International Conference on Microwave Acoustics & Mechanics
13–15 May 2024

Program

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Exhibitors

Content

Welcome by the Conference Chairs

Dear IC-MAM'24 Delegates,

On behalf of the Institute of Electrical and Electronics Engineers (IEEE), represented through its Microwave Theory and Techniques Society (MTT-S), University of Electronic Science and Technology of China (UESTC), and our Silver Sponsor Rohde & Schwarz, it is our great pleasure and honor to welcome you to the Second IEEE MTT-S international Conference on Microwave Acoustics & Mechanics (IC-MAM), which is held from May 13 to 15, 2024 in Chengdu, China. Chengdu is known as the happiest city in China, a city of history and gastronomy, and the homeland of giant and lesser pandas.

The first IC-MAM was held from July 18 to 20, 2022 in Munich, Germany. Because of its success, we decided to organize such a symposium regularly.

A conference cannot happen without three groups of people: At first, we want to thank the authors, who submitted papers from 10 different countries. Furthermore, we acknowledge the work of the TPC members and steering committee, which permitted to select 50 high-quality papers and set up an exciting conference program including seven oral sessions, two poster sessions, two plenary sessions, and an exhibitors' session. Finally, we thank all attendees for taking the way to Chengdu and to joining us for this event.

Thank you to all our financial sponsors Rohde & Schwarz, Sanan IC, Scia Systems, Advanced Modular Systems Inc./Yangxin Technology Co. Ltd., Hunan Rare Earth Co. Ltd., and Novel Si Integration Technology as well as UESTC for the conference organization. Without their generous support, a conference like this cannot happen.

We strongly believe that IC-MAM2024 represents a unique and unprecedented opportunity to bring together researchers and practitioners such as materials scientists, physicists, microwave engineers and process technologists of different background, to share the most recent advances in new materials and manufacturing processes as well as components and devices, which represent the key for the development of future RF, microwave and mm-wave devices, circuits, and systems based on Microwave Acoustics and RF-MEMS.

Besides the technical program, we invite you to enjoy our networking activities with the Welcome Dinner on Monday and our Banquet on Tuesday.

We wish you a successful and interesting conference!

Ken-Ya Hashimoto	Shuji Tanaka	Amelie Hagelauer
Conference Chair	*TPC Chair*	*TPC Co-Chair*

Committees and Boards

Conference Committee

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Ken-ya Hashimoto
University of Electronic Science and Technology of China, China

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Tohoku University, Japan

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Sessions

Session M1: Opening Session

Welcome Address

Ken-Ya Hashimoto, Conference Chair

Keynote Talk
Microwave Acoustic Wave Devices –
A Journey Through the Past to the Future

Amelie Hagelauer
Professor at TUM & Director of Fraunhofer EMFT
Technical University of Munich, Munich, Germany
Fraunhofer Institute for Electronic Microsystems and Solid State Technologies EMFT, Munich, Germany

This presentation offers a comprehensive overview of the advancements in microwave acoustic wave (SAW and BAW) devices over the past 15 years. It emphasizes the evolution of microwave acoustic wave technology, highlighting significant milestones and breakthroughs. The presentation addresses the challenges and presents solutions for minimizing losses, particularly in BAW devices. It also explores novel materials like AlScN, known for the improved performance characteristics as well as higher frequencies. Additionally, effects of non-linearities in SAW devices and their modeling will be presented. Lastly, the talk offers an insight into the future of microwave acoustic devices.

Session M2: BAW Components I

Chair: Amelie Hagelauer, Fraunhofer EMFT, Germany

10:25 ☆ **M2-1** **Polarization Inverted ScAlN Multilayer BAW Resonators** (invited)
Takahiko Yanagitani
Waseda University, Japan

10:50 **M2-2** **Laterally Excited Bulk Acoustic Resonators With Convex Interdigital Electrodes Towards SHF Applications**
Zhiwei Wen, Wenjuan Liu, Min Zeng, Xin Tong, Yuanhang Qu, Yan Liu, Yao Cai, Chengliang Sun
Wuhan University, China

11:05 ✦ **M2-3** **Double Mode Type BAW(DMB) Filter Based on ScAlN Multilayers SMR Using Polarization-Inversion or Intermediate-Electrodes** (Student Paper Finalist)
Momoka Matsumura, Saneyuki Shibata, Takahiko Yanagitani
Waseda University, Japan

11:20 ✦ **M2-4** **Ferroelectric Hysteresis Properties of Non-Doped AlN SMR** (Student Paper Finalist)
Ayaka Hanai[1,2], Takahiko Yanagitani[1], Junjun Jia[1], Satoshi Matsumura[1]
[1] Waseda University, Japan
[2] ZAIKEN, Japan

11:35 ☆ **M2-5** **Demonstration of 8-Inch Thin-Film Sc0.3Al0.7N BAW Resonator With High Electromechanical Coupling Coefficient** (invited)
You Qian, Xinghua Wang, Ying Zhang, Chen Liu, Yao Zhu
Institute of Microelectronics, A*STAR, Singapore

Session M3: BAW Components II

Chair: Holger Maune, Otto von Guericke University Magdeburg, Germany

14:00 ☆ **M3-1** **On the Design of High Overtone BAW Resonators With Enhanced Power Handling** (invited)
Ventsislav Yantchev[1,2], Yuancheng Ji[2]
[1] Q-Arts Consulting Ltd., Bulgaria
[2] Huawei Technologies Oy, Finland

14:25 **M3-2** **Neural Network Assisted 3D FBAR Modeling With Random Electrode Shapes**
Xi He[1], Xing Haw Marvin Tan[2], Chen Ma[1], Feixuan Huang[1], Fengyuan Yang[1], Qinghua Ren[1], Yiming Ma[1], Jianlin Chen[1], Nan Wang[1]
[1] Shanghai University, China
[2] Agency for Science Technology and Research, Singapore

14:40 **M3-3** **Wide-Band and High-Rejection RF Filters for 5G Applications Using BAW-On-Insulator Technology**
Ji Liang, Xiaoru Wang, Jie Zou, Duan Feng
Shenzhen Newsonic Technologies Co. Ltd, China

14:55 **M3-4** **SMR With Epitaxial Top and Bottom Metal Acoustic Bragg Reflectors as Thick Electrodes**
MIsaki Tomioka, Satoshi Tokai, Takahiko Yanagitani
Waseda University, Japan

15:10 ☆ **M3-5** **Nonlinear Distortion and Its Analysis on Radio Frequency Thin Film Bulk Acoustic Devices** (invited)
Masanori Ueda[1], Go Endo[1], Satoshi Orito[1], Shinji Taniguchi[1], Ken-ya Hashimoto[2]
[1] TAIYO YUDEN Mobile Technology Co., Ltd., Japan
[2] Chiba University, Japan

Session M4: MEMS Resonators

Chair: Shuji Tanaka, Tohoku University, Japan

16:00 **M4-1 Phononic Crystal for Enhancement of MEMS Resonator Quality Factor**
Mohammed Awad Ahmed Mohammed[1], Temesgen Bailie Workie[1,2], Bao Jingfu[1], Ken-Ya Hashimoto[1]
[1] University of Electronic Science and Technology of China, China
[2] Tiantong Ruihong Technology Co Ltd, China

16:15 ✦ **M4-2 Multi-Stage Frames for Q-Enhancement in Piezoelectric MEMS Resonators** (Student Paper Finalist)
Shuxian Wu[1], Zonglin Wu[1], Feihong Bao[2], Qiaozhen Zhang[3], Yicen Liu[4], Songhai Fan[4], Bao Jingfu[2], XianQI Lin[2], Jie Zou[1]
[1] Fudan University, China
[2] University of Electronic Science and Technology of China, China
[3] Shanghai Normal University, China
[4] State Grid Sichuan Electric Power Company, China

16:30 ✦ **M4-3 A Lamb Wave Resonator With Trapezoidal Interdigitated Electrodes** (Student Paper Finalist)
Xiang Chen[1], Yuanhang Qu[1], Tiancheng Luo[2], Xiyu Gu[1], Xiaoming Huang[1], Yao Cai[1], Shishang Guo[1], Yan Liu[1], Chengliang Sun[1]
[1] Wuhan University, China
[2] Agency for Science, Technology and Research (a*star), Singapore

16:45 **M4-4 Analysis of Plate Acoustic Waves Resonance Properties Using Thin Plate of LiNbO3/SiC**
Noriyuki Watanabe, Shoji Kakio
University of Yamanashi, Japan

17:00 ✦ **M4-5 Development of Directly Bonded LiNbO3 Plates and Microfabricated Quartz Crystal Structures** (Student Paper Finalist)
Ko-hei Sano[1,2], Sho Nagai[2], Yoshitaka Ono[2], Yasuo Hayashi[2], Takahiko Yanagitani[1]
[1] Waseda University
[2] AGC Inc., Japan

17:15 **M4-6 Horizontal Harmonics Mitigation in Thickness Shear A1 Mode Resonators**
Temesgen Bailie Workie[1,2], Xiuwen Bi[2], Junyao Shen[1,2], Simon Lam[2], Bao Jingfu[1], Ken-Ya Hashimoto[1]
[1] University of Electronic Science and Technology of China & Tiantong Ruihong Technology Co Ltd, China
[2] Tiantong Ruihong Technology Co Ltd, China

Session T1: SAW Components and Modelling

Chair: Masanori Ueda, TAIYO YUDEN Mobile Technology Co. Ltd., Japan

09:00 ☆ **T1-1 High-Performance Wideband SAW Filters on LNOI Platform** (invited)
Weibiao Wang[1], Sulei Fu[2], Zhibin Xu[1], Huiping Xu[2], Peisen Liu[2], Boyuan Xiao[2], Feng Pan[2]
[1] SHOULDER Electronics Limited, China
[2] Tsinghua University, China

09:25 **T1-2 A Precise COM Model Parameter Extraction Method With Automated Curve-Fitting and Accuracy Verification**
Kuanmao Xu[1], Jinghong Wang[1], Ji Xuan[1], Bao Jingfu[2], Xiaohui Li[1]
[1] Suzhou Shengxin Electronic Tech Ltd, China
[2] University of Electronic Science and Technology of China, China

09:40 **T1-3 The Design of SAW Filters With CNN Modeling and Cuckoo Search (CS) Optimization**
Xuanying Hou
The Institute of Electromagnetics and Acoustics, China

09:55 ✦ **T1-4 Near 6-GHz Longitudinal Leaky SAW Filters With Spurious Mitigation on LiNbO3/SiO2/SiC Platform** (Student Paper Finalist)
Peisen Liu[1], Sulei Fu[1], Huiping Xu[1], Boyuan Xiao[1], Xinchen Zhou[1], Qiufeng Xu[1], Qiaozhen Zhang[2], Rui Wang[1], Cheng Song[1], Fei Zeng[1], Weibiao Wang[3], Feng Pan[1]
[1] Tsinghua University, China
[2] Shanghai Normal University, China
[3] SHOULDER Electronics Limited, China

10:10 ☆ **T1-5 Wideband Longitudinal Leaky SAW Filter Implementation for Wi-Fi 7** (invited)
Mijing Sun, Xinjian Ke, Shibin Zhang, Pengcheng Zheng, Xiaoli Fang, Juxing He, Xin Ou
Shanghai Institute of Microsystem and Information Technology, China, Chinese Academy of Sciences, China

Session T2: Interactive Forum

Chair: Ken-Ya Hashimoto, University of Electronic Science and Technology of China

T2-1 **Theoretical Investigation of a Resonant Magnetoelectric Sensor Based on a Piezoelectric-On-Silicon Length-Extensional Mode Resonator**
Yongjun Du, Fuzhe Fan, Jiacheng Qiao, Jingen Wu, Zhongqiang Hu, Ming Liu
Xi'an Jiaotong University, China

T2-2 **An Acoustic Resonator With 18% Effective Electromechanical Coupling Exhibiting Low TCF and Improved Thermal Conductivity at 8 GHz**
Feixuan Huang, Chen Ma, Jiewei Jiang, Xi He, Fengyuan Yang, Jianlin Chen, Qinghua Ren, Yiming Ma, Nan Wang
Shanghai University, China

T2-3 **Towards Artificial Intelligence Acoustic Wave Filter Design**
Guillem Reixach[1], Eloi Guerrero[2], Lluis Acosta[1], Pedro de Paco[1]
[1] Universitat Autònoma de Barcelona, Spain
[2] Qorvo, Spain

T2-4 **A Differential Surface Acoustic Wave Magnetic Field Sensor With Temperature Compensation**
Yang Yang, Qiaozhen Zhang
Shanghai Normal University, China

T2-5 **Coupling-Of-Modes Parameters Extraction by Using an Inverse Artificial Neural Network Design**
Yang Yang[1], Aleh Loseu[2], Caizhi Zheng[3], Wenhai Ni[1], Wenhua Xu[1], Ronghan Hong[4], Qing Huo Liu[4]
[1] CanaanTek Co., Ltd, China
[2] SOLLO LLC, USA
[3] Xiamen University, China
[4] Eastern Institute for Advanced Study, China

T2-6 **Simulation of Surface Acoustic Wave Torque Sensors Using Coupling of Mode Analysis**
Chao Jiang, Xiaoli Cao, Lianggui Tang
Chongqing Technology and Business University, China

T2-7 **Study on 36YX-LiTaO3/36Y90X-Quartz Structure for SH-SAWsensor Application**
Yudai Ota, Jun Kondoh
Shizuoka University, Japan

Session T3: SAW Components I

Chair: Yiliu Wang, Skyworks Solutions Inc., USA

13:30 ☆ **T3-1** **Multiplexer Design to Minimize Gamma Loading to Higher Frequency Filters** (invited)
Yiliu Wang, Tomoya Komatsu, Nan Wu
Skyworks Solutions, Inc., USA

13:55 ✦ **T3-2** **Synthesis of Wideband Filters Based on Acoustic Wave Transversal and Ladder Topologies** (Student Paper Finalist)
Santi Cano, Lluis Acosta, Carlos Caballero, Jordi Verdu, Pedro Antonio de Paco Sanchez
Universitat Autònoma de Barcelona (UAB), Spain

14:10 **T3-3** **Observation of Nonlinearity Induced by Transverse Modes in SAW Devices Based on 36°YX-LiTaO3/SiO2/SiC Structure**
Baichuan Li[1], Guangyao Lv[2], Qiaozhen Zhang[2], Zonglin Wu[3], Feihong Bao[3], Sulei Fu[4], Weibiao Wang[5], Hui Zhang[1]
[1] Southeast University, China
[2] Shanghai Normal University, China
[3] University of Electronic Science and Technology of China, China
[4] University of Electronic Science and Technology of China, China
[5] SHOULDER Electronics Limited, China

14:25 **T3-4** **Enhanced Electromechanical Coupling Near the Phase Boundary in Wurtzite (Mg, Zn)O and (Sc, Al)N**
Junjun Jia, Takahiko Yanagitani
Waseda University, Japan

14:40 ☆ **T3-5** **SAW Filters Based on Composite Structure** (invited)
Xiaobing Chen
Huayuan Micro Electronic Technology Co., LTD, China

Tuesday 14th May
15:30–17:00

Session T4: Exhibitor Session

In this session, our sponsors and exhibitors showcase their latest developments.

Hunan Rare Earth Co. Ltd.

Shanghai Novel Si Integration Technology Co. Ltd .

Advanced Modular Systems Inc./Yangxin Technology Co. Ltd.

Sanan IC

scia Systems GmbH

Rohde & Schwarz

Session W1: SAW Components II

Chair: Rei Goto, Skyworks, Germany

09:00 ☆ **W1-1** **Imaging GHz Surface Acoustic Waves on a Phononic Crystal Island** (invited)
Oliver B. Wright[1,2], Motonobu Tomoda[2], Paul H. Otsuka[2], Osamu Matsuda[2]
[1] Osaka University, Japan
[2] Hokkaido University, Japan

09:25 **W1-2** **Thin-Film Lithium Niobate on Insulator Surface Acoustic Wave Devices for 6G Centimeter Bands**
Tzu-Hsuan Hsu[1], Joshua Campbell[1], Jack P Kramer[1], Sinwoo Cho[1], Zhi-Qiang Lee[2], Ming-Huang Li[2], Ruochen Lu[1]
[1] The University of Texas at Austin, USA
[2] National Tsing Hua University, Taiwan

09:40 ✦ **W1-3** **Study on Loss Mechanisms in I.H.P. SAW Assisted by Full-3D Hierarchical Cascading Technique** (Student Paper Finalist)
Yiming Liu, Yiwen He, Zijiang Yang, Fangyi Li, Bao Jingfu, Ken-Ya Hashimoto
University of Electronic Science and Technology of China, China

10:55 **W1-4** **POI Wafers for Sub-GHz Bandpass SAW Filters**
Sylvain J Ballandras[1], Xavier Seah[2], Emilie Courjon[1], Thierry Hilt[1], Cedrick Chappaz[1], Florent Bernard[1], Saly NDiaye[1], Alexandre Clairet[1], Tony Makdissy[1], Thierry Laroche[1], Eric Michoulier[1], Aziz Alami-Idrissi[1], Philipp Achatz[1], Christophe Didier[1]
[1] SOITEC SA, France
[2] SOITEC SA, Singapore

10:10 ☆ **W1-5** **Frequency Hysteresis Compensation of a Miniature OCXO Using Resonator Temperature Output for Extending Holdover Performance** (invited)
Wan-Lin Hsieh, Tun-Jen Hsiao
TXC Corporation, Taiwan

Session W2: Interactive Forum

Chair: Ken-Ya Hashimoto, University of Electronic Science and Technology of China

W2-1 **Automated Electro-Thermal Model of Surface Acoustic Wave Filters**
ZongYang Liu, Ming Li, Kai Huang, Xin Xia, kunpeng Li Li, Gongbin Tang
Shandong University, China

W2-2 **The Impact of Selectively Filling With SiO2 on Transverse Modes in TC-SAW Resonators**
Menghui Li, Mengke Qi, Yuanhang Chen, Yimin Cheng, Liang Cao, Xiaojing Mu
Chongqing University, China

W2-3 **High-Q SAW Resonators Based on High-Crystallinity AlScN-AlN-Sapphire Substrate**
Fuhong Lin[1], Kai Yang[1], Haoran Tao[1], Qikun Wang[2], Liang Wu[2], Chengjie Zuo[1]
[1] University of Science and Technology of China, China
[2] Ultratrend Technologies Inc., China

W2-4 **Spurious-Free SAW Filters With Inherent Suppression of Transverse Modes on LiTaO3/SiO2/Quartz Platform**
Boyuan Xiao[1], Sulei Fu[1], Huiping Xu[1], Peisen Liu[1], Xinchen Zhou[1], Qiufeng Xu[1], Qiaozhen Zhang[2], Rui Wang[1], Cheng Song[1], Fei Zeng[1], Weibiao Wang[3], Feng Pan[1]
[1] Tsinghua University, China
[2] Shanghai Normal University, China
[3] SHOULDER Electronics Limited, China

W2-5 **Analysis of Surface Acoustic Wave Propagation Characteristics on Lead-Free KNN Single Crystal**
Lin Li, Qiaozhen Zhang, Xiangyong Zhao
Shanghai Normal University, China

W2-6 **Design of Trapezoidal-DMS Structured Filters by Direct Bandpass Synthesis Methods**
kunpeng Li Li, Gongbin Tang, Ming Li, Kai Huang, ZongYang Liu, Xin Xia
ShanDong University, China

Session W3: SAW Components III

Chair: Shoji Kakio, University of Yamanashi, Japan

13:30 **W3-1** **Influence of the Tilted IDT on Nonlinear Harmonic Signals in SAW Resonators on LiNbO3/SiO2/Si Structure**
Guangyao Lv[1], Baichuan Li[2], Qiaozhen Zhang[1], Shuxian Wu[3], Feihong Bao[4], Sulei Fu[5], Weibiao Wang[6]
[1] Shanghai Normal University, China
[2] Southeast University, China
[3] Fudan University, China
[4] University of Electronic Science and Technology of China, China
[5] Tsinghua University, China

13:45 **W3-2** **Transverse Mode Suppression for Low Velocity SAW Resonator on Al/Pt/Low-Cut LT/Quartz Structure**
Richeng Hu, Xinzhi Li, Yiwen He, Zijiang Yang, Bao Jingfu, Ken-Ya Hashimoto
University of Electronic Science and Technology of China, China

14:00 ✦ **W3-3** **Use of Dielectric Stripes for Transverse Mode Suppression for Surface Acoustic Wave Resonators** (Student Paper Finalist)
Fangyi Li, Yiwen He, Yang Ying, Yiming Liu, Bao Jingfu, Ken-Ya Hashimoto
University of Electronic Science and Technology of China, China

14:15 **W3-4** **Transverse Mode Suppression for S0-Like SAW Mode Resonator**
Xinzhi Li, Richeng Hu, Yiwen He, Bao Jingfu, Ken-Ya Hashimoto
University of Electronic Science and Technology of China, China

Session W4: Closing Session

Keynote Talk
Evolution of SAW and BAW Devices Using Thin $LiTaO_3$ and $LiNbO_3$

Shuji Tanaka
Professor
Tohoku University, Japan

This paper reviews three types of HAL (Hetero Acoustic Layer) devices using thin LiTaO3 (LT) and LiNbO3 (LN). The production technology of thin LN and LT on a support wafer is a game-changing technology for acoustic wave devices, which has been made common by Murata Manufacturing's innovative work, "I.H.P. SAW." We have started the development of HAL devices in 2013. LT/quartz HAL SAW devices demonstrated promising performances including high impedance ratio, near-zero TCF (temperature coefficient of frequency) and spurious-free high frequency characteristic. LN/quartz HAL SAW devices with an extremely high impedance ratio and ultrawide band were also demonstrated. Thin LT and LN are also useful for BAW devices. In this paper, we introduce an overtone SMR (solidly mounted resonator) using LN on a unique Bragg reflector. The main response is at 9.5 GHz although 1 µm thick LN is used. Finally, new types of BAW devices inspired by "XBAR" is briefly discussed.

Awards Ceremony

Closing Remarks

Ken-Ya Hashimoto, Conference Chair

Student Paper Contest

A Student Paper Contest will be held during IC-MAM 2024. The contest is open to all students younger than 30 years old on the opening day of the conference; they have to appear as first author and present the paper at the conference.

The following finalist have been selected by the TPC and the Awards Committee. They will present their paper in the respective session and on Tuesday, May 14 during the regular poster session. The poster itself will be on display during the whole week.

M2-3 **Double Mode Type BAW(DMB) Filter Based on ScAlN Multilayers SMR Using Polarization-Inversion or Intermediate-Electrodes**
Momoka Matsumura, Saneyuki Shibata, Takahiko Yanagitani
Waseda University, Japan

M2-4 **Ferroelectric Hysteresis Properties of Non-Doped AlN SMR**
Ayaka Hanai[1,2], Takahiko Yanagitani[1], Junjun Jia[1], Satoshi Matsumura[1]
[1] Waseda University, Japan
[2] ZAIKEN, Japan

M4-2 **Multi-Stage Frames for Q-Enhancement in Piezoelectric MEMS Resonators**
Shuxian Wu[1], Zonglin Wu[1], Feihong Bao[2], Qiaozhen Zhang[3], Yicen Liu[4], Songhai Fan[4], Bao Jingfu[2], XianQI Lin[2], Jie Zou[1]
[1] Fudan University, China
[2] University of Electronic Science and Technology of China, China
[3] Shanghai Normal University, China
[4] State Grid Sichuan Electric Power Company, China

M4-3 **A Lamb Wave Resonator With Trapezoidal Interdigitated Electrodes**
Xiang Chen[1], Yuanhang Qu[1], Tiancheng Luo[2], Xiyu Gu[1], Xiaoming Huang[1], Yao Cai[1], Shishang Guo[1], Yan Liu[1], Chengliang Sun[1]
[1] Wuhan University, China
[2] Agency for Science, Technology and Research (a*star), Singapore

M4-5 **Development of Directly Bonded LiNbO3 Plates and Microfabricated Quartz Crystal Structures**
Ko-hei Sano[1,2], Sho Nagai[2], Yoshitaka Ono[2], Yasuo Hayashi[2], Takahiko Yanagitani[1]
[1] Waseda University
[2] AGC Inc., Japan

T1-4 **Near 6-GHz Longitudinal Leaky SAW Filters With Spurious Mitigation on LiNbO3/SiO2/SiC Platform**

Peisen Liu[1], Sulei Fu[1], Huiping Xu[1], Boyuan Xiao[1], Xinchen Zhou[1], Qiufeng Xu[1], Qiaozhen Zhang[2], Rui Wang[1], Cheng Song[1], Fei Zeng[1], Weibiao Wang[3], Feng Pan[1]

[1] Tsinghua University, China
[2] Shanghai Normal University, China
[3] SHOULDER Electronics Limited, China

T2-7 **Study on 36YX-LiTaO3/36Y90X-Quartz Structure for SH-SAWsensor Application**

Yudai Ota, Jun Kondoh

Shizuoka University, Japan

T3-2 **Synthesis of Wideband Filters Based on Acoustic Wave Transversal and Ladder Topologies**

Santi Cano, Lluis Acosta, Carlos Caballero, Jordi Verdu, Pedro Antonio de Paco Sanchez

Universitat Autònoma de Barcelona (UAB), Spain

W1-3 **Study on Loss Mechanisms in I.H.P. SAW Assisted by Full-3D Hierarchical Cascading Technique**

Yiming Liu, Yiwen He, Zijiang Yang, Fangyi Li, Bao Jingfu, Ken-Ya Hashimoto

University of Electronic Science and Technology of China, China

W3-3 **Use of Dielectric Stripes for Transverse Mode Suppression for Surface Acoustic Wave Resonators**

Fangyi Li, Yiwen He, Yang Ying, Yiming Liu, Bao Jingfu, Ken-Ya Hashimoto

University of Electronic Science and Technology of China, China

Social Events

Welcome Reception

The Welcome Dinner will take place on Monday, 13th May 2024, starting from 18:00 in the Diamond Ballroom, 2nd floor in Crowne Plaza Chengdu West.

Conference Banquet

All IC-MAM attendees are invited to join us for the conference dinner on Tuesday evening, 14th May 2024. The dinner is taking place in the Diamond Ballroom, 2nd floor in Crowne Plaza Chengdu West, starting from 18:00.

Notes

Notes

	Monday 13.05.2024			Tuesday 14.05.2024			Wednesday 15.05.2024		
09:00	Session M1 Opening Session 09:00—10:00	Registration opens at 08:00	09:00	Session T1 SAW Components and Modelling 09:00—10:35	Registration opens at 08:00	09:00	Session W1 SAW Components II 09:00—10:35	Registration opens at 08:00	09:00
09:20			09:20			09:20			09:20
09:40			09:40			09:40			09:40
10:00	Coffee Break		10:00			10:00			10:00
10:20			10:20			10:20			10:20
10:40	Session M2 BAW Components I 10:25—12:00		10:40	Session T2 Interactive Forum 10:35—12:00	Coffee Break	10:40	Session W2 Interactive Forum 10:35—12:00	Coffee Break	10:40
11:00			11:00			11:00			11:00
11:20			11:20			11:20			11:20
11:40			11:40			11:40			11:40
12:00	Lunch Break		12:00	Lunch Break		12:00	Lunch Break		12:00
12:20			12:20			12:20			12:20
12:40			12:40			12:40			12:40
13:00			13:00			13:00			13:00
13:20			13:20			13:20			13:20
13:40	Session M3 BAW Components II 13:30—15:05		13:40	Session T3 SAW components I 13:30—15:05		13:40	Session W3 SAW components III 13:30—14:30		13:40
14:00			14:00			14:00			14:00
14:20			14:20			14:20	Session W4 Closing Session 14:30—15:30		14:20
14:40			14:40			14:40			14:40
15:00	Coffee Break		15:00	Coffee Break		15:00			15:00
15:20			15:20			15:20			15:20
15:40	Session M4 MEMS Resonators 15:30—17:00		15:40	Session T4 Exhibitor Session 15:30—17:00		15:40			15:40
16:00			16:00			16:00			16:00
16:20			16:20			16:20			16:20
16:40			16:40			16:40			16:40
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17:20			17:20			17:20			17:20
17:40			17:40			17:40			17:40
18:00	Welcome Dinner 18:00—21:00		18:00	Conference Banquet 18:00—21:00		18:00			18:00
18:20			18:20			18:20			18:20
18:40			18:40			18:40			18:40
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