Tokyo Met Univ.)
- 2P5-10** **Considerations on ultrasonic array-element-pitch and interpolation beamforming in displacement vectoral Doppler observations**
[[[S3771]]] ○Chikayoshi Sumi (Sophia Univ.)
- 2P5-11*** **Relationship between transmission/reception conditions of high-frequency plane wave compounding and evaluation accuracy of extended amplitude envelope statistics**
[[[S3787]]] ○Taisei Higa¹, Jeffrey A. Ketterling², Jonathan Mamou², Cameron Hoering², Daniel H. Gross², Tingzhen Zhang¹, Mami Shirai¹, Shinnosuke Hirata¹, Kenji Yoshida¹, Tadashi Yamaguchi¹ (¹Chiba Univ., ²Weill Cornell Med.)
- 2P5-12** **Application of the Cylindrical-Gaussian Form Factor for Collagen Fiber Assessment**
[[[S3790]]] ○Kazuyo Ito¹, Quan V. Hoang^{2,3,4}, Cameron Hoerig⁵, Kazuki Tamura⁶, Sally A. McFadden⁷, Jonathan Mamou⁵ (¹Tokyo Univ. of A&T, ²Singapore Eye Research Institute, ³National Univ. of Singapore, ⁴Columbia Univ., ⁵Weill Cornell Med., ⁶Hamamatsu Univ. School of Med., ⁷The Univ. of Newcastle)

- 2P5-13*** **Verification of effect of interference between multiple scatterers on the evaluation of backscattering coefficient**
 [[S3791]] ○Hayato Kutsuzawa¹, Shinnosuke Hirata¹, Kenji Yoshida¹, Emilie Franceschini², Tadashi Yamaguchi¹
 (¹Chiba Univ., ²Aix-Marseille Univ. / CNRS)
- 2P5-14*** **Fundamental study on high frequency application of multicomponent amplitude envelope statistics**
 [[S3796]] ○Mami Shirai, Taisei Higa, Tingzhen Zhang, Shinnosuke Hirata, Kenji Yoshida, Tadashi Yamaguchi (Chiba Univ.)
- 2P5-15*** **Fundamental study on development of tissue mimicking phantom with acoustic and electrical characteristics**
 [[S3815]] ○Miyu Nagaoka¹, Hayato Kutsuzawa¹, Ren Tomitaka¹, Akira Hashimoto¹, Junko Kojima², Kenichi Uchiyama², Koichi Ito¹, Tadashi Yamaguchi¹ (¹Chiba Univ., ²Systemex)
- 2P5-16*** **Development of a Shear Wave Propagation Simulation Model for Liver Viscoelasticity Measurement**
 [[S3858]] ○Naoki Tano¹, Ren Koda², Shunichiro Tanigawa³, Naohisa Kamiyama³, Yoshiki Yamakoshi², Marie Tabaru¹
 (¹Tokyo Tech., ²Gunma Univ., ³GE HealthCare)
- 2P5-17*** **A Method of Automatically Detecting of Intima-Media Complex for Ultrasonic Measurement of Carotid Luminal Surface Roughness**
 [[S3883]] ○Ryota Yamane¹, Shohei Mori¹, Mototaka Arakawa¹, Jens E. Willhjelm², Hiroshi Kanai¹
 (¹Tohoku Univ., ²Tech. Univ. of Denmark)
- 2P5-18*** **Study of acquisition method of ultrasound image for expansion of measurable region in MBE-SWE**
 [[S3911]] ○Shinichiro Saito¹, Mikio Suga¹, Kenji Yoshida¹, Tadashi Yamaguchi¹, Hiroyuki Hachiya², Shinnosuke Hirata¹
 (¹Chiba Univ., ²Tokyo Tech.)
- 2P5-19** **Preliminary study on cartilage tissue evaluation based on longitudinal and shear wave speeds**
 [[S3926]] ○Naotaka Nitta, Toshikatsu Washio, Keigo Hikishima (AIST)
- 2P6-1** **A decision feedback equalizer with L1-norm regularization in underwater acoustic communication**
 [[S3718]] ○Yukihiro Kida, Mitsuyasu Deguchi, Takuya Shimura (JAMSTEC)
- 2P6-2*** **Simulation of Underwater Acoustic Communication Using Parabolic Reflector in a Multipath Environment**
 [[S3721]] ○Ryotaro Chinone, Tadashi Ebihara, Yuji Sato, Naoto Wakatsuki, Yuka Maeda, Koichi Mizutani (Univ. of Tsukuba)
- 2P6-3** **Impulse response analysis of reflected sound from the sea surface with waves**
 [[S3917]] ○Hiroyuki Hachiya (Tokyo Tech.)
- 2P6-4** **A preliminary study on multiplexed signals by biomimetic pulse trains for underwater acoustic localization**
 [[S3892]] ○Hanako Ogasawara, Takanobu Kuroyama, Kazuyoshi Mori (Natl. Defense Academy)
- 16:30-17:15** **Measurement techniques II** **Chair: Yoshikazu Ohara (Tohoku Univ.)**
- 2E3-1*** **Phased array imaging with a stacked plate buffer**
 [[S3744]] ○Mingqian Xia, Takahiro Hayashi, Naoki Mori (Osaka Univ.)
- 2E3-2** **Propagation Behaviors of Higher Order Modes Cluster Guided Waves in Geometrically Discontinuous Structures**
 [[S3820]] ○You Liang Ye, Che Hua Yang (National Taipei Univ. of Tech.)
- 2E3-3*** **Novel design of piezoelectric ultrasonic transducers and its application on die for die-casting**
 [[S3701]] ○Mako Nakamura, Yoshihito Kawamura, Kei Nakatsuma, Yuma Shimizu, Naoki Zaito, Makiko Kobayashi
 (Kumamoto Univ.)
- 17:25-17:45** **Award Ceremony**
- 18:30-20:30** **Banquet**

9:00-10:15 Measurement techniques III • High power ultrasound III

Chair: Subaru Kudo (Ishinomaki Senshu Univ.)

- 3J1-1*** **Non-contact measurement of firmness properties using T-DPLUS**
[[[S3839]]] ○Kento Murata¹, Kyohei Yamada², Takeshi Morita², Marie Tabaru¹ (¹Tokyo Tech., ²Univ. of Tokyo)
- 3J1-2*** **Curing monitoring and influence on the adhesive property by ultrasonic vibration treatment of adhesive layer**
[[[S3757]]] ○Toru Hakkaku, Naoki Mori, Takahiro Hayashi (Osaka Univ.)
- 3J1-3*** **Low-frequency 3D ultrasonic phased array imaging method using ultra-multiple laser scanning for concrete inspection**
[[[S3704]]] ○Yuto Fujikawa¹, Timothy James Ulrich^{2,3}, Marcel C. Remillieux², Yoshikazu Ohara¹ (¹Tohoku Univ., ²Los Alamos National Laboratory, ³Texas A&M Univ.)
- 3J1-4*** **Double ellipsoidal reflective surface for ultrasonic waves focusing into a thin waveguide**
[[[S3783]]] ○Shoki Ieiri¹, Kyohei Yamada¹, Tatsuki Sasamura¹, Shinsuke Itoh², Takashi Kasashima², Takeshi Morita¹ (¹Univ. of Tokyo, ²NGK SPARK PLUG)
- 3J1-5** **Development of Intensity Microphone for Airborne Ultrasound Using Optical Fiber**
[[[S3931]]] ○Takayuki Hoshi, Yoshiki O-oka (Pixie Dust Technologies)

10:15-11:30 Ultrasonic properties III • Biomedical ultrasound III

Chair: Taichi Hirano (Meiji Univ.)

- 3J2-1** **Fully optic characterization of acoustic impedance implementable in optical microscope**
[[[S3807]]] ○Kazuki Tamura¹, Ken-ya Hashimoto², Shinpei Okawa¹ (¹Hamamatsu Univ. School of Med., ²Univ. of Electronic Sci. and Tech. of China)
- 3J2-2*** **Multichannel topological waveguide in multilayer Kagome phononic crystal**
[[[S3905]]] ○Yusuke Hata, Kenji Tsuruta (Okayama Univ.)
- 3J2-3*** **A low-frequency ultrasound transducer for creation of transdermal transport region**
[[[S3717]]] ○Shinya Yamamoto, Keita Tomioka, Naohiro Sugita, Tadahiko Shinshi (Tokyo Tech.)
- 3J2-4*** **Preliminary study on ultrasonic visualization of myocardial contractile response based on local strain rate measurement**
[[[S3748]]] ○Yu Obara¹, Shohei Mori¹, Nobuo Masauzi¹, Masumi Iwai-Takano^{1,2,3}, Mototaka Arakawa¹, Hiroshi Kanai¹ (¹Tohoku Univ., ²Ohu Univ., ³Fukushima Med. Univ.)
- 3J2-5*** **Basic study about quantitative diagnosis of fatty liver by CNN classification of multidimensional moment heatmaps**
[[[S3900]]] ○Akiho Isshiki¹, Kisako Fujiwara^{1,2}, Takayuki Kondo^{1,2}, Kenji Yoshida^{1,2}, Tadashi Yamaguchi^{1,2}, Shinnosuke Hirata^{1,2} (¹Chiba Univ., ²Chiba Univ. Hosp.)

11:30-13:15 Lunch Time

13:15-14:05 Plenary Talk III

Chair: Shin Yoshizawa (Tohoku Univ.)

- 3PL** **High-frame-rate ultrasound imaging for assessment of cardiovascular function**
Hideyuki Hasegawa (Univ. of Toyama)

14:15-16:15 Poster Session

Chair: Masashi Suzuki (Univ. of Yamanashi)

- 3P1-1*** **Sputtering deposition of c-axis parallel oriented ZnO film with limited particle irradiation and resonance property as shear-mode resonator**
[[[S3922]]] ○Naoki Tomiyama¹, Shinji Takayanagi¹, Takahiko Yanagitani² (¹Doshisha Univ., ²Waseda Univ.)
- 3P1-2** **Observation of colliding and mixing picoliter droplets inflight and on substrate**
[[[S3885]]] ○Shujiro Mitani, Keiji Sakai (Univ. of Tokyo)

- 3P1-3*** **Ultrasonic Resonance Scattering Analysis of Size-Controlled Particle Assemblies**
[[[S3819]]] ○Mayu Hiromoto, Tomohisa Norisuye (Kyoto Inst. of Tech.)
- 3P1-4*** **Experimental study on sensing diameter and sensitivity of SPR ultrasonic sensors**
[[[S3924]]] ○Kota Deza, Shuto Nakatsuji, Hayato Ichihashi, Mami Matsukawa (Doshisha Univ.)
- 3P1-5*** **Analysis of Size and Viscoelasticity of Waterborne-Polyurethane Nanoparticles by Ultrasonic Scattering Method**
[[[S3893]]] ○Kaito Tajika, Yuiki Tsukiashi, Tomohisa Norisuye (Kyoto Inst. of Tech.)
- 3P1-6** **A method for deriving the effective acoustic impedance of one-dimensional phononic metamaterials**
[[[S3873]]] Yuki Inoue, ○Seiji Mizuno (Hokkaido Univ.)
- 3P1-7*** **Fabrication and evaluation of sound-absorbing meta-surface with coincidence-effect suppression**
[[[S3854]]] ○Tomoya Ishikawa¹, Masaaki Misawa², Kenji Tsuruta¹ (¹Okayama Univ., ²Fukuoka Inst. of Tech.)
- 3P1-8** **Structural Design of Topological Surface Acoustic Waveguides with Pillar-shaped Phononic Crystals**
[[[S3847]]] ○Yuito Ohashi¹, Yusuke Hata¹, Masaaki Misawa², Kenji Tsuruta¹ (¹Okayama Univ., ²Fukuoka Inst. of Tech.)
- 3P2-1** **Measurement of surface tension by analyzing horizontal oscillation of droplet on substrate**
[[[S3864]]] ○Satoshi Ishida¹, Shujiro Mitani², Keiji Sakai² (¹Nippon Paint Corporate Solutions, ²Univ. of Tokyo)
- 3P2-2*** **Dynamic ultrasound scattering analysis of particle dynamics with competing diffusive motion and hydrodynamic interactions**
[[[S3880]]] ○Mayuko Hirano, Kana Kitao, Tomohisa Norisuye (Kyoto Inst. of Tech.)
- 3P2-3*** **Investigation of Propagation Velocity Distribution of Surface Acoustic Waves inside Fire-damaged Mortar by Numerical Simulation**
[[[S3882]]] ○Kota Kodama, Ayumu Osumi, Youichi Ito (Nihon Univ.)
- 3P2-4** **Investigation on Effect of Driving Signal Length in Reflection Point Search Using Rectangular Sound Source**
[[[S3884]]] ○Hiroyuki Masuyama (NIT, Toba College)
- 3P2-5*** **Basic Study on Compact Airborne Ultrasound Emitter with Multiple Resonance Frequencies**
[[[S3886]]] ○Yusuke Miyasaka, Manaka Nagakita, Kyosuke Shimizu, Ayumu Osumi, Youichi Ito (Nihon Univ.)
- 3P2-6*** **Spurious Response Analysis of Microphones for Difference Sound Measurement**
[[[S3896]]] ○Miyu Yokomaku¹, Kan Okubo² (Tokyo Met Univ.)
- 3P2-7*** **Influence of heat insulating sheet thickness on ultrasonic power measured by calorimetry water vessel with two-layer structure**
[[[S3904]]] ○Choyu Uehara¹, Takeyoshi Uchida² (¹Okinawa Med. Eng., ²AIST)
- 3P2-8*** **Development of beyond-10 GHz ultrasonic microscopy by asynchronous picosecond ultrasonics**
[[[S3910]]] ○Tomoki Hayashi, Akira Nagakubo, Hirotsugu Ogi (Osaka Univ.)
- 3P2-9*** **Numerical simulation of the effects of cracks in solid on transmission characteristics of longitudinal and shear waves**
[[[S3912]]] ○Masatoshi Mochizuki¹, Naoto Wakatsuki¹, Tadashi Ebihara¹, Yuka Maeda¹, Koichi Mizutani¹, Ryusuke Miyamoto² (¹Univ. of Tsukuba, ²Tokyo Univ. Marine Sci. Tech.)
- 3P2-10*** **Measurement Error of Temperature Distribution Using Acoustic Probe and Matrix Method**
[[[S3918]]] ○Yuki Fujita, Tadashi Ebihara, Naoto Wakatsuki, Yuka Maeda, Koichi Mizutani (Univ. of Tsukuba)
- 3P2-11** **Ball SAW Gas Chromatograph for Atmospheric Monitoring in Crewed Space Environment Using Air Carrier Gas**
[[[S3739]]] ○Takamitsu Iwaya^{1,2}, Shingo Akao¹, Nobuo Takeda¹, Tatsuhiro Okano¹, Hideyuki Fukushi¹, Akinobu Takeda¹, Yosuke Kaneko², Asuka Shima², Kazushi Yamanaka¹ (¹Ball Wave Inc., ²JAXA)
- 3P2-12** **Classification of guided wave propagation in a cylindrical pipe and verification by the finite element method**
[[[S3765]]] ○Harumichi Sato (AIST)

- 3P2-13** **Nonlinear ultrasonic properties due to plastic strain induced at stress concentrations in an aluminum alloy**
[[[S3899]]]
○Toshihiro Ohtani¹, Yutaka Ishii¹, Masayuki Kamaya² (¹Shonan Inst. of Tech., ²Inst. Nuclear Safety Sys.)
- 3P2-14** **Mathematical modeling of ultrasonic refraction generated at partially closed crack face**
[[[S3714]]]
○Kazuyuki Nakahata¹, Kei Onodera¹, Taizo Maruyama² (¹Ehime Univ., ²Tokyo Tech.)
- 3P2-15** **Development of air-coupled ultrasonic probe using air-column and piezoelectric composite**
[[[S3797]]]
○Toshihiro Tsuji, Tsuyoshi Mihara (Shimane Univ.)
- 3P2-16*** **Utilization of multiple modes in high-frequency 3D ultrasonic phased array imaging method (PLUS)**
[[[S3764]]]
○Takumi Yamada¹, Timothy James Ulrich², Marcel C. Remillieux², Yoshikazu Ohara¹ (¹Tohoku Univ., ²Los Alamos Natl. Lab.)
- 3P2-17*** **Defect identification by load-dependence nonlinear ultrasonic phased array**
[[[S3715]]]
○Toshiki Yoshikawa¹, Kentaro Jinno², Taisei Ikemura², Yoshikazu Ohara¹ (¹Tohoku Univ., ²Mitsubishi Heavy Industries)
- 3P3-1*** **Analysis of SAW propagation properties on piezoelectric substrates with periodic voids**
[[[S3850]]]
○Takashi Suzuki, Masashi Suzuki, Shoji Kakio (Univ. of Yamanashi)
- 3P3-2*** **Analysis of Sezawa mode RSAWs on ScAlN or YbAlN films/high velocity substrates with floated intermediate electrode layers**
[[[S3724]]]
○Kei Hukunaga, Masashi Suzuki, Shoji Kakio (Univ. of Yamanashi)
- 3P3-3*** **Suppression of spurious propagation modes on Love wave-type SAWs by divided piezoelectric substrates**
[[[S3802]]]
○Naoto Hara¹, Masashi Suzuki¹, Shoji Kakio¹, Yasushi Yamamoto² (¹Univ. of Yamanashi, ²Yamamoto-ADEC LLC)
- 3P3-4*** **Ultra-Wideband Longitudinally Coupled Resonator Filters On Lithium Niobate Using Periodically Slotted SiO₂ As Acoustic Coupler**
[[[S3690]]]
○Ting Wu, Hua-yong Luo, Yi-wen He, Jing-fu Bao, Ken-ya Hashimoto (Univ. of Electronic Sci. and Tech. of China)
- 3P3-5** **Periodically Slotted SiO₂ Normal to Interdigital Electrodes For k² and Transverse Mode Suppression in Layered SAW Structures**
[[[S3692]]]
○Ying Yang, Yiwen He, Jingfu Bao, Ken-ya Hashimoto (Univ. of Electronic Sci. and Tech. of China)
- 3P3-6*** **Substrate temperature dependence of BAW propagation properties on (K,Na)NbO₃ films deposited by RF sputtering**
[[[S3859]]]
○Yuta Nakayama, Masashi Suzuki, Shoji Kakio (Univ. of Yamanashi)
- 3P3-7*** **Full-epitaxial ScAlN and MgZnO SMR based on epitaxial acoustic Bragg reflector**
[[[S3914]]]
○Satoshi Tokai^{1,2}, Takahiko Yanagitani^{1,2,3,4} (¹Waseda Univ., ²ZAIKEN, ³JST-CREST, ⁴JST-FOREST)
- 3P3-8*** **c-Axis tilted epitaxial PbTiO₃ thin film/ 25° off -angle La-SrTiO₃ substrate resonators with high k₃₅**
[[[S3915]]]
○Sota Kuninobu^{1,2}, Takahiko Yanagitani^{1,2,3,4} (¹Waseda Univ., ²ZAIKEN, ³JST-CREST, ⁴JST-FOREST)
- 3P3-9** **Study on optimization of shear horizontal surface acoustic Wave sensor structures using finite element method**
[[[S3725]]]
○Yudai Ota, Jun Kondoh (Shizuoka Univ.)
- 3P3-10** **Application for shear horizontal surface acoustic wave sensing system using compact vector network analyzer**
[[[S3726]]]
○Keiichiro Shibata, Jun Kondoh (Shizuoka Univ.)
- 3P4-1*** **CO₂ desorption using ultrasound at low temperature from CO₂-loaded amine solution under pressure conditions**
[[[S3916]]]
○Jie Ren, Tomoka Fujita, Hirokazu Okawa, Takahiro Kato (Akita Univ.)
- 3P4-2*** **Synthesis of Pd/WO₃ photocatalyst by the sonochemical reduction method in a split manner**
[[[S3923]]]
○Kei Sato, Hironaga Yamashita, Yoshihiro Kojima (Nagoya Univ.)
- 3P4-3*** **Consideration of the Effect of Acoustic Flow from a Surface Acoustic Wave Device on a Localized Surface Plasmon Resonance Sensor**
[[[S3689]]]
○Atsuya Kida, Jun kondoh (Shizuoka Univ.)
- 3P4-4*** **Birefringence of α -iron oxide (III) colloids using ultrasound**
[[[S3781]]]
○Yuma Kuroda¹, Akira Emoto², Daisuke Koyama¹ (¹Doshisha Univ., ²Tokushima Univ.)

- 3P4-5** Study on surface modification for droplet manipulation using surface acoustic waves
[[[S3792]]] ○Shoma Nagao, Jun Kondoh (Shizuoka Univ.)
- 3P4-6** Influence of frequency characteristics of ultrasonic transducers on acoustic levitation
[[[S3772]]] ○Teruyuki Kozuka¹, Yudai Inoue¹, Masahiro Toyoda², Tomoo Kamakura³, Shin-ichi Hatanaka⁴
(¹Aichi Inst. Tech., ²Honda Electronics, ³Univ. of Electro-Comm., ⁴Utsunomiya Univ.)
- 3P4-7*** Acoustic streaming analysis around electronic chip parts levitated in airborne ultrasound
[[[S3706]]] ○Yuji Wada, Kentaro Nakamura (Tokyo Tech.)
- 3P4-8*** Implementation of Battery-Powered Compact Mid-Air Acoustic Tweezers System
[[[S3889]]] ○Yusei Yokoyama, Kan Okubo (Tokyo Met Univ.)
- 3P4-9*** Directivity control using Array of Film-structured Parametric Loudspeakers
[[[S3897]]] ○Kazunari Yoda, Kan Okubo (Tokyo Met Univ.)
- 3P4-10*** Verification of High-order Harmonic Components of Nonlinear Airborne Ultrasound Using Pulse Inversion Method
[[[S3903]]] ○Taiju Kamitani, Kyosuke Shimizu, Ayumu Osumi, Youichi Ito (Nihon Univ.)
- 3P5-1*** Numerical simulation for determining minimum beam steering angle for estimation of blood flow velocity vectors
[[[S3822]]] ○Takatoshi Maru¹, Masaaki Omura¹, Ryo Nagaoka¹, Kozue Saito², Hideyuki Hasegawa¹
(¹Univ. of Toyama, ²Nara Medical Univ.)
- 3P5-2** Analysis of blood echo signal using 18 MHz linear probe during flow mediated dilation
[[[S3844]]] ○Masaaki Omura¹, Kunimasa Yagi², Ryo Nagaoka¹, Hideyuki Hasegawa¹ (¹Univ. of Toyama, ²Kanazawa Medical Univ.)
- 3P5-3*** Doppler Measurement With Simultaneous Up-chirp and Down-chirp Plane Wave Transmission
[[[S3857]]] ○Sota Ozaki, Norio Tagawa (Tokyo Met Univ.)
- 3P5-4*** Basic study on construction of three-dimensional speed of sound map of excised tissue and evaluation of microscopic characteristics
[[[S3716]]] ○Genta Hongo¹, Kazuki Tamura², Kazuyo Ito³, Shinnosuke Hirata¹, Kenji Yoshida¹, Tadashi Yamaguchi¹
(¹Chiba Univ., ²Hamamatsu Univ. School of Med., ³Tokyo Univ. of A&T)
- 3P5-5*** Verification of stability of depth assessment in three-dimensional acoustic impedance analysis
[[[S3740]]] ○Akira Hashimoto¹, Shinnosuke Hirata¹, Kenji Yoshida¹, Kazuyo Ito², Hitoshi Maruyama³, Tadashi Yamaguchi¹
(¹Chiba Univ., ²Tokyo Univ. of A&T, ³Juntendo Univ.)
- 3P5-6*** Characteristic Analysis of PA Signals Depending on Size of Optical Absorber Using an AR-PAM System
[[[S3876]]] ○Riku Suzuki, Takuro Ishii, Yoshifumi Saijo (Tohoku Univ.)
- 3P5-7*** Modeling of power spectrum considering density of red blood cells in focal region to estimate red blood cell aggregation size
[[[S3829]]] ○Rina Takeyama¹, Shohei Mori¹, Nobuo Masauji¹, Mototaka Arakawa¹, Satoshi Yashiro², Yasushi Ishigaki², Hiroshi Kanai¹ (¹Tohoku Univ., ²Iwate Medical Univ.)
- 3P5-8*** Evaluation of bucked shin in a horse leg using ultrasonic technique
[[[S3895]]] ○Taisei Tsubata¹, Shouta Kitajima¹, Shuta Kodama¹, Norihisa Tamura², Hiroshi Mita², Ko Chiba³, Mami Matsukawa¹
(¹Doshisha Univ., ²JRA Equine Research Institute, ³Nagasaki Univ.)
- 3P5-9** Ultrasonic nucleation of bioactive glass particles
[[[S3684]]] ○Michiel Postema^{1,2}, Craig S. Carlson^{1,2}, Nicole Anderton¹, Hu Xinyue³, Momoka Yamasaku³, Laeticia Petit¹, Jonathan Massera¹, Nobuki Kudo³ (¹Tampere Univ., ²Univ. of Witwatersrand, ³Hokkaido Univ.)
- 3P5-10*** Comparison of damage in vascular endothelial cells on basement membrane according to surrounding microbubbles and irradiation direction of ultrasound
[[[S3766]]] ○Narumi Ogawa¹, Yoshiki Ito¹, Shunya Watanabe¹, Kota Konishi¹, Ayako Noguchi¹, Yoshitaka Miyamoto², Daiki Omata³, Ryo Suzuki³, Kohji Masuda¹
(¹Tokyo Univ. of A&T, ²National Center for Child Health and Development, ³Teikyo Univ.)
- 3P5-11** Effect of flow velocity on Doppler signal of a single microbubble in laminar flow
[[[S3786]]] ○Kenji Yoshida¹, Masaaki Omura², Shinnosuke Hirata¹, Tadashi Yamaguchi¹ (¹Chiba Univ., ²Univ. of Toyama)

- 3P5-12*** Improvement of contrast ratio between cavitation bubbles and tissue by frequency filtering in triplet pulse ultrasound imaging
[[[S3793]]]
○Shota Kuji¹, Shin-ichiro Umemura^{1,2}, Shin Yoshizawa^{1,2} (¹Tohoku Univ., ²SONIRE Therapeutics)
- 3P5-13** Highly sensitive ultrasound bubble imaging by triplet pulse sequence with interleaved HIFU pulses between imaging pulses
[[[S3806]]]
○Nao Yoshida¹, Shota Kuji¹, Shin Yoshizawa^{1,2} (¹Tohoku Univ., ²SONIRE Therapeutics)
- 3P5-14*** Microbubble detection and separation by using patterned ultrasound plane wave
[[[S3868]]]
○Junseok An, Naohiro Sugita, Tadahiko Shinshi (Tokyo Tech.)
- 3P5-15*** Study on methods of microbubble visualization and localization in three-dimensional contrast-enhanced ultrasound
[[[S3907]]]
○Rentaro Fukuchi, Kenji Yoshida, Tadashi Yamaguchi, Shinnosuke Hirata (Chiba Univ.)
- 3P5-16*** Ultrasonically induced electrical potentials in round poly-L-lactic film
[[[S3824]]]
○Shouta Kitajima, Keigo Maehara, Shuta Kodama, Mami Matsukawa (Doshisha Univ.)
- 3P5-17*** A method for measuring small sinusoidal displacement using network analyzer
[[[S3846]]]
○Yuya Komatsu, Shohei Mori, Mototaka Arakawa, Hiroshi Kanai (Tohoku Univ.)
- 3P5-18*** Real-time Imaging Using a Flexible Array Based on Geometric Phase Correction
[[[S3828]]]
○Shinryu Matsuoka¹, Masayuki Tanabe¹, Kosuke Sato², Toru Uda², Makiko Kobayashi¹ (¹Kumamoto Univ., ²NOK)
- 3P6-1*** Measurement of Delay and Doppler Spreads in Underwater Acoustic Channel with Line-of-Sight and Non-Line-of-Sight Environments
[[[S3768]]]
○Takuya Waki, Yuto Hara, Tadashi Ebihara, Naoto Wakatsuki, Koichi Mizutani (Univ. of Tsukuba)
- 3P6-2*** Performance Evaluation of Orthogonal Signal Division Multiplexing Schemes with Large Delay and Doppler Spread
[[[S3919]]]
○Naomasa Urasaki, Masatoshi Yano, Tadashi Ebihara, Naoto Wakatsuki, Yuka Maeda, Koichi Mizutani (Univ. of Tsukuba)
- 3P6-3** A study on long-range propagating underwater acoustic waves observed with large-scale cabled ocean bottom seismic observation network
[[[S3933]]]
○Ryoichi Iwase (JAMSTEC)
- 3P6-4** Investigation on underwater acoustic positioning using wide-angle acoustic lens
[[[S3891]]]
○Yuji Sato, Tadashi Ebihara, Naomasa Urasaki, Koichi Mizutani, Naoto Wakatsuki (Univ. of Tsukuba)
- 16:30-17:15** Piezoelectric devices III • Ocean acoustics II
Chair: Takenobu Tsuchiya (Kanagawa Univ.)
- 3J3-1** Calculation model for predicting temperature characteristics of quartz double-layered thickness-shear resonator
[[[S3925]]]
○Yuji Ohashi, Taisei Noguchi, Yuui Yokota, Rikito Murakami, Shunsuke Kurosawa, Kei Kamada, Takahiko Horiai, Akihiro Yamaji, Masao Yoshino, Akira Yoshikawa (Tohoku Univ.)
- 3J3-2*** Transversal type BAW filter using polarization-inverted c-axis zigzag ScAlN multilayers
[[[S3927]]]
○Saneyuki Shibata^{1,2}, Takahiko Yanagitani^{1,2,3,4} (¹Waseda Univ., ²ZAIKEN, ³JST-CREST, ⁴JST-FOREST)
- 3J3-3** Suppression of effects of synchronization error with Adaptive digital down-conversion on underwater acoustic communication
[[[S3762]]]
○Mitsuyasu Deguchi, Yukihiko Kida, Yoshitaka Watanabe, Takuya Shimura (JAMSEC)

17:25-17:40 Closing Ceremony