2022 ASIA PACIFIC INTERNATIONAL SYMPOSIUM ON
ELECTROMAGNETIC COMPATIBILITY AND TECHNICAL EXHIBITION

FINAL PROGRAM

SEPTEMBER 1-4, 2022
BEIJING INTERNATIONAL CONVENTION CENTER

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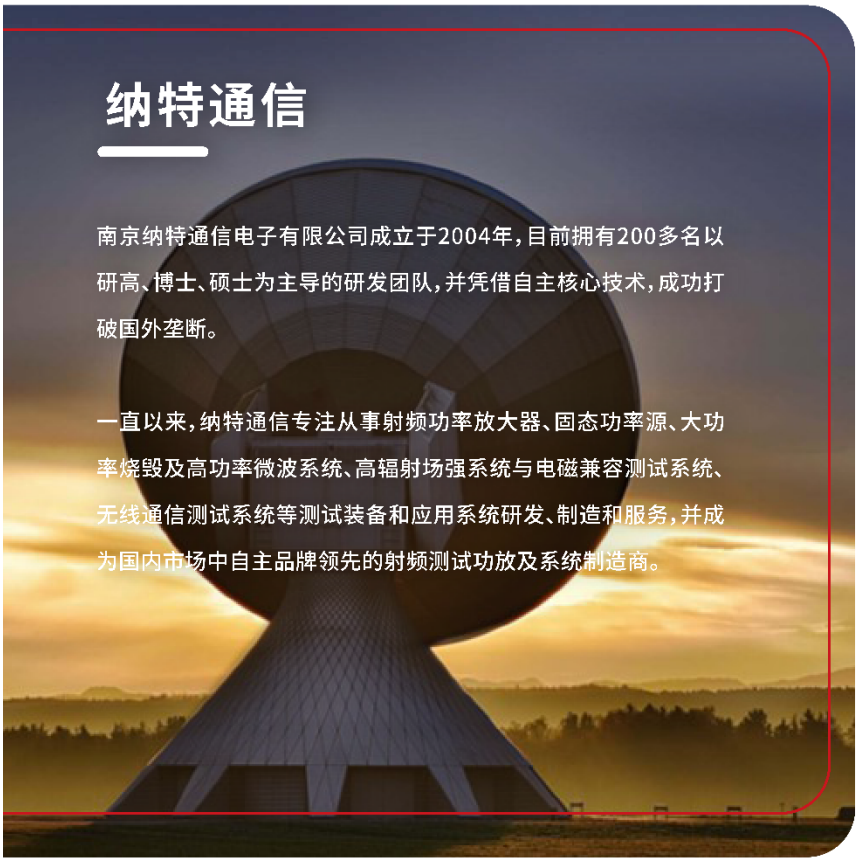

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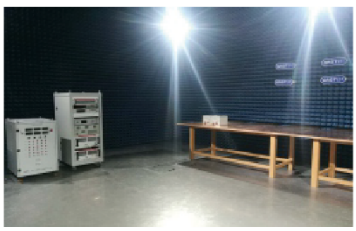

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容向 — 专注于电磁兼容方向

容向（Compliance Direction），寓意为“专注于电磁兼容方向”，专注于电磁兼容（EMC）检测技术的研究、开发和应用，提供覆盖全行业的一站式EMC解决方案。总部位于南京市江宁区，占地2万平方米。在北京、上海、香港等地设有分公司。公司拥有强大的技术团队，掌握包括混响室法等未来主流检测技术，熟悉智能驾驶零部件的EMC检测技术，积极参与国家和国际标准的制订。针对汽车电动化和智能化发展趋势，自主开发的汽车整车抗扰度、新能源汽车电机、电驱总成和氢燃料电池等产品电磁兼容检测仪器及台架，获得多项发明专利授权。

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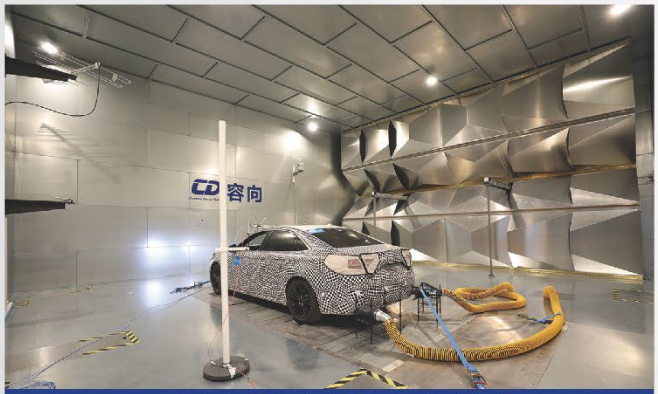

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电科思仪致力于电子测试前沿技术的探索和研究，在微波毫米波、光电、通信、基础测量以及相关技术领域，实现了高端重大科学仪器和通用电子测量仪器的一系列重大技术突破。电科思仪面向全球市场提供拥有自主知识产权的、覆盖高中低端的、系列化的电子测量仪器和元器件产品，同时通过软件开发与系统集成，为用户提供“量身定做”的自动测试解决方案。

电科思仪研发生产的电子测量仪器、自动测试系统、器部件等产品，广泛应用于卫星、通信、导航、雷达、科研、教育等领域，并为载人航天、探月、北斗、光纤通信、移动通信、大飞机制造等国家重大项目提供测试保障，深受广大用户的一致好评和信赖。

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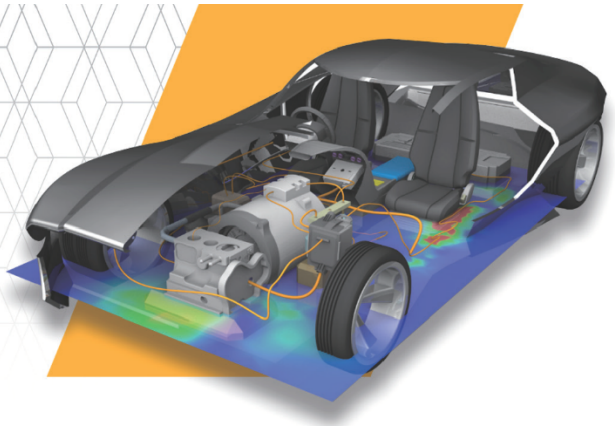
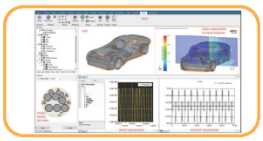
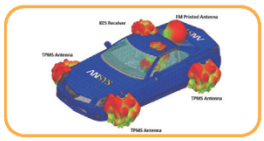
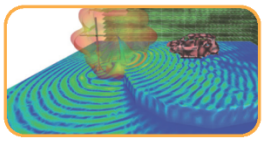
智能网联时代的电磁安全及可靠性



智能汽车对电驱系统EMC及整车多天线布局提出了更高要求。整车级EMC测试标准主要限制定了车载发射器和车外辐射源工作时车辆的EMC性能。车内电子设备数量众多，如电机、变流器、各种天线、ECU等，种类繁多、频谱跨度广、且安装位置多样。如果将EMC问题都压缩在整车的最后设计阶段，则设计者需要付出更多的代价。

Ansys可以实现对EMC问题的全方位、全频段仿真。针对整车系统级EMC问题的，思路是从设计初期开始就对整车结构的EMC风险进行预判，从源头降低EMC辐射，充分利用不同工具和不同数据格式之间的协同，通过设备/线缆布局分析，辐射泄漏路径分析，以及屏蔽、滤波等可能的优化方法，确保整车及其子系统的正常工作，最后再通过虚拟的仿真测试环境验证整车的EMC性能是否能够通过EMC测试标准。

EMC/EMI 的设计和验证

电驱系统EMC仿真	基于GB34660-2017的整车线缆EMC仿真	多天线布局及射频共址问题	基于GB34660-2017的平台级仿真
			

电驱动及器件级仿真SI/PI/EMC仿真

整车级线缆EMC仿真

客户期望	解决方案	回　报
- EMC 测试一次通过如CISPR12/25/36, ISO11451-2 - 减少上市时间和成本 - 了解车辆中的安全关键方面	- 虚拟EMC合规性:准确模拟测试室，轻松创建虚拟环境 - 求解器技术&集成的流程：集成模拟工具链，为 EMC 室中的 ECUs -> EDS -> 天线 ->车辆提供竞争 EMC 解决方案(Ansys SIwave, HFSS, EMA3D Cable)	- 缩短由于EMC合规性引起的30%的上市时间 - 通过减少实验室测试迭代，将测试和设计成本降低至 50% - 在物理样机之前，提前发现车辆级别 EMC 问题

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INVITATION FROM APEMC PRESIDENT AND CHAIRS

The 13th Asia-Pacific International Symposium on Electromagnetic Compatibility & Technical Exhibition (APEMC 2022) is held during the 2022 Beijing EMC Week （www.emcconf.org）in Beijing, China, during September 1 to 4, 2022, shifted from the original dates of May 8-11 due to the latest COVID situation. On behalf of the APEMC 2022 Steering Committee, we are privileged and honored to warmly invite you, your colleagues and families to join us for the flagship event of Asia-Pacific EMC in Beijing, the first city to hold both Sumer and Winter Olympics.

Though the days are shaded by the cloud of COVID-19, the APEMC 2022 receives overwhelming responses from academy, industry, and high-qualified key industrial customers in China and abroad. The APEMC perpetuates a proud tradition that began in 2006 with the first EMC-Zurich in Singapore and the third APEMC in Beijing in 2010. After a lapse of 12 years, it will return to Beijing again. The EMC Symposium will continue the APEMC spirit to engage and address the worldwide EMC community with a primary focus on the Asia-Pacific region, will serve as a bridge, and provide a broad exchange platform for both academia and industry.

The symposium will recognize innovations and technology leaderships through Best Symposium Paper Awards, the Best Student Paper Awards, and other reputable recognitions. The scope of the symposium will encompass the entire spectrum of electromagnetic compatibility, electromagnetic environment, signal integrity, as well as featured EMC in emerging technologies.

In view of the COVID-19, the 2022 APEMC symposium is held in a hybrid mode with online and on-site presentations. We hope the APEMC 2022 Symposium will promote excellence among its members and foster links to the rest of the world.

In addition, the major global key EMC, Microwave, Antenna, and RF Corporations will participate in this influential and professional event, exhibiting their latest products, technologies, whole solutions, innovations, and services. Please come and join us at the APEMC 2022 in Beijing for an outstanding scientific/technical event and an unforgettable experience for you.

Plan ahead and join this unique symposium, meet international colleagues, present your latest research findings, share your insight and perspectives, ask questions, learn from experts and innovators, explore collaborations, visit exhibitions and see new products.

On behalf of the symposium steering committee, we would like to record our appreciation to all the authors, speakers, session organizers, reviewers, sponsors, exhibitors for your strong support of this event. To the Technical Program Committee, the Organizing Committee, and volunteers, may we sincerely thank you for your very hard work and contribution.

Er-Ping Li
APEMC President
EMC Week General Co-Chair

Donglin Su
EMC Week General Chair

Yuanan Liu
EMC Week General Co-Chair

MESSAGE FROM TECHNICAL PROGRAM COMMITTEE CHAIRS

On behalf of the Technical Program Committee (TPC), we warmly welcome you to the 13th Asia-Pacific International Symposium on Electromagnetic Compatibility & Technical Exhibition (APEMC 2022) taking place in the Capital city Beijing, China, during September 1 to 4, 2022!

It is heartening for us to report that despite the pandemic challenges, our APEMC 2022 eventually received more than 300 high-quality full-length as well as abstract papers. These papers brought together the latest R&D results of nearly 750 authors and co-authors from 19 countries and regions across three continents. They covered comprehensively not only traditional topics such as electromagnetic compatibility, electromagnetic environment, electromagnetic safety, electromagnetic standards, but also emerging ones, such as intelligent networked vehicles, electric vehicles, new energy, chip EMC, 5G EMC, and so on.

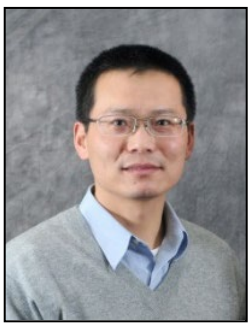
APEMC 2022 will kick-start on Thursday featuring 14 workshop sessions by well-known experts at home and abroad. From Friday to Sunday, 5 parallel sessions will run concurrently. In addition, it will encompass two poster presentation sessions and another dedicated poster session for the best student paper competition. Three keynote speeches by renowned academic and industry experts will debut in the Friday afternoon. Moreover, the symposium will also present two industrial forums. Last but not least, do not miss the technical exhibition in conjunction with the symposium, which will be a star-studded gathering of nearly 50 national and international exhibitors that showcase their latest technologies, products, services and solutions. Please refer to the Program Book for more details.

Prof. Jun Fan, the Editor-in-Chief of the new IEEE Transactions on Signal and Power Integrity (T-SIPI), would like to highlight again: authors with SIPI papers presented at the APEMC 2022 symposium are invited to substantially expand their papers and submit them to the IEEE T-SIPI. The above expanded submissions will be reviewed in the same manner as the journal's regular submissions. Author with papers in other EMC areas presented at APEMC 2022 are also encouraged to expand their manuscripts substantially and then submitted to the IEEE Transactions on Electromagnetic Compatibility or IEEE Letters on Electromagnetic Compatibility Practice and Applications as regular submissions.

Finally, we would like to pay our sincere appreciations to all the heroes who have worked as a team to produce the contents of APEMC 2022 as well as make it meaningful and impactful. They are the sub-committee chairs, special-session and workshop organizers, TPC members, paper reviewers, all the speakers, authors and presenters, session chairs, delegates and participants, exhibitors and sponsors, our volunteers and fellow OC members!

A successful APEMC 2022 is probably the best reward for all of us! We hope that APEMC 2022 will be a memorable moment in your professional journey of learning, sharing and development!

Yours Sincerely,
Technical Program Committee Chairs



Jun Fan

En-Xiao Liu

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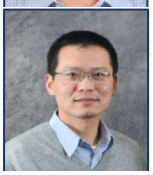

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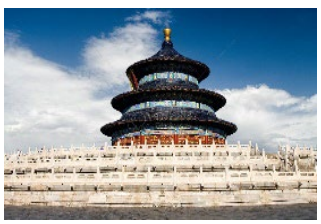
ABOUT BEIJING

As the capital of China, Beijing is the national political, cultural, and educational center as well as the most important center in China for international communication and trade. Beijing is located in the north of China and has an area of 16,410 square kilometers, has a higher northwest and lower southeast parts in topography, and enjoys a continental monsoon climate.

Beijing is an ancient city with a long history, which leaves precious world cultural heritages and treasures to Beijing. Beijing has many well-known historical relics, gardens, museums, and ancient streets as well as Hutong and Sihe courtyard cultures and the world geological parks. All these now have become renowned tourist attractions for visitors from all over the world.

As the global ancient and modern city, Beijing has undergone rapid modernization in recent years, with improvements in livability, institutions, business environment, technological innovation, and overall economic development. Beijing is stable and always maintains a steady improvement in quality, and Beijing is aimed to be further built into the world`s leading citizen-centric city.

Beijing is the host city for the 2022 Winter Olympic and Paralympic Games, and Beijing will become the first city in Olympic history to host both the Summer and Winter Olympic Games.

Olympic Winter Games Beijing 2022

APEMC2022 CONFERENCE VENUE

Beijing International Convention Center (BICC)

北京国际会议中心

The 13th Asia-Pacific International Symposium on Electromagnetic Compatibility (APEMC2022) will be held in Beijing International Convention Center (BICC). Beijing International Convention Center is located in the flourishing Yayuncun area along Beijing's North Fourth Ring Road, where the central axis of the city meets the Fourth Ring Road, and right next to national stadiums like the Bird's Nest and the Water Cube. It's a 20km trip east to the airport, a 9km journey south to Tian'anmen Square, a 10km excursion west to the Summer Palace, and an 80km sojourn north to the Badaling section of the Great Wall. And with the Olympic Village only a stone's throw away, there is no better location in the city from which to base your business trip.

LOCATION OF BEIJING INTERNATIONAL CONVENTION CENTER

北京国际会议中心位置

Beijing International Convention Center

(北京国际会议中心)

Address: No.8, East Bei Cheng Road, Chaoyang District, Beijing 100101, China

http://www.bicc.com.cn

Telephone: +86-10-84985588

TRANSPORTATION

BEIJING WEST RAILWAY STATION - BICC

BY SUBWAY

Option A: Please take subway line 9 from Beijing West Railway Station (北京西站) to South Baishiqiao Station (白石桥南站), and transfer to subway line 6 to Nanluoguxiang Station (南锣鼓巷站), then transfer to subway line 8 to Olympic Sports Center Station (奥体中心站). It takes about 1900 meters by walking from Exit C to BICC.

Option B: Please take subway line 9 from Beijing West Railway Station (北京西站) to South Baishiqiao Station (白石桥南), and transfer to subway line 6, to Dongsi Station (东四站), then transfer to subway line5, to Huixin Xijie Beikou Station (惠新西街北口站). It takes about 1600 meters by walking from Exit A to BICC.

BY SUBWAY AND BUS

Please take subway line 9 from Beijing West Railway Station (北京西站) to National Library Station (国家图书馆站) (Exit B), then transfer to Bus No. 658 towards Jiamingyuan Bus Station direction (嘉铭园公交场站方向) to Asian Games Village (亚运村). It takes about 250 meters by walking to BICC.

BY BUS

Please take Bus No.387 towards Huizhong Dongkou direction (慧忠路东口方向), or take Bus No.694/Bus No.142 towards to Jiamingyuan Bus Station direction (嘉铭园公交场站方向) to North Anhui Bridge (安慧桥北站). It takes about 1200 meters by walking to BICC.

BY TAXI

It takes 40-45 minutes by taxi with distance of 19 km.

BEIJING RAILWAY STATION - BICC

BY SUBWAY

Please take subway line 2 from Beijing Railway Station (北京站) to Qianmen Station (前门站), and transfer to subway line 8 to Olympic Sports Center Station (奥体中心站)(Exit C). It takes about 1900 meters by walking to BICC.

Please take subway line 2 from Beijing Railway Station (北京站) to Chongwenmen Station (崇文门站), and transfer to subway line 5 to Huixin Xijie Beikou Station (惠新西街北口站)(Exit A). It takes about 1600 meters by walking from Exit A to BICC.

BY BUS

Please take a 570 meters' walk to Front Street Station of Beijing Railway Station（北京站前街站） and take Bus No.142 towards Yanhuang Art Museum direction (炎黄艺术馆方向) to North Anhui Bridge Bus Station (安慧桥北站). It takes about 1200 meters by walking to BICC.

BY TAXI

It takes 35-40 minutes by taxi with distance of 18 km.

BEIJING SOUTH RAILWAY STATION - BICC

BY SUBWAY

Please take subway line 14 from Beijing South Railway Station (北京南站) to Yongdingmenwai Station (永定门外站), and transfer to subway line 8 to Olympic Sports Center Station (奥体中心站)(Exit C). It takes about 1900 meters by walking to BICC.

Please take subway line 14 from Beijing South Railway Station (北京南站) to Puhuangyu Station (蒲黄榆站), and transfer to subway line 5 to Huixin Xijie Beikou Station (惠新西街北口站)(Exit A). It takes about 1600 meters by walking to BICC.

BY BUS

Please take Bus No.20 towards East Beijing Railway Station direction (北京站东方向) to Dashanlan Bus Station (大栅栏站), and transfer to Bus No. 141 towards North Time Garden direction (时代庄园北站方向) to North Anhui Bridge Bus Station (安慧桥北站). It takes about 1200 meters by walking to BICC.

BY TAXI

It takes 45-50 minutes by taxi with distance of 23 km.

BEIJING DAXING INTERNATIONAL AIRPORT – BICC

BY SUBWAY AND BUS

Please take Daxing Airport subway line and get off at Caoqiao Station (草桥站) and transfer to subway line 19 to Peony Station (牡丹园站)(Exit F), then walk about 350 meters to take Bus No.645 towards East National Stadium direction (国家体育场-鸟巢方向), and get off at Asian Games Village Bus Station (亚运村站). It takes about 650 meters by walking to BICC.

Please take Daxing Airport subway line and get off at Caoqiao Station (草桥站) and transfer to subway line 19 to Peony Station (牡丹园站)(Exit D), then walk about 390 meters to take Bus No.658 towards to Jiamingyuan Bus Station

direction (嘉铭园公交场站方向) to Asian Games Village Bus Station (亚运村站). It takes about 650 meters by walking to BICC.

BY AIRPORT BUS AND PUBLIC BUS

Please take Daxing Airport Bus Line towards Zhongguancun direction (中关村方向) and get off at Zhongguancun Station (中关村站) and walk about 100 meters to West Baofushi Bridge Bus Station (保福寺桥西站), then take Bus line No. 400 Inner Ring towards Beijing City University direction (400 路内环)(北京城市学院方向) to Asian Games Village Bus Station (亚运村站). It takes about 500 meters by walking to BICC.

BY TAXI

It takes 70-80 minutes by taxi with distance of 67 km.

BEIJING CAPITAL INTERNATIONAL AIRPORT - BICC

BY SUBWAY

From Airport Terminal 3: Please take Capital Airport subway line towards airport terminal 2 direction and get off at Beixinqiao Station (北新桥站), then transfer to subway line 5 to Huixin Xijie Beikou Station (惠新西街北口站)(Exit A). It takes about 1600 meters by walking to BICC.

From Airport Terminal 2: Please take Capital Airport subway line towards Sanyuanqiao direction (三元桥方向) and get off at Beixinqiao Station (北新桥站), then transfer to subway line 5 to Huixin Xijie Beikou Station (惠新西街北口站)(Exit A). It takes about 1600 meters by walking to BICC.

BY TAXI

It takes 45-50 minutes by taxi with distance of 25 km.

BEIJING 2022
Applicant City

BEIJING INTERNATIONAL CONVENTION CENTER NEARBY MAP & ATTRACTIONS

BEIJING SUBWAY MAP

ACCOMMODATION

Special rates will be provided for APEMC2022 delegates at the hotels listed on the symposium web. For hotel reservations, please refer to the conference website http://www.apemc.org.

Beijing Continental Grand Hotel (****)
北京五洲大酒店（四星）

Address: No.8 Beichen Dong Road, Chaoyang District, Beijing P. R. China 100101

Beijing Continental Grand Hotel is a comfortable and convenient 4-star hotel with 531 rooms and many different types of rooms, restaurants of unique style, and multi-functional conference rooms. The restaurants can provide featured foods, like Chinese and western style cuisines and Japanese teppanyaki. The hotel is connected to the Beijing International Convention Centre, which is 2-3 minutes' walk distance. http://www.bcghotel.com

North Star Huiyuan Prime Hotel (****)
北辰汇园酒店公寓贵宾楼（准 5 星）

Address: No.8 North Star East Road, Chaoyang District, Beijing, China

Beijing North Star Huiyuan Prime Hotel located in the famous Asian games village in Beijing, the North Star Huiyuan Prime Hotel is only one road way from the China National Stadium-Bird's Nest and China National Aquatics Center-Water Cube, and 15 minutes' walk away from the Conference News Center and the main venue. The hotel is a high-grade hotel and apartment product elaborately built according to the facilities level and service standard of a five-star hotel. The North Star Huiyuan Prime Hotel has a total of 342 guest rooms, which are geared to different business, tourism, and conference markets.

The North Star Huiyuan Prime Hotel is equipped with the restaurant, lobby bar, conference room, business center, fitness club, and reading room. Rongshuyuan restaurant in the Prime Hotel can supply delicious dishes and can accommodate 160 people at the same time, with 5 high-grade private rooms, providing an excellent place for business banquets, friends, and relatives.

By virtue of high-quality guest rooms, high-level service, and high-grade supporting facilities, the Prime Hotel enables the guests staying there to experience a warm, comfortable, private, and convenient wonderful enjoyment.

In 2016, North Star Huiyuan Prime Hotel won the "Crystal Award", the highest award of China hotel association. http://www.huiyuangongyu.com.cn

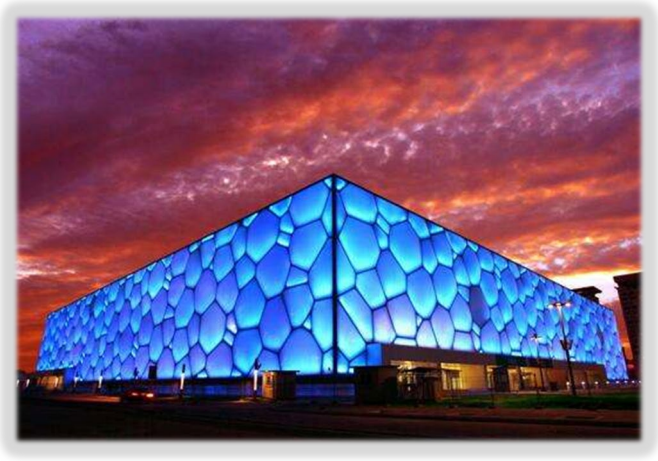
North Star Yayuncun Hotel (***)
北辰亚运村宾馆（三星）

Address： No.8 North Star East Road, Chaoyang District, Beijing, China

North Star Yayuncun Hotel belongs to Beijing Beichen Industrial Co., LTD. It is a three-star tourism hotel assessed by Chaoyang District Tourism Commission. The hotel is located in the Asian Games Village, North Fourth Ring Road, Chaoyang District, Beijing, only one road away from the National Stadium (Bird's Nest), and 1.3 kilometers away from the Water Cube as the crow flies. It is the core of the Asian Games Village Central Business District, Zhongguancun, BICC, and CNCC. It is 19.5 kilometers away from the Capital Airport, 13.1 kilometers from The Beijing West Railway Station, and 8.5 kilometers from the Forbidden City. Subway Line 5, Line 10, and Line 15 run through the city, and the transportation lines are easily accessible.

North Star Yayuncun Hotel consists of A, B, C three buildings, with A total of 502 sets of rooms from standard rooms to three-room suites, 380 sets of common post-meeting rooms. The room is equipped with standard guest beds, satellite TV (can receive TV programs from more than 50 countries and regions including China), free WIFI, 24-hour hot water, etc. It can meet the different accommodation needs of individual business travelers, conference and exhibition groups at home and abroad.

http://www.huiyuangongyu.com.cn



BICC NEARBY SHOPPING CENTERS, RESTAURANTS AND FOOD

XIN CHEN LI SHOPPING CENTER

Address: No.8, East Beichen Rd., Chaoyang, Beijing

RESTAURANTS AND FOOD

WANG STEAK
CHUSE SEAFOOD SELF-SERVICE HOT POT
LALQILA WESTERN FOOD
JUQI BEIJING ROAST DUCK
HUIZHOU TOWN
FENGMAO BBQ SKEWERS
CHONGQING NOODLE
XIBEI OAT NOODLE VILLAGE
HAIDILAO HOT POT
THE BURGER KING
HEFU NOODLE
HELINGGU FAST FOOD
HEYTEA
XIABU XIABU
BEN GONG`S TEA
.....

XINAO SHOPPING CENTER

Address: 9-11, East Hujing Road, Chaoyang, Beijing

RESTAURANTS AND FOOD

XIAODIAO PEAR SOUP
FUCHUANJIANG RESTAURANT
AMAZINGTHAI
JINGBA BEIJING ROAST DUCK
ULTRA-FRESH SENSE
YAOYAO BOILED FISH WITH SICHUAN PICKLES
NEW YORKER STEAK & SALAD
TASTE LANZHOU CUISINE
SHAOHEJI CRAB MEAT STEAMED BUNS
SPEED PIZZA
ORIENTAL DUMPLING
NADU HOT-SPICY POT
STARBUCKS
SUBWAY
COSTA COFFEE
……

REGISTRATION HOURS/FLOOR PLAN

Admission to all sessions and hosted functions requires the symposium attendance identification. Please wear your name badge at all times.

Onsite Registration time

☐ Aug. 31 afternoon, Wednesday 2:00 pm - 6:00 pm
☐ Sept. 1-4, Thursday to Sunday 7:30 am - 6:00 pm

Onsite Registration Location

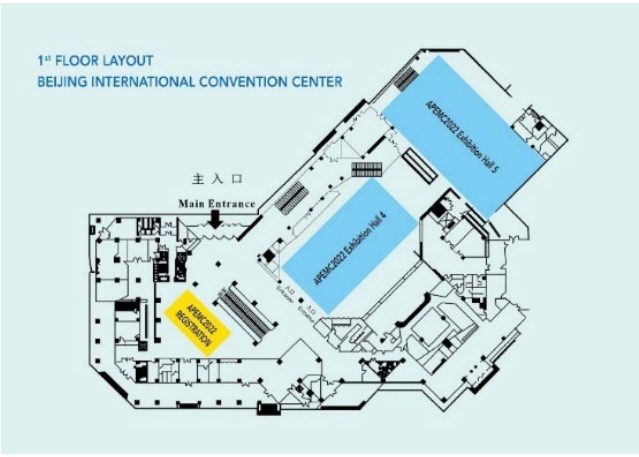
BICC Lobby, 1st Floor, Beijing International Convention Center (北京国际会议中心),
No.8, East Bei Cheng Road, Chaoyang District, Beijing 100101

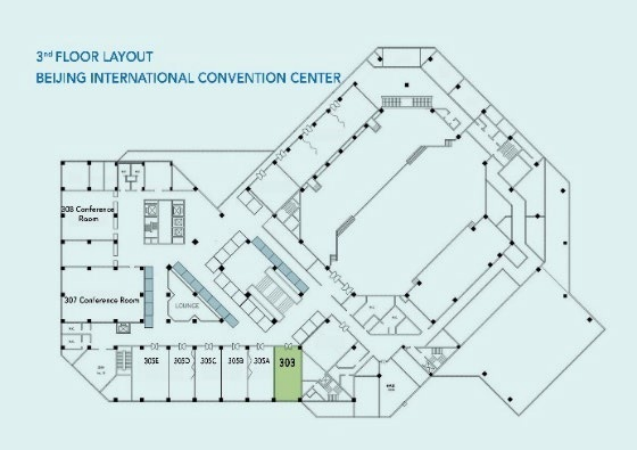
Floor Plan –1st & 3rd Floor of BICC:

Exhibition Hall and Meeting Rooms

Opening ceremony & Keynote Speeches (开幕式及大会报告)	Convention Hall No.2, 2nd Floor（2 楼第二会议厅）
Workshops (专题研讨)	305A, 305B, 305C, 305E , 3rd Floor (3 楼 305ABC 会议室); Convention Hall No.2, 2nd Floor（2 楼第二会议厅）
Parallel sessions (分会场)	305A, 305B, 305C, 305D, 305E, 3rd Floor (3 楼 305ABCD 会议室)
Poster Sessions (论文张贴)	Poster Sessions Area, 3rd Floor (3 楼论文张贴区)
Exhibition Hall (展览厅)	Exhibition Hall No.4 & Hall No.5, 1st Floor (1 楼第 4&5 展厅)
Secretariat Room (秘书室)	303, 3rd Floor (3 楼 303 会议室)

LAYOUT OF 1ST FLOOR, 2ND FLOOR AND 3RD FLOOR BEIJING INTERNATIONAL CONVENTION CENTER





INSTRUCTIONS FOR PRESENTERS

Oral Presentation

Prepare Your Presentation

Each oral presentation is limited to 20 minutes including questions and answers. The length of the presentation material should be in accordance with your time allotted. You are requested to load your Power Point presentation materials before the session starts.

Determine Your Audio Visual Needs

All meeting rooms are equipped with the following audio-visual equipment:
1-LCD Projector
1-Windows-based PC
1-Screen
1-Laser Pointer

The computers in the meeting rooms are being provided to Windows-based PC users. The PC will be configured with Microsoft Windows operating system as well as with Microsoft Office.

Create a Backup Copy of Your Presentation

We recommend you bring at least 2 copies of your presentation to the meeting in case there is a problem with one of them. Thumb Drive and hard disk are accepted.

Give Your Presentation

☐ Be considerate of the other speakers and audience by staying within your allocated time. The allocated time for your presentation includes a discussion and changeover to the next speaker. Session Chairs will hold you to the allotted time. This is essential to ensure adequate time for questions and discussion as well as adherence to the schedule.
☐ Please discuss the same materials as reported in your paper submission. At the end of the meeting, all presentation files will be destroyed.

Interactive Forum (Poster) Presentation

Poster sessions will be held at Poster Sessions Area at 2nd Floor.
Please register at the Registration Desk before proceeding to locate your assigned poster board. To locate your assigned poster board, look for the board marked with your Paper ID.

Prepare your poster

☐ Each presenter is provided with a 2.4 meter × 1 meter poster board.
☐ The presentation must cover the same material as the paper.
☐ Place the title of your paper and your paper number prominently at the top of the poster to allow viewers to identify your paper easily. Indicate 1) the paper's identification number, 2) title, and 3) authors' names.
☐ Highlight the authors' names, e-mail, and address information in case the viewer is interested in contacting you for more information.
☐ You have complete freedom in displaying your information in figures, tables, text, photographs, etc. in the poster.
☐ Include the background of your research followed by results and conclusions. A successful poster presentation depends on how well you convey information to an interested audience.

Set-up Your Poster

- ☐ Posters should be set up half an hour earlier for the respective Interactive Forum sessions.
- ☐ Please make sure that your paper number is clearly visible on your poster board.
- ☐ Presenters are required to be at their posters during their scheduled Open forum session.
- ☐ Tapes and other materials are available at the Information Desk, nearby the poster boards.

Remove Your Poster

Posters must be removed after the respective Open Forum sessions within an hour. Posters remaining after these times will be removed. APEMC organizer will not be responsible for posters and materials left on poster boards after the stated hours.

Information Desk

Staff at the Information Desk will be available to assist you with location and other on-site needs. Tapes and scissors will be available for your use. If you have special needs for your poster presentation, please bring those supplies with you to the meeting.

PROGRAM OVERVIEW AND HIGHLIGHTS

Symposium Web: www.apemc.org

Symposium Hours
September 1-4, 2022, 8:30am - 6:00pm

September 1 – Thursday

- ☐ Workshops
- ☐ Booth Dressing for Exhibitors (Exhibition Hall No.4 & Hall No.5, 1st Floor, BICC)
- ☐ Welcome Reception

September 2– Friday

- ☐ Official Opening Ceremony and Keynote Speeches
- ☐ Special Sessions
- ☐ Parallel Technical Sessions
- ☐ Topical Meeting
- ☐ Industry Forum
- ☐ Technical Exhibition

September 3 – Saturday

- ☐ Best Student Paper Competition
- ☐ Special Sessions
- ☐ Parallel Technical Sessions
- ☐ Workshop
- ☐ Interactive Poster Sessions
- ☐ Technical Exhibition
- ☐ Banquet Dinner

September 4 – Sunday

- ☐ Special Sessions
- ☐ Parallel Technical Sessions
- ☐ Industry Forum
- ☐ Workshop
- ☐ Technical Exhibition

SYMPOSIUM SPECIAL EVENTS

Welcome Reception

September 1, Thursday
6:30pm – 9:00pm
Venue: **Banquet Hall, 2nd Floor, Beijing Continental Grand Hotel（五洲大酒店二层宴会厅）**

Warm welcome all Asia-Pacific EMC Symposium participants to mingle with each other while enjoying light food and drinks during the welcome reception. Take the opportunity to interact with old friends and network with new friends. The full registration package includes the welcome reception.

Symposium Banquet Dinner and Award Presentations

September 3, Saturday
7:00pm - 9:00pm
Venue: **Convention Hall No.2, 2nd Floor, Beiijing International Convention Center（北京国际会议中心二层会议厅）**

Best Student Papers and Best Symposium Papers will be announced and other awards will be presented during the Symposium Banquet Dinner. The award presentations include:

- Best Student Paper Awards

- Best Symposium Paper Awards

- Best Abstract Award

- Certificates of Sponsorship Appreciation

- APEMC Outstanding Young Scientist Award

KEYNOTE SPEECHES

KEYNOTE SPEECH I

TITLE	**Trends and Challenges of Electromagnetic Compatibility to Electromagnetic Safety**
TIME	2:00pm – 2:40pm, September 2nd
VENUE	Convention Hall No. 2, Level 2, BICC
SPEAKER	Prof. Donglin Su 工程院院士, Beihang University

BIOGRAPHY:

Prof. Donglin Su is with the School of Electronics and Information Engineering, Director of Institute of EMC Technology of Beihang University, Director of Key Laboratory of Electromagnetic Environmental Effects of Intelligent System and Equipment (Ministry of Industry and Information Technology), and a Visiting Scholar with the Department of Electrical Engineering, University of California, Los Angeles (UCLA). Prof. Su also serves as the Chair of IEEE APS Beijing Chapter, the Deputy Chair of Antennas Society, Chinese Institute of Electronics, etc. In 2019, she was elected as Academician of the Chinese Academy of Engineering. Prof. Su has long been engaged in the research of electromagnetic compatibility and engineering application, and she leads more than 30 major projects in electromagnetic compatibility. She was awarded a first prize of State Technological Invention Award, two second prizes of National Science &Technology Progress Award. She holds 38 invention patents and published 72 scientific papers in peer reviewed international journals. Prof. Su enjoys the special governmental allowance from the State Council of China. She was awarded the titles of National Women's Pacesetter, National May 1st Labour Medal, Outstanding Young University Teachers in Beijing, etc.

KEYNOTE SPEECH II

TITLE	**Chip Design from Evolution to Innovation**
TIME	2:40pm – 3:20pm, September 2nd
VENUE	Convention Hall No. 2, Level 2, BICC
SPEAKER	Dr. Xiaoning Qi Vice President (阿里巴巴集团副总裁), Alibaba Group

ABSTRACT:

In the era of Smart Everything, devices are getting smarter, and everything is connected, anywhere and anytime. Chip design is at the heart of the innovations that are changing the way we work and live. New applications, services, and workloads increasingly demand a different kind of chips which need to keep up with the evolving requests of organizations as they adopt the cloud and the edge computing solutions.

BIOGRAPHY:

Xiaoning Qi is the Vice President of Alibaba Group. Previously, he held senior management and technical positions in companies such as Intel, designing integrated circuits and systems. He sits on the board of directors at several international organizations, including RISC-V International Association, CHIPS

Alliance, OpenHW, EEMBC, etc. He is a member of Global Semiconductor Alliance (GSA) Advisory Board, a member of GSA Asia-Pacific Leadership Council and GSA CEO Council. He has published more than fifty technical papers, a book, and has delivered over three dozen invited talks. He holds two US patents. Xiaoning received his Ph.D. degree in Electrical Engineering from Stanford University.

KEYNOTE SPEECH III

TITLE	**Mega Trends in EMC Testing**
TIME	3:20pm – 4:00pm, September 2nd
VENUE	Convention Hall No. 2, Level 2, BICC
SPEAKER	Ms. Christina Geßner Vice President （副总裁）, Rohde & Schwarz, Germany

ABSTRACT:
Complexities in modern electronics continue to grow rapidly in all markets – be it consumer, medical, automotive, industrial, aerospace or military. The interference-free coexistence of numerous electrical and radio products cannot be taken for granted. Only targeted measures for EMC testing & suppression can ensure a safer & more reliable connected world.
At Rohde & Schwarz, we work every day to deliver innovative test solutions in close collaboration with our customers, partners, and standardization bodies. This keynote will discuss the latest trends influencing EMC & interference testing & how to prepare for current & future industry challenges.

BIOGRAPHY:
Christina Geßner is Vice President at Rohde & Schwarz, Germany, leading the spectrum and network analyzer, and EMC & antenna test departments in the test and measurement division. Previous to her current role, from 2004 until 2018, she held various positions in test and measurement at Rohde & Schwarz, initially in strategic marketing, followed by application development, product management, and product development. She began her career with Siemens mobile communications, representing the company as delegate to the 3GPP standardization process for UMTS and GSM/EDGE from 1998 – 2004. She holds a degree in RF engineering from the University of Hanover, Germany.

LIST OF WORKSHOPS WITH ORGANIZERS

SN	Full Title of Workshops	Organizers	Program/Session Code
WS1	Radio Frequency Interference for 5G/IoT	Jun Fan, Chulsoon Hwang	[WS1] 5G RFI
WS2	Automotive Test Methodologies for Performance Verification of Modern Vehicles	Janet O'Neil, Garth D'Abreu	[WS2] Auto Test
WS3	Recent Advances in Electrostatic Discharge Testing and Electromagnetic Pulse Characteristics	Adrian Matoi, Renato Henz, Jingyu Han	[WS3] ESD
WS4	Artificial Intelligence Inspiring the Electromagnetic Wave	Da Li, Ling Zhang	[WS4] AI for EM
WS5	EMC of Smart Electric Vehicles	Xinghai Zhang, Jun Fan, Erping Li	[WS5] Auto EMC
WS6	Effective Usage of EMC Antennas for Calibration and EMC Chamber Site Validation	Janet O'Neil, Zhong Chen	[WS6] EMC Meas
WS7	Modeling and Active Mitigation of EMI for High Power Electronics	Dong Jiang, Hong Li, Xuejun Pei	[WS7] Power Electronics
WS8	Data Comparison in EMC	Alistair Duffy, Gang Zhang	[WS8] FSV
Industry form I	Appropriate weighting of interference is the key for adequate radio protection	Jens Medler	Sept 2, 4:20pm Hall No.2
Industry form Ⅱ	EMC for Automotive and Electronic Power System	Yawei He	Sept 4, 1:30pm Room 305C

OVERVIEW OF WORKSHOP PROGRAM

Date	Time	AM/PM	Room 305A	Room 305B	Room 305C	Room 305E	Convention Hall No.2
Sept. 1 (TH)	08:40am-10:20am	AM1	[WS1] 5G RFI	[WS2] Auto Test	[WS4] AI for EM		
	10:20am-10:40am		Tea Break				
	10:40am-12:20pm	AM2	[WS1] 5G RFI	[WS2] Auto Test	[WS4] AI for EM		
	12:20pm-01:30pm		Lunch				
	01:30pm-03:30pm	PM1	[WS1] 5G RFI	[WS3] ESD	[WS5] Auto EMC		
	03:30pm-03:50pm		Tea Break				
	03:50pm-05:50pm	PM2	[WS1] 5G RFI	[WS8] FSV	[WS5] Auto EMC		
Sept. 2 (FR)	04:20pm-05:20pm						Industry Forum I by Jens Medle
Sept. 3 (SA)	08:40am-10:20am					[WS6] EMC Meas	
Sept. 4 (SU)	01:30pm - 05:50pm				Industry Forum II by Yawei He 01:30-3:30pm	[WS7] Power Electronics 03:50-05:50pm	

[WS1] Radio Frequency Interference for 5G/IoT

WORKSHOP WS-1	**Radio Frequency Interference for 5G/IoT**
TIME	8:40am - 5:50pm, September 1st
VENUE	Room 305A
ORGANIZER	Jun Fan, Missouri University of Science and Technology Chulsoon Hwang, Missouri University of Science and Technology
SPEAKER	Prof. Jun Fan, Missouri S&T Prof. Chulsoon Hwang, Missouri S&T Prof. Chulsoon Hwang, Missouri S&T Hwanwoo Shim, Samsung Electronics Bin-Chyi Tseng, ASUS Guanghui Liu, Vivo Kaixiang Zhu, Honor Weipeng Dai, Oppo

ABSTRACT:
Radio-frequency interference is becoming a critical challenge in device and sensor designs used for wireless communications and IoT. Any RF antenna used as a radio receiver can easily pick up the unintended electromagnetic noise from ICs, cable, and interconnects, resulting in significant performance degradation. With the emerging 5G wireless and IoT, mitigation of RF interference in the physical layer is essential in ensuring normal operations of RF devices and sensors, especially in complex electromagnetic environment. This workshop will cover both the fundamentals and practical implications of RF Interference. Methodologies in terms of analysis, debugging, modeling and measurements will be discussed.

TALKS:

Overview of RF Interference and First-Hand Evaluation Using OTA Results
Prof. Jun Fan, Missouri S&T

RF Interference Modeling and Mitigation in Wireless Devices
Prof. Chulsoon Hwang, Missouri S&T

Nonlinearity-Related RF Interference and Nonlinearity Evaluations for Component-Level Compliance
Hanfeng Wang, Google

Intra-System EMC problems in mobile devices
Hwanwoo Shim, Samsung Electronics

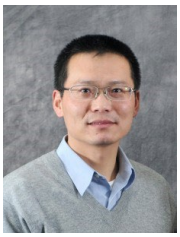
Mechanism and Validation of USB 3.0 Connector Caused RFI
Bin-Chyi Tseng, ASUS

Identification and Quantification of TRX Issues in Terminal Products
Guanghui Liu, Vivo

Study on Interference and Susceptibility Characteristics of MIPI in Terminal Products
Kaixiang Zhu, Honor

A Method to Mitigate LCD-Related EMI Issues in Cell Phone by Modeling Simulations
Weipeng Dai, Oppo

BIOS OF ORGANIZERS & SPEAKERS



Jun Fan (S'97-M'00-SM'06-F'16) received his B.S. and M.S. degrees in Electronic Engineering from Tsinghua University, Beijing, China, in 1994 and 1997, respectively. He received his Ph.D. degree in Electrical Engineering from the University of Missouri-Rolla in 2000. From 2000 to 2007, he worked for NCR Corporation, San Diego, CA, as a Consultant Engineer. In July 2007, he joined the Missouri University of Science and Technology (formerly University of Missouri-Rolla), and became tenured Professor in 2016. From October 2018, he was the Cynthia Tang Missouri Distinguished Professor in Computer Engineering. He served as the Director of the Missouri S&T EMC Laboratory, and the Director of the National Science Foundation (NSF) Industry/University Cooperative Research Center (I/UCRC) for Electromagnetic Compatibility (EMC) from 2013. He was a Senior Investigator of Missouri S&T Material Research Center as well. His research focuses on hardware design and fundamental research for electromagnetic compatibility (including signal and power integrity) at the levels of integrated circuit, package, PCB and system, and development of specialized design tools and innovative measurement technologies. In the IEEE EMC Society, Dr. Fan served as a member of the Board of Directors, the Chair of the Technical Advisory Committee, the chair of the TC-9 Computational Electromagnetics Committee, and a Distinguished Lecturer. He currently is the inaugural Editor in Chief for the IEEE Transactions on Signal and Power Integrity, and an associate editor for the IEEE Transactions on Electromagnetic Compatibility. He was Technical Paper Chair and Technical Program Chair for a few IEEE International Symposia on EMC, General Chair for IEEE International Conference on Signal and Power Integrity, founding chair for the SC-4 EMC for Emerging Wireless Technologies Special Committee, and so on. Dr. Fan received an IEEE EMC Society Technical Achievement Award in August 2009.

Chulsoon Hwang received the B.S., M.S., and Ph.D. degrees in electrical engineering from the Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea, in 2007, 2009, and 2012, respectively.

He was with Samsung Electronics, Suwon, South Korea, as a Senior Engineer from 2012 to 2015. In July 2015, he joined the Missouri University of Science and Technology (formerly University of Missouri-Rolla), Rolla, MO, USA, where he is currently an Assistant Professor. His research interests include RF desense, signal/power integrity in high-speed digital systems, EMI/EMC, hardware security, and machine learning.

Dr. Hwang was a recipient of the AP-EMC Young Scientist Award, the Google Faculty Research Award and Missouri S&T's Faculty Research Award. He was a co-recipient of the IEEE EMC Best Paper Award the AP-EMC Best Paper Award, and a two-time co-recipient of the DesignCon Best Paper Award.

Hanfeng Wang received the B.S. and M.S. degrees in electronic engineering from Tsinghua University, Beijing, China, in 2005 and 2008, respectively, and the Ph.D. degree in electrical engineering from Missouri University of Science and Technology (formerly University of Missouri-Rolla), Rolla, USA, in 2012. From 2012 to 2015, he was a Signal Integrity Engineer with Apple. From June 2015 to July 2017, he joined Microsoft as a Senior Electrical Engineer, and since July 2017, he has been the Signal Integrity Engineer and recently became the team lead in Google's consumer hardware division. His current research interests include signal integrity, power integrity, and electromagnetic interference in high-speed digital systems. He is an active Senior member of IEEE and is serving as the vice chair for TC10 (focusing on signal and power integrity) of the IEEE EMC Society.

Hwanwoo Shim joined Samsung Electronics in MX division(former Mobile Business division) in 2004 and worked as a project leader for commercial smartphone development. In 2013, he moved to hardware engineering group, where he has been responsible for CAE modeling of RF and EMC issues. Also included are the In-House tool development for automations and On-premise HPC sever farm. Recently, he focuses on modeling troublesome issues, which have been solved on trial-and-error bases.

He received Ph.D. degree from University of Missouri-Rolla(Currently, Missouri University of Science and Technology) and M.S. degree from Korea Advanced Institute of Science and Technology in 2004 and 1994, respectively. His research interests are SI/PI simulation, noise modeling, system-level RF simulations.

Bin-Chyi Tseng (M'95–SM'20) double majored in communication engineering and management science. He received B.S. and B.S.M. degrees at the same year 1994, and the M.S. and Ph.D. degrees in communication engineering all from the National Chiao Tung University, Hsinchu, Taiwan, in 1996 and 2004, respectively.

From 1996 to 2001, he was an RF circuit engineer with the Computer and Communication Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan, where he developed multilayer RF components and modules. In 2001, he joined Walsin Technology Corp., where he developed low-temperature co-fired ceramic RF components and miniaturized WiFi/BT modules. In 2005, he joined the Department of Electrical Engineering, Feng Chia University, Taiwan, as an Assistant Professor. In March 2013, he joined ASUSTek Computer Inc., Taipei, Taiwan, and is currently a Division Director with the Advanced EM Technical Division. His research interests include signal/power integrity, radio frequency interference designs in high-speed digital systems, design of various electromagnetic compatibility components, numerical simulations, and multilayer RF circuits.

Guanghui Liu has 16 years of working experience in EMC, and is currently an EMC leader in Vivo Mobile Company. His field is on EMC design, simulation, hands-on methodology study, and troubleshooting. He skilled in intra and inter system interference along with EMC-relevant reliability design.

Kaixiang Zhu received the B.S. degree and the Ph.D. degree from Beihang University, Beijing China, in 2013 and 2019. He is currently a Senior Engineer with Honor Device, working towards RF interference, susceptibility of multimedia module and other EMC problem in terminal products.

Weipeng Dai received the B.S. degree from Xidian University, Xi'an China, in 2009. He is currently an EMC director with OPPO, working towards new EMC protection scheme, RF interference, and other EMC problems in terminal products.

[WS2] Automotive Test Methodologies for Performance Verification of Modern Vehicles

WORKSHOP WS-2	**Automotive Test Methodologies for Performance Verification of Modern Vehicles**
TIME	8:40am - 12:20am, September 1st
VENUE	Room 305B
ORGANIZER	Janet O'Neil, ETS-Lindgren Garth D'Abreu, ETS-Lindgren
SPEAKER	Mr. Garth D'Abreu, ETS-Lindgren, Cedar Park, Texas, USA Mr. Zhong Chen, ETS-Lindgren, Cedar Park, Texas, USA Mr. Yuanliang Peng, China Automotive Engineering Research Institute Co., LTD/ EMC Test Department, China

ABSTRACT:

Automotive EMC Technology continues to dramatically move forward with the growing acceptance of vehicles with increasing levels of automated assistance features as well as the ongoing development of increasing levels of autonomy. At the same time, there is the ever-present concern about the dependability and inherent safety of vehicles with sophisticated levels of advanced driver assistance systems (ADAS). ADAS features, including adaptive cruise control, autonomous emergency breaking, lane departure warning systems, and blind spot warning, to name a few, are standard features drivers have come to expect, some of which will soon become mandatory in the European Union. Connectivity is also becoming a more prevalent component of the increasingly autonomous vehicle. The presentations in this workshop will address the importance of full vehicle antenna passive and over-the-air (OTA) testing to assess communication performance under representative conditions. A review will be provided of the latest methodologies for radar testing on full vehicles and components to address performance concerns. The latest trends in automotive test environments, such as reverberation and anechoic chambers, will be discussed with recommendations provided for the optimal chamber type for the specific application.

Attendees of this workshop will learn about the latest challenges facing automotive OEMs. Those that design automotive EMC/Antenna Pattern Measurement (APM) test chambers, and offer commercial automotive EMC/APM and OTA test services, will also benefit from the developing solutions to these challenges presented.

The workshop presents different perspectives – both current and future – on modern Automotive EMC/APM Technology.

TALKS:

Implementing Vehicle Level Measurements for Advanced Driver Assistance Systems

Mr. Garth D'Abreu, ETS-Lindgren, Cedar Park, Texas, USA

Test Procedures to Assess the Immunity of Automotive Electronics by the Use of Near-Field Probes

Dr. Xinglong Wu, Politecnico di Milano, Milan, Italy

Chamber Design Considerations for EMC and Antenna Pattern Measurements of Full Vehicles *by Mr. Zhong Chen, ETS-Lindgren, Cedar Park, Texas, USA*

Advances in the Intelligent Connected Vehicles EMC Test Standardization in China-SAE
Mr. Yuanliang Peng, China Automotive Engineering Research Institute Co., LTD/ EMC Test Department, China

BIOS OF ORGANIZERS & SPEAKERS

Garth D'Abreu is the Director, Automotive Solutions at ETS-Lindgren based at the corporate headquarters office in Cedar Park, Texas. He has primary responsibility for the design and development functions worldwide within the Systems Engineering group, specializing in turn-key solutions for Automotive EMC and Wireless test integration. Some of these more complex full vehicle and electronic sub-assembly (ESA) test chambers involve his coordination with the RF engineering team on custom components, and the certified, internal Building Information Modeling (BIM) team at ETS-Lindgren. Due to his considerable industry experience, he is the ETS-Lindgren global subject matter expert responsible for the ongoing research and development of Automotive EMC / Wireless test chambers for Regular, Electric/Hybrid Electric and Autonomous Vehicles, focusing on combination anechoic chambers, reverberation chambers, GTEM cells, EMP protection applications and wireless device test systems. Mr. D'Abreu is a Senior Member of the IEEE EMC Society and is designated as a Distinguished Lecturer (2022-2023) by the Society. He and active participant in standards development, including the SAE, ISO and CISPR D automotive EMC standards, with over 30 years of experience in the RF industry. Mr. D'Abreu holds a BSc degree in Electronics & Communications Engineering, from North London University, UK. He may be reached at garth.dabreu@ets-lindgren.com.

Janet O'Neil is a customer relations specialist with ETS-Lindgren. She has over 30 years of experience in the RF and Electromagnetic Compatibility (EMC) industries. She is a member of the Board of Directors of the IEEE EMC Society and a past member of the Antenna Measurement Techniques Association (AMTA) Board of Directors. Janet is a member of Subcommittee 1 (Techniques and Development) of ANSC C63®, and is chair of the 2022 IEEE International Symposium on EMC in Spokane, WA; was vice-chair of the 2011, 2018, and 2019 IEEE International Symposiums on EMC; and a member of the organizing committee for the IEEE International Microwave Symposium (IMS) 2013 in Seattle, Washington - where she organized a Wireless Industry Day special session - as well as a member of the IMS 2020, 2022, and 2023 organizing committees. She contributed to the IEEE IMS 5G Summit in 2018/2019. Janet created the regional "tabletop show" for the IEEE EMC Society in 1990 and for the AMTA in 2005 to bring engineering education to the local community and link industry, academia, and government sectors. Janet is the EiC of the IEEE Electromagnetic Compatibility Magazine. Her education includes BA degrees in English and in Business Economics from the University of California, Santa Barbara.

Xinglong Wu received the Double Master (M.Sc.) Degree in electrical engineering (EE) from Xi'an Jiaotong University, Xi'an, China and Politecnico di Milano, Milan, Italy, in 2015, and the Ph.D. degree (summa cum laude) in EE from Politecnico di Milano, in 2019. He is currently an Assistant Professor with Department of the Electronics, Information and Bioengineering, Politecnico di Milano. In March 2017 and June 2017, he was a Visiting Scientist with Electromagnetics Group, Department of Information Technology, Ghent University, Belgium. From 2019 to 2020, he was a Postdoctoral Research Fellow with Politecnico di Milano. His research interests include distributed parameter circuit modeling, statistical techniques for electromagnetic compatibility (EMC), experimental procedures and setups for EMC testing, and system-level EMC. He was a recipient of the International Union of Radio Science (URSI) Young Scientist Award from 2020 URSI General Assembly and Scientific Symposium.

Zhong Chen is the Director of RF Engineering at ETS-Lindgren, located in Cedar Park, Texas. He has over 25 years of experience in RF testing, anechoic chamber design, as well as EMC antenna and field probe design and measurements. He is an active member of the ANSC C63® committee and Chairman of Subcommittee 1 which is responsible for the antenna calibration (ANSI C63.5) and chamber/test site validation standards (ANSI C63.4 and the ANSI C63.25 series). Mr. Chen is chairman of the IEEE Standard 1309 committee responsible for developing calibration standards for field probes, and IEEE Standard 1128 for absorber evaluation. Currently he is a member of the Antenna Measurement Techniques Association (AMTA) Board of Directors. His research interests include measurement uncertainty, time domain measurements for site validation and antenna calibration, and development of novel RF absorber materials. Zhong Chen received his M.S.E.E. degree in Electromagnetics from the Ohio State University at Columbus. He may be reached at zhong.chen@ets-lindgren.com.

Yuanliang Peng received the Master (M.Sc.) Degree in electrical and electronic engineering (EEE) from the University of Sheffield, UK, in 2020. Currently he is a Test Engineer at State Key Laboratory of Vehicle NVH and Safety Technology of China Automotive Engineering Research Institute Co., LTD in Chongqing, China. Previously, he was a project manager of electromagnetic immunity test methods for vehicle advanced driver assistance systems (ADAS) based on multi-sensor fusion. His research interests include electromagnetic compatibility (EMC) vehicle-level testing, advanced driver assistance systems, automated driving functions (ADAS/AV), and functional safety. He may be reached at pengyuanliang@caeri.com.cn.

[WS3] Recent Advances in Electrostatic Discharge Testing and Electromagnetic Pulse Characteristics

WORKSHOP WS-3	**Recent Advances in Electrostatic Discharge Testing and Electromagnetic Pulse Characteristics**
TIME	1:30pm – 3:30pm, September 1st
VENUE	Room 305B
ORGANIZER	PhD. Eng. Adrian Matoi, and Renato Henz, EMC PARTNER AG, Switzerland Han Jingyu, The Testing Center for Quality of Security and Police Electronic Product Under the Ministry Public Security, Beijing, China
SPEAKER	PhD. Eng. Adrian Matoi, and Renato Henz, EMC PARTNER AG, Switzerland Han Jingyu, The Testing Center for Quality of Security and Police Electronic Product Under the Ministry Public Security, Beijing, China

TALKS:

Theoretical and practical advances in Electrostatic Discharge testing according to IEC 61000-4-2

PhD. Eng. Adrian Matoi, and Renato Henz, EMC PARTNER AG, Switzerland

Abstract: As the global EMC community is preparing itself to greet the third edition of IEC 61000-4-2, that will probably deliver updates related to reproducibility of calibration and testing, this workshop aims to analyze theoretical and practical assumptions behind the

expected changes. Additionally, the study aims to outline practical implications for the owners of test equipment vis-à-vis the new requirements, in terms of compliance but also quality of calibration and test processes.

The Research on Frequency-Domain Characteristics of Electromagnetic Pulse

Han Jingyu, The Testing Center for Quality of Security and Police Electronic Product Under the Ministry Public Security, Beijing, China

Abstract: Frequency-Domain characteristics of various typical electromagnetic pulses are calculated by Fourier transforms. We can see the frequency range of different electromagnetic pulse, the electromagnetic energy distribution in the different frequency range, the energy flux density of electromagnetic pulse in the different frequency range. It is possible to propose some Electromagnetic Pulse wave to improve the Frequency-Domain characteristics of electromagnetic pulse to be used in electromagnetic test.

BIOS OF ORGANIZERS & SPEAKERS

Adrian Maţoi, currently engaged in market development and strategic sales at EMC PARTNER AG in Laufen Switzerland, holds a PhD in EMC. He has gained extensive experience working with test equipment manufacturers in the European EMC market and spent time gaining practical experience in an EMC test laboratory. Publications to his name, on specific EMC topics ranging from evaluation of disturbances in automotive communication systems to research on EMF distribution in the environment, are complemented in the past few years by a series of technical webinars, seminars and trainings on indirect lightning test.

EMC PARTNER AG is a worldwide leading supplier of impulse test generators with over 25 years' experience in the EMC field. Key domains are indirect lightning tests on aircraft components, CE mark / ANSI or UL tests, insulation tests, different impulse tests on electric/electronic components and related.

Jingyu Han was born in Inner Mongolia, China, on December 29, 1982. He received the master degree in Materials Science and Engineering from Beijing University of Technology, in 2011. Now he had served as a Junior engineer at the Testing Center for Quality of Security and Police Electronic Product under the Ministry Public Security in First Research Institute of the Ministry of Public Security. He is primarily engaged in EMC testing of security product and electromagnetic security research.

[WS4] Artificial Intelligence Inspiring the Electromagnetic Wave

WORKSHOP WS-4	**Artificial Intelligence Inspiring the Electromagnetic Wave**
TIME	8:40am – 12:20pm, September 1st
VENUE	Room 305C
ORGANIZER	Da Li, Zhejiang University Ling Zhang, Zhejiang University
SPEAKER	Prof. Joungho Kim, IEEE Fellow, KAIST Prof. Lijun Jiang, IEEE Fellow, University of Hong Kong Xiang Zhu, Huawei Technology Co Ltd Dr. Zhengguang Yang, DFH Satellite Co Ltd Dr. Da Li, Assistant Professor, Zhejiang University Dr. Ling Zhang, Research Fellow, Zhejiang University

ABSTRACT:
The workshop will present the latest development of AI technology in electromagnetic wave and electromagnetic coupling with neuron-science, such as new electromagnetic challenges in AI chips, meta-structures, heterogeneous package integration.

TALKS:

Machine Learning Based Design and Optimization of HBM (High-bandwidth Memory Module) and High-speed Interconnections
Prof. Joungho Kim, IEEE Fellow, KAIST

Machine Learning Methods and Data Driven Approaches for The Electromagnetic Modeling
Prof. Lijun Jiang, IEEE Fellow, University of Hong Kong

Key Challenges of Power Integrity in the ICT Field
Xiang Zhu, Huawei Technology Co Ltd

Application Comparison of PSO and GA in Gain Optimization of Bent-Dipole Antenna
Dr. Zhengguang Yang, DFH Satellite Co Ltd

Frequency Selective Structures Today
Dr. Da Li, Assistant Professor, Zhejiang University

Fast Modeling and Decap Optimization for Power Distribution Network Using Machine Learning Techniques
Dr. Ling Zhang, Research Fellow, Zhejiang University

BIOS OF ORGANIZERS & SPEAKERS

Da Li received the B.S. degree in 2014, and the Ph.D. degree in 2019, from Zhejiang University, Hangzhou, China, both in electrical engineering. From 2017 to 2018, he worked at Nanyang Technological University, Singapore, as a Project Researcher. From 2019 to 2021, he joined Science and Technology on Antenna and Microwave Laboratory, Nanjing, China, as a Research Fellow. He is currently an assistant professor at Zhejiang University. His research interests include machine learning, antennas, matesurfaces, and electromagnetic compatibility. Dr. Li has authored or coauthored more than 20 refereed papers and served as Reviewers for 5 technical journals and TPC Members of 2 IEEE conferences.

Ling Zhang received a B.S. degree in electrical engineering from Huazhong University of Science and Technology, Wuhan, China, in 2015, and an M.S. degree and a Ph.D. from Missouri University of Science and Technology (Missouri S&T) in 2017 and 2021 respectively. He worked at Cisco as a student intern from August 2016 to August 2017. He is now working at Zhejiang University, Hangzhou, China as a postdoctoral research fellow.

Dr. Zhang's research interests include machine learning, electromagnetic interference (EMI), signal integrity (SI), power integrity (PI), and radio-frequency interference (RFI).

Dr. Joungho Kim received B.S. and M.S. degrees in electrical engineering from Seoul National University, Seoul, Korea, in 1984 and 1986, respectively, and Ph.D degree in electrical engineering from the University of Michigan, Ann Arbor, in 1993. In 1994, he joined Memory Division of Samsung Electronics, where he was engaged in Gbit-scale DRAM design. In 1996, he moved to KAIST (Korea Advanced Institute of Science and Technology). He is currently professor at electrical engineering department of KAIST and the joint faculty member of KAIST AI college. He is currently the director of Samsung-KAIST Industry Collaboration Center.

Lijun Jiang (M'04-SM'13-FM'19) received B.S. degree in Electrical Engineering from the Beijing University of Aeronautics and Astronautics in 1993, M.S. degree from the Tsinghua University in 1996, and Ph.D from the University of Illinois at Urbana-Champaign (UIUC) in 2004. From 1996 to 1999, he was an application engineer with the Hewlett-Packard Company. From 2004 to 2012, he worked at IBM T.J. Watson Research Center in. From Dec. 2009, he was an Associate Professor with the Department of Electrical and Electronic Engineering at the University of Hong Kong (Tenured in 2014). From Sept. 2014 to Mar. 2015, he was a Visiting Scholar at the University of California at Los Angeles.

In 1998 he received the HP STAR Award. In 2003 he received the IEEE MTT Graduate Fellowship Award. In 2004 he received the Y.T. Lo Outstanding Research Award. In 2008 he received the IBM Research Technical Achievement Award. In 2016 he received the Outstanding Technical Contribution Award at 2016 APEMC. The research team he built at the University of Hong Kong has received over 15 international awards including the 1st Place Best Student Paper Award of 2014 ACES in FL, the 23th IEEE EPEP Best Paper Award in Oregon, Young Scientist Award of 2016 EMTS in Finland, the Best Poster Paper Award of 2016 IEEE EPEPS in San Diego, Best Student Symposium Paper Award First Place and President's Memorial Award Presented in Memory of Guy deBurgh and Bill Kimmel of 2016 IEEE Int. Symposium on EMC in Canada, etc. In 2018 he received the Technical Achievement Award by IEEE EMC Society in Singapore. In 2019, he was elevated to IEEE Fellow and ACES Fellow.

He served as the Associate Editor of IEEE Transactions on Antennas and Propagation, the Editor of Progress in Electromagnetics Research, the Associate Guest Editor of the Proceedings of IEEE Special Issue in 2011~2012, an IEEE AP-S Member, an IEEE MTT-S member, and an ACES member. He was the General Chair, TPC Chair, Session Organizer, and Session Chair of many international conferences. He reviews manuscripts for most first tier international microwave and electromagnetics journals.

His research interests focus on applied heterogeneous electromagnetics, antenna and microwave engineering, electromagnetic material engineering, etc.

Xiang Zhu received a bachelor's degree in electronic engineering from Central South University and a master's degree in testing technology and automation equipment from Wuhan University, CHINA, in 2000 and 2003. Since 2005, he has been engaged in system SI/PI analysis and co-design of chip-package-PCB in Huawei Beijing Research Center. His current research interests include dynamic power supply technology, board-level minimalist filter design, board-level noise reduction design, and artificial intelligence-based filter design.

Zhengguang Yang received a Ph.D. degree from Beihang University and has been working in the DFH SATELLITE CO. LTD since 2006. He is director of EMC analysis and design at DFH. He is a member of the Chinese Institute of Electronics and the senior member of the Chinese Society of Astronautics. He has been involved in the design and testing of electromagnetic compatibility (EMC) analysis for satellites for 16 years, typical satellites include the Magpie Bridge (the world's first off-earth-orbit dedicated relay communications satellite) and the CFOSAT-1 satellite (the first joint Chinese-French satellite for Marine Environmental Monitoring). He compiled 1 association standard, published more than 10 papers. Since 2014, he has Created the "EMC" wechat public account (with more than 35,000 fans) and nearly 20 wechat exchange groups (nearly 10,000 EMC Colleagues).

[WS5] EMC of Smart Electric Vehicles

WORKSHOP WS-5	**EMC of Smart Electric Vehicles**
TIME	1:30pm – 5:50pm, September 1st
VENUE	Room 305C
ORGANIZER	Zhang Xing Hai, Huawei Technologies Co., Ltd. Jun Fan, Missouri University of Science and Technology Er-Ping Li, Zhejiang University
SPEAKER	Jun Fan, Missouri University of Science and Technology LI Er-Ping, Zhejiang University Li Zhong Qun, Ceyear Technologies Co., Ltd (中电集团思仪科技有限公司) Shen Xueqi, Nanjing Rongce Testing Technology Ltd. MA Xuewen, Huawei Technology

ABSTRACT:
With the increasing of complex electromagnetic environment problems in Internet of Vehicles technology, electromagnetic environment testing for Internet of Vehicles becomes great challenges. This workshop will present the testing technologies and instruments of the electromagnetic environment for Internet of Vehicles.

TALKS:

Module-Level Noise Source Characterization - Improving the Consistency between Module- and Vehicle-Level EMC Evaluations
Jun Fan, Missouri University of Science and Technology

EMC Testing of Intelligent Internet of Vehicle
智能网联车移动终端电磁环境测试
LI Er-Ping, Zhejiang University

Time-Domain EMI Testing and its Applications in Automotive Testing
时域测试接收机及其在汽车 EMC 测试中的应用
Li Zhong Qun, Ceyear Technologies Co., Ltd (中电集团思仪科技有限公司)

EMC Testing Technology adapting to the trend of Automobile Electrification and Intelligence
适应汽车电动化和智能化趋势的电磁兼容检测技术
Shen Xueqi, Nanjing Rongce Testing Technology Ltd.

Potential Impact of Power Ground Return on Vehicle-mounted Components
电源地回流对车载部件的潜在影响
MA Xuewen, Huawei Technology

Abstract: In order to reduce corrosion and the number of cables, a negative grounding is usually used on the vehicle. The frame is used as the common reference ground to connect all the negative power supply leads of all components. Under this architecture, severe common ground interference may occur when the ground points of the vehicle-mounted components are corroded or poorly connected.

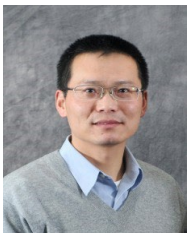
RF EMF Radiation Exposure Assessment of vehicles: Analysis, Computation and Mitigation Methods
车辆 RF EMF 辐射暴露评估：分析、计算和管控方法
Yang Lu, Huawei Technology

Abstract: Electric Vehicle (EV) is experiencing rapid growth in the transportation systems worldwide. The higher power components used in the vehicles are a possible source of extremely low frequency electric and magnetic fields. The wireless communication applications in the high frequency range such as vehicle to everything (V2X) are also integrated into advanced cars. There has been public concern about the EMF exposure level from those new transportation technologies. The health effects of EMF exposure from transportation systems remain unclear. It is necessary to analyze and assess the EMF issues in electric vehicles.

BIOS OF ORGANIZERS & SPEAKERS

Zhang Xing Hai graduated from the Northern Jiaotong University in 1997, is the distinguished chief product certification expert of Huawei Technologies Co., Ltd., who has worked in the EMC, RFI, and EMF fields for more than 20 years, focusing on EMC design, testing, and certification of ICT products, energy products, terminal products, and intelligent network connected vehicles. He is the CCSA TC9 vice-chairman of China Communications Standardization Association, Co- reporter of ITU-T SG5 Question 4 - EMC, and expert member of IEC CISPR. He participated in the development of more than 30 international and domestic EMC, RFI, and EMF technical standards.

Ren Huasheng is currently the director of Electromagnetic Engineering Technology Laboratory, 2012Labs, Huawei Technologies, Mr Ren received his B.S. and M.S. degrees in Electrical & Mechanical Engineering from Xidian University separately in 1999 and 2002. Since 2002, he has served as an EMC Engineer, Principal EMC Engineer, EMC Lab Director at Huawei Technologies. His research interests include EMC modeling and design of ICT equipment, EMC test and standardization, innovative material application in EM domain.



Jun Fan (Fellow, IEEE) is received B.S. and M.S. degrees from Tsinghua University, Beijing, China, and a Ph.D. from Missouri S&T, Rolla, MO, USA, in 1994, 1997, and 2000, respectively, all in electrical engineering.
From 2000 to 2007, he was a Consultant Engineer with NCR Corporation, San Diego, CA, USA. In July 2007, he joined Missouri S&T, where he was a Professor and a Director of the EMC laboratory. He also served as the Director of the National Science Foundation Industry/University Cooperative Research Center for Electromagnetic Compatibility and as a Senior Investigator at the Missouri S&T Material Research Center. He is currently an adjunct professor at Missouri S&T. His research interests include signal integrity and EMI design in high-speed digital systems, DC power-bus modeling, intrasystem EMI and RFI, PCB noise reduction, differential signaling, cable/connector designs, and machine learning applications.
Dr. Fan was the recipient of the IEEE EMC Society Technical Achievement Award in August 2009. He is currently an Associate Editor for IEEE TRANSACTIONS ON ELECTROMAGNETIC COMPATIBILITY and IEEE EMC Magazine.

Er-Ping Li (Fellow, IEEE) is currently a Qiushi-Distinguished Professor with the Department of Information Science and Electronic Engineering, Zhejiang University, China; the Founding Dean of the Joint Institute of Zhejiang University–University of Illinois at Urbana–Champaign. He was a recipient of the 2015 IEEE Richard Stoddard Award on EMC, the IEEE EMC Technical Achievement Award, the Singapore IES Prestigious Engineering Achievement Award, and the Changjiang Chair Professorship Award from the Ministry of Education in China, and a number of Best Paper Awards.

Zhong Qun Li is currently a Senior Engineer and Director of Auto-Measurement with *Ceyear Technologies Co., Ltd at Qingdao (No 41 Institute)*. He obtained his PhD from Northwest Polytechnic University, China in 2010. Since he works for Ceyear, he mainly embarks on the research and development of EMI testing technology. He has carried out number of national and provincial research agencies funded projects, authored 15 papers and holds 8 patents.

Xueqi Shen is a Senior Engineer (Professor Grade) and CEO of Nanjing Rongce Testing Technology Ltd. **他长期耕耘电磁兼容（EMC）检测技术的研究、开发和应用，作为全国无线电干扰标准化技术委员会 A 分会（无线电干扰测量方法和统计方法）委员和 D 分会（机动车辆和内燃机）通讯委员，参与了多项国家标准的制定。**

Xuewen Ma, Master of Radio Physics in Xidian University, Principal Engineer, has been engaged in EMC testing and design and EMC technology research for 21 years in Huawei.

Dr. Yang Lu received his B.S. degree in communication engineering from Nanjing University of Science and Technology, Nanjing, China in 2004. He received his Ph.D. degree in Electrical Engineering from the University of Liverpool in 2011. From 2012 to 2016, he worked for Yulong Technology, Shenzhen, Guangdong as an Antenna Engineer. In January 2016, he joined Huawei Technology, and he is currently a senior Electrical Engineer. He has been working on the antenna system design and measurement in both telecommunication and portable devices for more than 10 years. His current research interest includes the electro-magnetic radiation (RF EMF) human exposure assessment. Dr. Lu is currently a member of IEC TC 106 International Electrotechnical Commission.

[WS6] Effective Usage of EMC Antennas for Calibration and EMC Chamber Site Validation

WORKSHOP WS-6	**Effective Usage of EMC Antennas for Calibration and EMC Chamber Site Validation**
TIME	8:40am – 10:20am, September 3rd
VENUE	Room 305E
ORGANIZER	Janet O'Neil, ETS-Lindgren Zhong Chen, ETS-Lindgren
SPEAKER	Zhong Chen, ETS-Lindgren, Cedar Park, Texas, US Donglin Meng, National Institute of Metrology, China Takehiro Morioka, National Institute of Advanced Industrial Science and Technology (AIST), Japan

ABSTRACT:

There are some practical considerations for antennas used for EMC measurements; for example, EMC antennas are typically extremely broadband and low gain. At below 1 GHz, these antennas are typically used over a perfect electrical conductor (PEC) ground plane; however, the calibration method in the present standards are specified for "free-space antenna factor", which seems paradoxical. As another example, distance between a hybrid antenna and EUT is not clearly defined, especially for 1 m range EMI measurements. Anechoic chamber performance is also an integral part of the antenna application. We will discuss the evaluation of chambers and their impact on measurement uncertainties. This workshop provides an introduction and discussion of the antenna fundamental parameters from an application point of view, especially on how these antenna parameters are characterized and applied in EMC applications. The impact on measurement uncertainty when using antennas to validate the performance of RF/EMC Chambers will be reviewed. Definitions of antenna factors are provided, and some practical measurement examples are introduced.

In the NIM presentation, the speaker notes that market competition tends to favor the usage of "good enough" absorbers for EMC anechoic chambers. At the same time, antennas are more precisely calibrated than ever before. Because the uncertainty estimations in both CISPR and ANSI C63 standards have not been updated in more than 10 years, it could impose a risk to both the validation labs and the anechoic chamber users. The NIM presentation provides a review of their research for the past 10 years, as well as the research project in CISPR / A WG1 started in

2014. Both the uncertainty sources, as well the uncertainty value will be updated for the reference site method and for the NSA method. The systematic errors in NSA method will also be addressed.

TALKS:

Evolution of Test Site Validation Measurement Methods for Above 1 GHz Applications

Zhong Chen, ETS-Lindgren, Cedar Park, Texas, US

Measurement Uncertainty Evaluation for Validating RF/EMC Chambers in the Frequency Range from 30 MHz to 1000 MHz

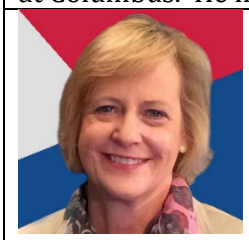
Donglin Meng, National Institute of Metrology, China

Precision Dipole Antenna Measurement and Site Evaluation

Takehiro Morioka, National Institute of Advanced Industrial Science and Technology (AIST), Japan

BIOS OF ORGANIZERS & SPEAKERS

Zhong Chen is the Director of RF Engineering at ETS-Lindgren, located in Cedar Park, Texas. He has over 25 years of experience in RF testing, anechoic chamber design, as well as EMC antenna and field probe design and measurements. He is an active member of the ANSC C63® committee and Chairman of Subcommittee 1 which is responsible for the antenna calibration (ANSI C63.5) and chamber/test site validation standards (ANSI C63.4 and the ANSI C63.25 series). Mr. Chen is chairman of the IEEE Standard 1309 committee responsible for developing calibration standards for field probes, and IEEE Standard 1128 for absorber evaluation. Currently he is a member of the Antenna Measurement Techniques Association (AMTA) Board of Directors. His research interests include measurement uncertainty, time domain measurements for site validation and antenna calibration, and development of novel RF absorber materials. Zhong Chen received his M.S.E.E. degree in Electromagnetics from the Ohio State University at Columbus. He may be reached at zhong.chen@ets-lindgren.com.



Janet O'Neil is a customer relations specialist with ETS-Lindgren. She has over 30 years of experience in the RF and Electromagnetic Compatibility (EMC) industries. She is a member of the Board of Directors of the IEEE EMC Society and a past member of the Antenna Measurement Techniques Association (AMTA) Board of Directors. Janet is a member of Subcommittee 1 (Techniques and Development) of ANSC C63®, and is chair of the 2022 IEEE International Symposium on EMC in Spokane, WA; was vice-chair of the 2011, 2018, and 2019 IEEE International Symposiums on **EMC**; and a member of the organizing committee for the IEEE International Microwave Symposium (IMS) 2013 in Seattle, Washington - where she organized a Wireless Industry Day special session - as well as a member of the IMS 2020, 2022, and 2023 organizing committees. She contributed to the IEEE IMS 5G Summit in 2018/2019. Janet created the regional "tabletop show" for the IEEE EMC Society in 1990 and for the AMTA in 2005 to bring engineering education to the local community and link industry, academia, and government sectors. Janet is the EiC of the IEEE Electromagnetic Compatibility Magazine. Her education includes BA degrees in English and in Business Economics from the University of California, Santa Barbara.

Donglin Meng, Associate Professor, is with the National Institute of Metrology, China. Dr. Meng graduated from Beijing Jiaotong University in 2008. He has been with the National Institute of Metrology since then. He was a visiting scholar to NPL from December 2009 to June 2010. Currently, he is a registered expert of CISPR /A WG1 and WG2. He has focused his research interests on EMC antenna calibrations and EMC chamber validations for more than 10 years. He is currently responsible for the technology and calibration service from 30 MHz to 1000 MHz

at NIM. He was also responsible for developing a spherical near field scanning system from 400 MHz to 110 GHz in 2016. He has authored and co-authored 40 papers.

Takehiro Morioka received a Ph.D. degree from the University of Tsukuba and has been working at the National Institute of Advanced Industrial Science and Technology (AIST) since 1998. His research areas at AIST includes antennas, EMC, and precision electromagnetic field measurements. He designed the open-area test site (OATS) of AIST for antenna calibration in 1999 and investigated the calibration methodology of the dipole antenna. The calibration capability of antennas was confirmed by the intercomparisons (CCEM.RF-21.F and CCEM.RF-S21.F) among the national metrology institutes in 2003. In 2006, he researched at the National Institute of Standards and Technology (NIST), Boulder CO, US as a guest researcher. The research topic at NIST was the field uniformity measurement of a TEM cell by using a passive scatterer. He participated in the intercomparison (CCEM.RF-K24.F) of the E-field strength in 2011, and the report of the comparison shows the excellent calibration capability developed by him. Dr. Morioka was appointed a group leader of Electromagnetic Fields Standard Group in April 2020. He is also a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE) and a member of the Institute of Electronics, Information, and Communication Engineers (IEICE) of Japan.

[WS7] Modeling and Active Mitigation of EMI for High Power Electerters

WORKSHOP WS-7	**Modeling and Active Mitigation of EMI for High Power Electronics Converters**
TIME	3:50pm – 5:50pm, September 4th
VENUE	Room 305E
ORGANIZER	Dong Jiang, Huazhong University of Science and Technology Hong Li, Beijing Jiaotong University Xuejun Pei, Huazhong University of Science and Technology
SPEAKER	Prof. Dong Jiang, Huazhong University of Science and Technology Prof. Xuejun Pei, Huazhong University of Science and Technology Prof. Hong Li, Beijing Jiaotong University Prof. Dong Jiang, Huazhong University of Science and Technology

ABSTRACT:
This tutorial focuses on studying of electromagnetic interference (EMI) modeling and active mitigation technology for power electronics converters, especially for the Modular Multilevel Converters (MMC) in smart grid application.
This tutorial begins with the introduction of EMI issue of power electronics converters, illustrating the EMI source, path and impact in high power converters. With regular voltage source converter and complex MMC as target, the modeling of EMI is introduced for the understanding and prediction of EMI. Then the EMI mitigation methods for high power converter are discussed in two parts, focusing on active mitigation methods, including modulation, gate driver, common-mode cancellation, and active EMI filters, to achieve EMI mitigation with less passive components. The knowledge introduced in this tutorial can be useful for the engineers and scholars for high power converter design and operation.

This tutorial is based on the Natural Science Foundation of China (NSFC) key project under grant U1866211. This project is a joint project between Huazhong University of Science and Technology and Beijing Jiaotong University, together with State Grid of China. The main tutorial content is based on the research contribution of this project from 2019 to 2022.

TALKS:

Introduction of High Power Electronics Converter and Its EMI Issues.

Prof. Dong Jiang, Huazhong University of Science and Technology

Modeling of EMI for High Power Converters

Prof. Xuejun Pei, Huazhong University of Science and Technology

Active EMI Mitigation for High Power Converters--Part I

Prof. Hong Li, Beijing Jiaotong University

Active EMI Mitigation for High Power Converters--Part II

Prof. Dong Jiang, Huazhong University of Science and Technology

BIOS OF ORGANIZERS & SPEAKERS

Dong Jiang (S05'-M12'-SM16') received the B.S. and M.S. degrees in electrical engineering from Tsinghua University, Beijing, China, in 2005 and 2007, respectively. He received PhD degree from University of Tennessee, Knoxville, TN, USA in power electronics and motor drives in 2011. He was with the United Technologies Research Center, East Hartford, CT, USA, as a Senior Research Scientist/Engineer, from January 2012 to July 2015. He has been with the Huazhong University of Science &Technology, Wuhan, China, as a professor, since July 2015. His main research interests include power electronics and motor drives, with more than 100 published IEEE journal and conference papers and 50 granted patents in this area. Dr. Jiang is an Associate Editor for the IEEE TRANSACTIONS ON INDUSTRY APPLICATIONS. He was the recipient of several best paper awards in IEEE conferences. He is the chair of IEEE PELS Wuhan Chapter. He is the first author for the book "Advanced Pulse-Width-Modulation: with Freedom to Optimize Power Electronics Converters" in Springer Press.

Hong Li (S'07-M'09-SM15') received the B.Sc. degree in electrical engineering from Taiyuan University of Technology, Taiyuan, China, in 2002, the M.Sc. degree in electrical engineering from South China University of Technology, Guangzhou, China, in 2005, and the Ph.D. degree in electrical engineering from Fernuniversität in Hagen, Germany, in 2009. She is currently a Full Professor with the School of Electrical Engineering, Beijing Jiaotong University, Beijing, China. She has published 1 book, 63 journal papers, and 60 conference papers. She has also authorized 30 patents. Her research interests include nonlinear modeling, analysis, and its applications, EMI suppressing methods for power electronic systems, wide bandgap power devices, and applications. Dr. Li is an Associate Editor of the IEEE Transactions on Industrial Electronics, an Associate Editor of the IEEE Transactions on Power Electronics, an Associate Editor of the IEEE Open Journal of Industrial Electronics Society, an Associate Editor of the Chinese Journal of Electrical Engineering, the vice chair of IEEE PELS Beijing Chapter and the Vice Chairman of Electromagnetic Compatibility Specialized Committee in China Power Supply Society.

Xuejun Pei (M12'-SM17') received the B.S. degree, the M.S. degree, and Ph.D. degree in electrical engineering from Huazhong University of Science and Technology, Wuhan, China, in 1998, 2001, and 2004, respectively. He is now the full professor of School Electrical and Electronics Engineering at Huazhong University of Science and Technology. His research interest includes the control techniques of power electronic converters, EMI, protection issue and fault diagnosis in high power converter. He has published over 20 papers in IEEE Transaction journals and 30 papers in IEEE conferences. He has gained two state and ministry science and technology progress awards. He was awarded 2010 Delta Visiting Scholar and 2016 Delta Young Scholar. He is the reviewer of IEEE Transactions on power electronics, industrial electronics, industry applications, and IET journals.

[WS8] Data Comparison in EMC

WORKSHOP WS-8	**Data Comparison in EMC**
TIME	3:50pm – 5:50pm, September 1st
VENUE	Room 305B
ORGANIZER	Alistair Duffy, De Montfort University (DMU) Gang Zhang, Harbin Institute of Technology

ABSTRACT:

EMC data comes in many shapes and sizes but mostly shares one common feature: it needs to be compared with something else. This may be against limit lines or against other simulations or measurements. The comparison against limit lines needs little explanation, but there are several circumstances that do merit further review. This session looks at a couple of subsets of such comparisons. It focusses on:

- An approach to limit variation in human responses where 'eyeballing' data sets is needed.
- Using the IELF (integrated error against log frequency) technique to compare data sets that are 'grassy' or 'noisy' in nature.
- Using the FSV (Feature selective validation) technique for data sets that have many readily definable features, which sit between the 'grassy' data and the generally smoother data for which standard statistical techniques might be applied (correlation and similar are not discussed in this tutorial.

BIOS OF ORGANIZERS & SPEAKERS

Alistair Duffy, (SM'04, F'14), is Professor of Electromagnetics and Director of the Institute of Engineering Sciences at De Montfort University (DMU), Leicester, UK. He received his BEng (Hons) and MEng degrees in 1988 and 1989, respectively, from University College, Cardiff, University of Wales. He read for his PhD with professors Christopoulos and Benson at Nottingham University, graduating in 1993. He also holds an MBA from the Open University, UK, graduating in 2004. He was awarded his DSc from Cardiff University in 2019 for his body of research on the validation of computational electromagnetics. He is a Fellow of the IEEE and President of the IEEE EMC Society. He has published approximately 300 papers, mostly on his research interests of validation of computational electromagnetics; physical layer components, particularly communications cabling, and electromagnetic compatibility testing.

Gang Zhang was born in Tai'an, China, in 1984. He received the B.Sc. in electrical engineering from China University of Petroleum, Dongying, China, in 2007, and the M.Sc. and Ph.D. degrees in electrical engineering from Harbin Institute of Technology (HIT), Harbin, China, in 2009 and 2014, respectively.
He is currently an Associate Professor in electrical engineering at Harbin Institute of Technology, Harbin, China, and a Visiting Professor at University of L'Aquila, L'Aquila, Italy. His research interests include electrical contact theory, uncertainty analysis of electromagnetic compatibility and the validation of CEM.

[Industry Forum I] Appropriate weighting of interference is the key for adequate radio protection

Industry Forum I	**Appropriate weighting of interference is the key for adequate radio protection**
TIME	4:20pm – 5:20pm, September 2nd
VENUE	Convention Hall No.2
ORGANIZER	Jens Medler, Rohde & Schwarz GmbH & Co. KG, Germany

ABSTRACT:
The need for radio protection arose with the introduction of AM broadcasting in the 1920s. Numerous interference complaints from radio listeners made radio frequency interference (RFI) suppression necessary for existing electrical devices and equipment, but suitable measurement procedures and instruments were not yet available. Systematic research for defining uniform measurement procedures to protect broadcasting started only after the establishment of the International Special Committee on Radio Interference (CISPR) in 1933. The aim was to keep RFI suppression costs low, which meant RFI suppression should only be applied where relevant.

It was soon recognized that the effect on radio reception depended on the type of interference (broadband or narrowband) and the radio service concerned. In particular, the dependence on the pulse repetition frequency led to the definition and introduction of the now familiar quasi-peak detector. The advent of digital broadcasting and communications systems also impacted disturbance weighting methodology. CISPR investigated the effect of impulsive disturbances on numerous digital radiocommunications services, with that result that new weighting functions were adopted: the RMS-average detector and the amplitude probability distribution (APD) measurement function.

BIOS OF ORGANIZERS & SPEAKERS

Jens Medler joined Rohde & Schwarz, Munich, Germany, a company specializing in test equipment and radio equipment in 1996. He is responsible for the standardization and application support of EMI test receivers and accessories for both hardware and software and is active member of various CISPR Subcommittees since 1999.
This includes CIS/A on EMC measurement instrumentation and methods, CIS/D on equipment on vehicles and internal combustion engine powered devices, and CIS/I on information technology equipment, multimedia equipment and receivers. Since October 2017, he is acting as Convener of CIS/A WG2, the CISPR Working Group on EMC measurement methods, statistical techniques and uncertainty. He is recipient of the IEC 1906 Award.

[Industry Forum II] EMC for Automotive and Electronic Power System

Industry Forum II	**EMC for Automotive and Electronic Power System**
TIME	1:30pm – 3:30pm, September 4th
VENUE	Room 305C
ORGANIZER	Yawei He, ANSYS
SPEAKER	Yawei He, ANSYS Bingbing Wang, ANSYS Xianliang Zeng, Science and Technology on Electromagnetic Compatibility Laboratory

TALKS:

ANSYS EMC Solutions and Best Practice for Automotive Industry
Yawei He, ANSYS

Abstract: This presentation elaborates how to use ANSYS to do complex platform-level cable EMC analysis and will demonstrate the best practices of vehicle radiation emission, radiation immunity, crosstalk, and system-level EMC simulation analysis.

How ANSYS contributes to the EMC compliant design of Electric Power System in Bosch Huayu
Bingbing Wang, ANSYS

Abstract: This presentation elaborates how to use ANSYS to do SI/PI/EMC analysis and will demonstrate the best practices of conducted emission and radiated emission for electric driven system.

Artificial EM Materials for Mutual Interference Suppression Between Antennas
Xianliang Zeng, Science and Technology on Electromagnetic Compatibility Laboratory

BIOS OF ORGANIZERS & SPEAKERS

Yawei He received double Master's degree of Singapore Nanyang Technological University and Wuhan University of Technology, engagea in simulation for 11 years. He has served as the technical manager for CAD-IT, High-tech Industry Consultant for Dassault system, and currently work as the chief engineer at ANSYS China, mainly responsible for Automotive EMC solutions.

Bingbing Wang received Master's degree of University of Shanghai for Science and Technology, engaged in simulation for 8 years. Currently, He works as the CAE supervisor engineer at Bosch Huayu Steering Systems Co., ltd, mainly responsible for Automotive EPS EMC simulations.

Xianliang Zeng has been with the Science and Technology on Electromagnetic Compatibility Laboratory, China Ship Development and Design Center since 2020. He has authored and coauthored more than 20 international conference, letter and journal papers. His research interests include engineered electromagnetic structures (metamaterials, metasurfaces, and frequency selective surfaces), and their applications in RCS reduction, electromagnetic compatibility (EMC) and leaky-wave antennas. He received the Ph. D degree in Electronic Science and Technology from Northwest University of Technology in 2020. From 2018 to 2019, he was a visiting research fellow at Division of Electromagnetic Engineering, KTH Royal Institute of Technology, Stockholm, Sweden. Dr. Zeng is a Reviewer for several renowned journals including the IEEE Transactions on Antennas and Propagation.

LIST OF SPECIAL SESSIONS WITH ORGANIZERS

SN	Full Title of Special Sessions	Organizers	Program/Session Code
SS-01	EMI Assessment and Mitigation for Wide Bandgap Power Electronics	Zhenyu Zhao, Fei Fan & Kye Yak See	[SS-01] EMI for Power Electronics
SS-03	Lightning Physics and Effects	Weitao Lyu & Rubin Jiang	[SS-03] Lightning Physics & Effects
SS-04	EMI Characterization based on Near-field Technology	Richard Xian-Ke Gao & Xing-Chang Wei	[SS-04] Near-field based EMI Characterization [SS-04] Near-field EMI
SS-06	EMI Analysis and Mitigation Techniques for Wireless Body Area Networks	Wensong Wang, Zhenyu Zhao, Richard Xian-Ke Gao & Shuhui Yang	[SS-06] EMI for Wireless Body Area Networks
SS-07	Advanced Design Automation and Verification Techniques for Chip-Package-System Co-Design	Hanzhi Ma, Thong Nguyen & Youngwoo Kim	[SS-07] Chip-Package-System Co-Design
SS-08	EMC Issues Related to Common-Mode Noise	Yoshiki Kayano, Tohlu Matsushima & Yoshitaka Toyota	[SS-08] Common-Mode Noise [SS-08/10] Noise & Suppression
SS-09	ESD and Transients	Takahiro Yoshida	[SS-09] ESD & Transients
SS-10	Recent Advances in Modeling and Suppression of Complex Electromagnetic Interference in Circuits and Antennas	Da Li, Da Yi & Si-Ping Gao	[SS-10] Modeling & Suppression of EMI [SS-08/10] Noise & Suppression
SS-11	Frequency Selective Surfaces/Structures/Circuits	Bo Li & Yufeng Yu	[SS-11] Frequency Selective Surfaces/Structures/Circuits
SS-12	Machine Learning Techniques for EMC/SI/PI Applications	Ling Zhang, Da Li & Bo Pu	[SS-12] Machine Learning for EMC/SI/PI
SS-13	Emerging Modelling Methods and Design of HIRF Protection at Package and System Level	Shunchuan Yang, Guangzhi Chen & Haoran Zhu	[SS-13] Emerging Modelling & Design of HIRF Protection
SS-16	Recent Advances in Electromagnetic Compatibility and Sensing – IHPC FR	Dongying Li, Huapeng Zhao & Song Sun	[SS-16] Recent Advances in EMC & Sensing
SS-17	Analysis and Testing of 3D Integrated Circuits and Microsystems & Suppression of Complex Electromagnetic Interference	Yan Li & Wen Sheng Zhao	[SS-17] 3D IC & EMI Suppression
SS-18	Special Session on Automotive EMC	Zhang Xu & Zhai Li	[SS-18] Automotive EMC
SS-19	Risk assessment for EMC	Congguang Mao & Wenxiao Fang	[SS-19] Risk assessment for EMC
SS-20	Artificial Intelligence for Electromagnetic Simulation	Hualin Li, Jing Zhou, Yu Pan & Decao Yang	[SS-20] AI for EM Simulation
Topical Meeting	Electrostatic Protection and Standardization Session	Zhancheng Wu	[Topical Meeting] ESD Protection & Standardization

TECHNICAL PROGRAM AT A GLANCE

Color codes: *Workshops* *Special Sessions* *Topical Meeting* *Regular Sessions* *Industry Forum* *Opening Ceremony &Keynote* *Poster Session*

Theme as per Room			Theme I: IC EMC; SI/PI	Theme II: CEM; ESD	Theme III: Meas.; FSS; Wireless; Near field	Theme IV: Auto EMC; Lightning	Theme V: Smart Grid; EMI	Poster Session
Date	**Start Time**		**Room 305A**	**Room 305B**	**Room 305C**	**Room 305D**	**Room 305E**	**3rd Floor**
Sept. 2 (FR)	08:40am	AM1	[SS-07] Chip-Package-System Co-Design	TC-11 CEM & Multiphysics I	TC-02 EMC Meas. & Environment	[SS-18] Automotive EMC	[SS-08] Common-Mode Noise	
	10:20am		Tea Break					
	10:40am	AM2	[SS-07] Chip-Package-System Co-Design	[Topical Meeting] ESD Protection & Standardization	[SS-04] Near-field based EMI Characterization	[SS-18] Automotive EMC	[SS-08/10] Noise & Suppression	
	12:20pm		Lunch					
	Start Time		**Convention Hall No. 2, Level 2**					
	01:30pm		**Opening Ceremony**					
	02:00pm		**Keynote Speech Ⅰ by Prof. Donglin Su, Fellow of CAE, Beihang University**					
	02:40pm		**Keynote Speech Ⅱ by Dr. Xiaoning Qi, Vice President , ALibaba Group**					
	03:20pm		**Keynote Speech Ⅲ by Ms. Christina Geßner , Vice President , Rohde & Schwarz, Germany**					
	04:00pm		Tea Break					
	04:20pm		*Industry Forum I*					
Date	**Start Time**		**Room 305A**	**Room 305B**	**Room 305C**	**Room 305D**	**Room 305E**	**3rd Floor**
Sept. 3 (SA)	08:40am	AM1	[SS-17] 3D IC & EMI Suppression	TC-11 CEM & Multiphysics II	TC-02 EMC Measurements & Environment	TC-06 Transportation EMC	[WS6] EMC Meas	
	10:20am		Tea Break					
	10:40am	AM2	TC-09 IC & Semiconductor EMC	[SS-09] ESD & Transients	[SS-06] EMI for Wireless Body Area Networks	[SS-18] Automotive EMC	[SS-01] EMI for Power Electronics	Poster Session A
	12:20pm		Lunch					
	01:30pm	PM1	TC-10 Signal & Power Integrity	[SS-09] ESD & Transients	TC-02 EMC Measurements & Environment	TC-06 Transportation EMC	TC-08 Smart Grid & Low Frequency EMC	Poster Session B
	03:30pm		Tea Break					

Theme as per Room			Theme I: IC EMC; SI/PI	Theme II: CEM; ESD	Theme III: Meas.; FSS; Wireless; Near field	Theme IV: Auto EMC; Lightning	Theme V: Smart Grid; EMI	Poster Session
Date	**Start Time**		**Room 305A**	**Room 305B**	**Room 305C**	**Room 305D**	**Room 305E**	**3rd Floor**
Sept. 3 (SA)	03:50pm	PM2	TC-10 Signal & Power Integrity	TC-05 System Level EMC and Protection	[SS-11] Frequency Selective Surfaces/Structures/Circuits	[SS-03] Lightning Physics & Effects	[SS-10] Modeling & Suppression of EMI	Poster Session C (Student Paper Competition)
	06:30pm		Banquet Dinner					
Date	**Start Time**		**Room 305A**	**Room 305B**	**Room 305C**	**Room 305D**	**Room 305E**	**3rd Floor**
Sept. 4 (SU)	08:40am	AM1	[SS-12] Machine Learning for EMC/SI/PI	TC-05 System Level EMC and Protection	TC-13 Wireless Comm EMC	[SS-03] Lightning Physics & Effects	TC-04 High Power Electromagnetics	
	10:20am		Tea Break					
	10:40am	AM2	TC-10 Signal & Power Integrity	[SS-20] AI for EM Simulation	[SS-04] Near-field EMI	[SS-18] Automotive EMC	[SS-01] EMI for Power Electronics	
	12:20pm		Lunch					
	01:30pm	PM1	[SS-19] Risk assessment for EMC	TC-11 CEM & Multiphysics III	*Industry Forum II*	TC-03 Lightning	[SS-13] Emerging Modelling & Design of HIRF Protection	
	03:30pm		Tea Break					
	03:50pm	PM2		[SS-16] Recent Advances in EMC & Sensing	[SS-06] EMI for Wireless Body Area Networks		[WS7] Power Electronics	

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TECHNICAL SESSIONS

Technical Sessions – – Friday Morning, Sept. 2, 2022 (AM1)

Rooms	Room 305A	Room 305B	Room 305C
08:40am – 10:20am	**[SS-07] Chip-Package-System Co-Design** *Chair(s): Thong Nguyen, Youngwoo Kim*	**TC-11 CEM & Multiphysics I** *Chair(s): Qiangming Cai, Yang Jiang*	**TC-02 EMC Measurements & Environment** *Chair(s): Qiang Cui，Mengjun Wang*
8:40am	**FR-AM1-SS07-01** **Investigation of Induced EFT Transient Noise and Effect on Chip and Package Level (#1570782388)** *Han-Nien Lin, Tzu-Hao Ho, Q.-Y. Ye, W.-Y. Syu, Y.-M. Wei, Y.-H. Lee & C.-H. Huang (Feng Chia Univ.); Y.-T. Lin (National Kaohsiung Univ.); Y.-F. Ku (Taiwan Testing & Cert. Center); L.-Y. Lin (Bureau of Stds, Metrology & Inspection)*	**FR-AM1-TC11-01** **An Improved FDTD Thin Wire Model for Conductors with an Asymmetrical Cross Section (#1570783159)** *Binghao Li, Jianwei Cheng, J. Yang & K. Huang (#CSG Electric Power Research Inst.); D. Zou, S. Wang & Z. Hong# (Yunnan Power Grid Co. Ltd)*	**FR-AM1-TC02-01** **A Study on Stirring in Vibrating Intrinsic Reverberation Chamber by Method of Moments (#1570784448)** *Makoto Hara (Kawasaki Heavy Industries & #Nagoya Inst. of Tech.); Jianqing Wang#; Frank Leferink (Univ. of Twente)*
9:00am	**FR-AM1-SS07-02** **Efficient Uncertainty Quantification of Stripline Pulse Response using Singular Value Decomposition and Delay Extraction (#1570784732)** *Andrew J Page (University of Illinois at Urbana-Champaign)*	**FR-AM1-TC11-02** **Crosstalk Analysis of Microstrip Lines Terminated with Complex Circuits via Time Domain Modeling Method (#1570783342)** *Zhihong Ye, Yu Zhang, Jiaji Wu, Xiaolin Wu and Honglong Wu (Chongqing Univ. of Posts & Telecom.)*	**FR-AM1-TC02-02** **Side-Channel Information Leakage Analysis on Functional FPGA Intellectual Properties by Neural Network (#1570784698)** *Wei-Sheng Liu (FCU)*
9:20am	**FR-AM1-SS07-03** **Cascading Neural Network Blocks of Transistor Level Transceiver Models (#1570784751)** *Yixuan Zhao (University of Illinois Urbana-Champaign); Hanzhi Ma (Zhejiang University); Jose E. Schutt-Aine (University of Illinois at Urbana-Champaign)*	**FR-AM1-TC11-03** **Time Domain Hybrid Method for the Coupling Analysis of Transmission Lines in Shielded Enclosure Excited by Leakage EM Fields (#1570783345)** *Zhihong Ye, Changchang Lu and Xiaolin Wu (Chongqing University of Posts and Telecommunications)*	**FR-AM1-TC02-03** **An Improved Reflector with Serrated Resistive Films Frame for Compact Antenna Test Range (#1570782042)** *Xini Wang, Zibin Weng &Y.-C. Jiao (Xidian University); H. Zhang (General Test Systems Inc.); Y. Qi (Hunan Univ.); L. Liu (Shenzhen General Test Systems)*
9:40am	**FR-AM1-SS07-04** **Evaluation of Emission Noise from PCBs Inside an Industrial Unmanned Aerial Vehicle (#1570785020)** *Koh Watanabe, Ryota Sakai, Mai Aoi, Misaki Komatsu, Satoshi Tanaka and Makoto Nagata (Kobe University)*	**FR-AM1-TC11-04** **A New Hybrid Method in the Calculation of Crosstalk of Shielded Cable (#1570784111)** *Cui Yong, Yang Xiaofan and Yang Shiwu (Beijing Jiaotong University)*	**FR-AM1-TC02-04** **Research for EMI of Automotive Motor (#1570779540)** *Tianhong Tan (Harbin Engineering University)*
10:00am	**FR-AM1-SS10-06** **Discussion on Electromagnetic Coupling Interference of Sensitive Chip Caused by SiC Modules (#1570785255)** *Pei Xiao (Hunan University)*	**FR-AM1-TC11-05** **A Novel EMC Simulation Analysis Method for Ship-Borne Phased Array Radar System (#1570784372)** *Jinchao Ding; Lei Sun (Key Laboratory of Antenna and Microwave Technology & Nanjing Research Inst. of Electronics Tech.)*	**FR-AM1-TC02-05** **Thoughts About Dynamic EMC Measurement of High Voltage Electric Drive System (#1570781274)** *Xiuli Nie, Xiaolin Du, Mei Jiao, Yan Li and Xiaojian Li (China North Vehicle Research Institute)*

Technical Sessions – – Friday Morning, Sept. 2, 2022 (AM1)

Rooms	Room 305D	Room 305E
08:40am – 10:20am	**[SS-18] Automotive EMC** ***Chair(s): Zhang Xu, Zhai Li***	**[SS-08] Common-Mode Noise** ***Chair(s): Yoshiki Kayano, Tohlu Matsushima, Yoshitaka Toyota***
8:40am	**FR-AM1-SS18-01** **Cable Harness Impact in EMC Immunity Tests - EM Simulation's & Measurement Correlation (#1570784461)** *Kalivaraprasad Reddy (EMC Simulation Expert & Continental Automotive Singapore PTE LTD, Singapore)*	**FR-AM1-SS08-01** **A Wideband Single-Cell Unidirectional Absorption Common-Mode Filter with Pattern Ground Structure (#1570783089)** *Hsu-Wei Liu (National Taiwan University & NTU); Tzong-Lin Wu (National Taiwan University)*
9:00am	**FR-AM1-SS18-02** **A Comparison and Analysation of IEC CISPR 36-2020/AMD1 and GB/T 18387-2017 Standards (#1570782407)** *Yue Zhang (CATARC); Zhe Xu (CATARC Automotive Test Center(Tianjin) Co., Ltd.); Xuan Zhang and Yunlei Zhang (China Automotive Technology & Research Center)*	**FR-AM1-SS08-02** **Quantitative Representation of Frequency Dispersion of Primary Parameters of Shielded-FPC (#1570784802)** *Taiki Yamagiwa and Yoshiki Kayano, Yoshio Kami (University of Electro-Communications); Fengchao Xiao and Hiroshi Inoue (UEC)*
9:20am	**FR-AM1-SS18-03** **Research on EMC Test Methods of Fuel Cell Engine (#1570782435)** *Li Jiang (CATARC)*	**FR-AM1-SS08-03** **Geometrical Parameter Sensitivity Analysis for Uniform Mode Velocities in 4+1 Microstrip Lines (#1570784919)** *Junhee Han (University of Electromagnetic Compatibility); Wansoo Nah (Sungkyunkwan University)*
9:40am	**FR-AM1-SS18-04** **Research on Application of Lightning Indirect Effect Test in Automotive Field (#1570782563)** *Yue Zhang (CATARC)*	**FR-AM1-SS08-04** **Circuit Analysis of Common Mode Current in Coupling Coils for HF Broadband Communication System (#1570785039)** *Tohlu Matsushima, Kensei Kuwahara and Yuki Fukumoto (Kyushu Institute of Technology)*
10:00am	**FR-AM1-SS18-05** **Research on Mutual Interference Characteristics of Intelligent Networked Vehicles in Wireless Communication (#1570783397)** *Jie Zhang (CATARC New Energy Vehicle Test Center (Tianjin) Co., Ltd.)*	**FR-AM1-SS08-05** **Co-Simulation Analysis of Mode Conversion Due to Imbalance Difference by Structural Discontinuity (#1570785060)** *Sho Kanao, Hiroaki Iwasaki, Kengo Iokibe and Yoshitaka Toyota (Okayama University)*

Technical Sessions – – Friday Morning, Sept. 2, 2022 (AM2)

Rms	Room 305A	Room 305B	Room 305C
10:40am – 12:20pm	**[SS-07] Chip-Package-System Co-Design** ***Chair(s): Hanzhi Ma, Thong Nguyen, Youngwoo Kim***	**[Topical Meeting] ESD Protection & Standardization** ***Chair(s): Zhancheng Wu***	**[SS-04] Near-field based EMI Characterization** ***Chair(s): Richard Xian-Ke Gao, Xing-Chang Wei***
10:40am	**FR-AM2-SS07-01** **Interposer Channel Design Based on Statistical Signal/Power Integrity Co-Analysis (#1570785242)** *Youngwoo Kim (Nara Institute of Science and Technology)*	**FR-AM2-TM-01** **Investigation on Factors Influencing Discharge Characteristics of Electrostatic Sensor (#1570783563)** *Ben Li, Yu Zhang, X. Tang, W. Zhang, Y. Han & Y. Yuan (Beijing Oriental Inst. of Meas. and Test)*	**FR-AM2-SS04-01** **EMI Source Positioning by Phase Inversion and Near-Field Scanning (#1570785152)** *Li Ding, Zi-Xiang Xu and Xing-Chang Wei (Zhejiang University)*
11:00am	**FR-AM2-SS07-02** **Signal Integrity Analysis of Spiking Signals in Neuromorphic Chip (#1570785006)** *Hanzhi Ma, Tuomin Tao, Da Li and Er-Ping Li (Zhejiang Univ.)*	**FR-AM2-TM-02** **Simulation and Experimental Investigation on Space-Particle Trapping Efficiency of Discharge Plasma and Electrostatic Field (#1570784133)** *Xu Tang and Na Feng (#Beijing Orient Inst. of Meas. and Test); Q. Ji (Army Engineering University, Shijiazhuang Campus); Y. Zhang, B. Li, Z. Gao, M. Yang and Y.i Han#*	**FR-AM2-SS04-02** **A Novel Circuit Modeling Approach for Electromagnetic "Black-Box Problems Based on Generative Adversarial Networks and Partial Element Equivalent Circuit Method (#1570782129)** *Yang Jiang, Richard Xian-Ke Gao (A*STAR Inst. of High Performance Computing)*
11:20am	**FR-AM2-SS07-03** **Temporal Neural Encoding Methods for Spiking Neural Networks (#1570785053)** *Quankun Chen, Da Li, Tuomin Tao, Hanzhi Ma and Er-Ping Li (Zhejiang University)*	**FR-AM2-TM-03** **Experimental Study on Humidity Sensitivity of New DC Ionization (#1570784648)** *Ronggang Wang (Suzhou TA&A Ultra Clean Technology Co., Ltd.)*	**FR-AM2-SS04-03** **An Adaptive Method for Modeling Far-Field Electromagnetic Emissions from Near-Field Measurements (#1570784330)** *Tao Tan, Yuxu Liu and Zhe Gao & Xiaochun LI (Shanghai Jiao Tong Univ.y)*
11:40am	**FR-AM2-SS07-04** **Analysis of Neural Spike Signal Transmission Characteristics in 3-D Heterogeneous Integration (#1570784699)** *HeYuan Yu (#Hebei Univ. of Tech.); Yan Li* (China Jiliang Univ.); E.-P. Li (^Zhejiang Univ.); Z. Sun, X. Lei & S. Huo#; S. Xu & L. Fang*; B. Li^*	**FR-AM2-TM-04** **Surface Electrostatic Discharge Characteristics of Satellite Multilayer Insulation Module (#1570784425)** *Yanhui Han, Na Feng (#Beijing Orient Inst. of Meas. and Test); Y. Chen (Xuchang Univ.); Yu Zhang, Q. Zhao, X.#; Q. Ji (Army Engineering Univ., Shijiazhuang); L. Zhou, Z. Gao*	**FR-AM2-SS04-04** **A Method to Optimize Antenna Interference by Analyzing Antenna near Field Directivity in Engineering Application (#1570784822)** *Xuequan Yu, X. Lou, D. Shen, J. An, Z. Liu, J. Ke (Hisilicon (Shanghai) Tech. Co., Ltd)*
12:00pm	**FR-AM2-SS07-05** **Analysis of ESD Failure Mechanism of Operational Amplifier Based on SPICE Model (#1570785004)** *Zhibo Zhu (#Nanjing Normal Univ.); Baoming Xiao and W. Ju (State Grid Electric Power Res. Inst. Co., Ltd); Y. Zhao, Y. Jia & W. Yan#*	**FR-AM2-TM-05** **Study on Comprehensive Test of Antistatic Properties of Graphene Coating (#1570784654)** *Weihong Zhang, Na Feng, Ben Li, Xu Tang, Yafei Yuan and Zhiliang Gao (Beijing Orient Institute of Measurement and Test)*	**FR-AM2-SS04-05** **Hardware Trojan Recognition Based on Radiated Emission Characteristics (#1570784975)** *Fan Zhang, Dongrong Zhang, Zhenzhen Peng, Qiang Ren, Aixin Chen and Donglin Su (Beihang University)*
12:20pm	**FR-AM2-SS07-06** **A Comparison of the S-Parameter Extrapolation Methods (#1570784541)** *Shan S Chen and Zhifei Xu (Kandou Bus)*	**FR-AM2-TM-06** **Procurement Management Mode of Electrostatic Protection Materials in Supply Chain Environment-Taking State-Owned Enterprises as an Example (#1570785718)** *Yuanyuan Wang, L. Wang, Z. Gao (#Beijing Orient Inst. of Meas. & Test); Shaosong Chen (Dynamical Admin. Depart. of CAST); Zhengang, Ming Yang, Ben Li#*	**FR-AM2-SS04-06** **More Complete Predictions of the Near-Field Electromagnetic Emissions Based on the Derived Equivalent Dipole Model in Time-Domain (#1570785055)** *Yuan Zhao, Yaowen Hu, Junyou Cao (#Chengdu Univ. of Information Tech.); Xiangyong Mou (#Sichuan Univ.); Xiaofeng Sun and Guohong Du#*

Technical Sessions – – Friday Morning, Sept. 2, 2022 (AM2)

Rooms	Room 305D	Room 305E
10:40am – 12:20pm	**[SS-18] Automotive EMC** *Chair(s): Zhang Xu, Zhai Li*	**[SS-08/10] Noise & Suppression** *Chair(s): Yoshiki Kayano, Tohlu Matsushima, Yoshitaka Toyota*
10:40am	**FR-AM2-SS18-01** **Research on Applicability of "Full Coverage Method in GB 34660 Same Type Determination on High-Voltage System of Electric Vehicle (#1570783416)** *Zhou Hang (CATARC Yangzhou Automotive Engineering Research Institute Co., Ltd); Dongsheng Wang (CATARC (Tianjin) Automotive Engineering Research Institute Co., Ltd); Xu Zhang (CATARC Automotive Test Center(Tianjin) Co., Ltd)*	**FR-AM2-SS08-01** **Enhanced Transmission Model for Predicting Coupling Between Electromagnetic Field and a Twisted-Wire Pair of Complex Dielectric Coatings (#1570781415)** *Xi Zhi Hao, Liang Tao, Xie Zhao and Guo Jie (Xi'an Jiaotong University)*
11:00am	**FR-AM2-SS18-02** **Electromagnetic Safety Evaluation of Advanced Driving Assistance System in the Anechoic Chamber (#1570784343)** *Xu Zhang (CATARC Automotive Test Center(Tianjin) Co., Ltd); Lei Chen (CATARC New Energy Vehicle Test Center (Tianjin) Co., Ltd.); Yan Fan (China Automotive Technology and Research Center Co., Ltd.)*	**FR-AM2-SS08-02** **The Influence of Ethernet Transformer Connection Method on System Common-Mode Radiation (#1570783601)** *Yinzhu Tang and Yuyu Zhu (#Southwest Univ. of Sci. & Tech.); Luo Yunlong (Southwest Jiaotong University); Zhixin Xia (& LinkE Technologies (Hengqin)); Yihong Qi (DBJ Technologies); Qiang-Ming Cai#*
11:20am	**FR-AM2-SS18-03** **Analysis on the Rectification of Charging Conduction of an Electric Vehicle (#1570784466)** *Chen Guo and Yujia Zhu (CATARC New Energy Vehicle Test Center (Tianjin) Co., Ltd.)*	**FR-AM2-SS08-03** **A Wideband Balanced-To-Unbalanced Power Divider Based on Coupled Lines (#1570784610)** *Yinchuan Xiao and Qitian Jiang (Shanghai University)*
11:40am	**FR-AM2-SS18-04** **Research on Common Mode Voltage Characteristics of Vehicle Drive Motor System Under Different Working Conditions (#1570784467)** *Yun Wang (CATARC); Junjie Ma (CATARC Automotive Test Center(Tianjin) Co., Ltd.); Yifu Ding (China Automotive Technology and Research Center Co. Ltd)*	**FR-AM2-SS10-04** **Broadband Reflection-Type Metasurface for OAM Antenna Design (#1570785123)** *Dong-Hao Han and Xun-Wang Zhao (Xidian University); Xing-Chang Wei (Zhejiang University)*
12:00pm	**FR-AM2-SS18-05** **Electromagnetic Safety of Advanced Driving Assistance System-Steering Related Function (#1570784599)** *Xu Zhang, Yan Fan and Lei Chen (CATARC New Energy Vehicle Test Center (Tianjin) Co., Ltd Tianjin)*	**FR-AM2-SS10-05** **Synthesis and Design of Non-Equiripple Filter with Composite Coplanar Waveguide and Slotlines (#1570788809)** *Shang Fu and Sheng Sun (University of Electronic Science and Technology of China)*
12:20pm	**SA-PM1-TC06-04** **Mathematical Model of the Induced AC Interference in DC Rails of a Double-Track System (#1570784651)** *Volodymyr Havryliuk (Ukrainian State University of Science and Technology)*	

Technical Sessions – – Saturday Morning, Sept. 3, 2022 (AM1)

Rooms	Room 305A	Room 305B	Room 305C
08:40am – 10:20am	**[SS-17] 3D IC & EMI Suppression** *Chair(s): Yan Li, Wen Sheng Zhao*	**TC-11 CEM & Multiphysics II** *Chair(s): Qiang Ren, Liping Yan*	**TC-02 EMC Measurements & Environment** *Chair(s): Yan Li, Da Yi*
8:40am	**SA-AM1-SS17-01** **A Compact and Narrow-Band Bandpass Filter Based on Spoof Surface Plasmon Polaritons (#1570782805)** *Zeng-Cai Zhang, Da-Wei Wang & W.-S. Zhao (Hangzhou Dianzi Univ.)*	**SA-AM1-TC11-01** **GPU-Accelerated HO-SIE-DDM Using NVIDIA CUDA for Analysis of Multiscale Problems (#1570785074)** *Tao Zhou, Qiang-Ming Cai and Xin Cao (#Southwest Univ. of Sci. & Tech.); Wen Jiang (UESTC, China); Yuying Zhu & Yuyu Zhu#; Jun Fan (Missouri Univ. of S& T)*	**SA-AM1-TC02-01** **The Research on the Accompanying Electromagnetic Emission of Computer Components Based on Current Injection Method (#1570783725)** *Qiang Cui (China Electronics Standardization Institute)*
9:00am	**SA-AM1-SS17-02** **Equivalent Circuit Model of Strip Line Up to 110GHz (#1570784673)** *Ji Xu (Xi'an Jiaotong Univ. & Key Lab of Micro-Nano Electronics and System Integration of Xi'an City)*	**SA-AM1-TC11-02** **Global Sensitivity Analysis for Crosstalk of Three-Conductor Transmission Line Using Sobol' Method (#1570785713)** *Liting Deng, Liping Yan, Zihan Sun and Xiang Zhao (Sichuan University); Richard Xian-Ke Gao (A*STAR IHPC)*	**SA-AM1-TC02-02** **Analysis of the Influence of Mode Conversion Characteristics of Twisted Pair on Automotive Ethernet EMI (#1570784285)** *Zaiyuan Wu, X. Chen (#China Automotive Tech. & Res. Ctr. Co., Ltd.); Z. Xu (*CATARC Automotive Test Ctr. (Tianjin) Co., Ltd.); Y. Zhang (CATARC); H. Zhang#; D. Zhang**
9:20am	**SA-AM1-SS17-03** **Impact of the Interconnection Structure on RRAM-Based Crossbar Array in Neuromorphic Chip (#1570784749)** *Lidan Fang, Yan Li, S. Xu & N. Jin (China Jiliang Univ.); H. Yu, Z. Sun, X. Lei & S. Huo (Hebei Univ. of Tech.); E.-P. Li & B. Li (Zhejiang U)*	**SA-AM1-TC11-03** **Accurate Simulation Methodology of RSE (Radiated Spurious Emission) on Electronic Device (#1570785776)** *Jing Zhou, Decao Yang, Cheng Sun, Xin Fu, Hualin Li and Yongfu Jin (Huawei Technologies Co. Ltd. Shanghai); Zheming Gu (Zhejiang University)*	**SA-AM1-TC02-03** **Electromagnetic Interference of 5G Terminal Antenna to Equipment Inside Cabinet in Industrial Environment (#1570784427)** *Xiaoli Yang, Xue Wang, Yufei Xiong and Yi Zhou (China Academy of Information and Communications Technology)*
9:40am	**SA-AM1-SS17-04** **Design and Analysis of a Novel Miniaturized Ultra-Thin Quad-Band Metamaterial Absorber (#1570784783)** *Zhe Sun (#Hebei Univ. of Tech.); Y. Li (^China Jiliang Univ.); E.-P. Li (*Zhejiang Univ.); H. Yu, X. Lei & S. Huo#; S. Xu & L. Fang; Bingheng Li**	**SA-AM1-TC11-04** **Parallel Transmission Effect on RF-Induced Local SAR of Face Mask During 3T MRI (#1570784185)** *Ran Guo, Meiqi Xia, Jianfeng Zheng and Ji Chen (University of Houston); Shrivastava Devashish (Columbia University in the City of New York)*	**SA-AM1-TC02-04** **A Fast Method to Simulate the Average K-Factor in a Reverberation Chamber (#1570784629)** *Qian Xu (Nanjing Univ. of Aeronautics and Astronautics); X. Shen (Nanjing Rongce Testing Technology Ltd); R. Jia (State Key Lab. of Complex Electr. & Environment); C. Ren (Dassault Systèmes (Shanghai))*
10:00am	**SA-AM1-SS17-05** **A Novel Miniaturized Dual-Band Frequency Selective Surface (#1570784791)** *Shaojie Xu, Yan Li, L. Fang & N. Jin (China Jiliang Univ.); Z. Sun, H. Yu, X. Lei & S. Huo (Hebei Univ. of Tech.); E.-P. Li & B. Li (Zhejiang Univ.)*	**SA-AM1-TC11-05** **Predict and Eliminate EMI Signals for RF Shielding-Free MRI via Simultaneous Sensing and Deep Learning (#1570784708)** *Yujiao Zhao, Linfang Xiao, Yilong Liu, Alex T. L. Leong and Ed Wu (The University of Hong Kong)*	**SA-AM1-TC02-05** **Influence of Solder on De-Embedded Capacitance (#1570784912)** *Si-Yao Tang, Tian-Hao Song, Qi-Han Xiao and Xing-Chang Wei (Zhejiang University)*
10:20am	**SA-AM1-SS17-06** **DSAO-Based SS-SIE for Parameter Extraction (#1570785134)** *Aipeng Sun, Zekun Zhu & Shunchuan Yang (Beihang University)*		

Technical Sessions – – Saturday Morning, Sept. 3, 2022 (AM1)

Rooms	Room 305D	Room 305E
08:40am – 10:20am	**TC-06 Transportation EMC** ***Chair(s): Qi Wu, Gang Zhang***	**[WS6] EMC Meas**
8:40am	**SA-AM1-TC06-01** **Test and Assessment for Automotive Radar Interference Mitigation (#1570785141)** *Huayu Shi, Wenjiao Kong and Shiquan He (University of Electronic Science and Technology of China)*	*(See the section on Workshop Program)*
9:00am	**SA-AM1-TC06-02** **Effects of Unbalanced Currents on Mutual Coupling of Orthogonal Dipole Antennas (#1570784469)** *Zitong Wang and Qi Wu (Beihang University)*	
9:20am	**SA-AM1-TC06-03** **Prediction of Cavity IEMP Responses in Satellites by Using a 3D Parallel Full Electromagnetic PIC Method (#1570784649)** *Xuesong Meng (Institute of Applied Physics and Computational Mathematics)*	
9:40am	**SA-AM1-TC06-04** **The Effect of Corrosion on the Shielding Effectiveness of Electrical Connectors (#1570785041)** Gang Zhang and Xin He (Harbin Institute of Technology); Lixin Wang (Harbin Institute of Technology (HIT)); Ming Li (AVIC Aero Polytechnology Establishment); Alistair Duffy (De Montfort University)	
10:00am		

Technical Sessions – – Saturday Morning, Sept. 3, 2022 (AM2)

Rms	Room 305A	Room 305B	Room 305C
10:40am – 12:20pm	**TC-09 IC & Semiconductor EMC** *Chair(s): Hanzhi Ma, Chulsoon Hwang*	**[SS-09] ESD & Transients** *Chair(s): Takahiro Yoshida, Jianqing Wang*	**[SS-06] EMI for Wireless Body Area Networks** *Chair(s): Wensong Wang,Richard Gao, Shuhui Yang*
10:40am	**SA-AM2-TC09-01** **Fixture Design for Parasitic Capacitances of MOSFETs for EMI Applications (#1570781443)** *Anfeng Huang and Hanyu Zhang (Missouri University of Science and Technology); Li Du and Cheung-Wei Lam (Apple Inc.); Chulsoon Hwang (Missouri University of Science and Technology)*	**SA-AM2-SS09-01** **Measurement of Transient Waveform Caused by ESD Using a Wideband Folded Long-Hexagon Antenna (#1570782698)** *Ken Kawamata, Shinobu Ishigami (Tohoku Gakuin Univ.); O. Fujiwara (Nagoya Inst. of Tech.)*	**SA-AM2-SS06-01** **Design of UWB Microstrip Antenna Based on A New Optimization Algorithm (#1570782186)** *Hao Jiang and Li Zhang (Communication University of China)*
11:00am	**SA-AM2-TC09-02** **EMI Behavior of FPGA-IP Measurement (#1570784900)** *Willis Liu (Feng Chia University)*	**SA-AM2-SS09-02** **Analysis of Capacitive Clamp Effect on Power Charging Cords and Plug with EFT Transient Burst Injection (#1570782725)** *Han-Nien Lin, T.-H. Ho, Q.-Y. Ye, W.-Y. Syu, Y.-M. Wei, Y-H Lee, C.-H. Huang (Feng Chia Univ.); Y.-T. Lin (Natl Kaohsiung Univ.); L.-Y. Lin (Bureau of Stds, Metro. & Inspect.); Y.-F. Ku (Taiwan Testing & Cert. Ctr.)*	**SA-AM2-SS06-02** **A Wideband Absorber for Decoupling of Wideband End-Fire MIMO Antenna with Vertical Polarization (#1570784645)** *Bin He (Chongqing University of Posts and Telecommunications)*
11:20am	**SA-AM2-TC09-03** **Synergistic Effect of Total Ionizing Dose and Electromagnetic Interference in Current Reference Circuits Using Scaling-Down SOI Technologies (#1570784980)** *Zhian Wang (Guangdong Greater Bay Area Inst. of Integr. Circuit & System); B. Li (#Inst. of Microelectronics of CAS); J. Wu (National Univ. of Defense Tech.); Bo Li (Chinese Academy of Sciences); H. Zhang (Tianjin Inst. of Adv. Tech.); X. Zhao, J. Li, W. Zhao, T. Ye#*	**SA-AM2-SS09-03** **FD-TD Analysis of Conical Monopole Antenna with Double-Boltzmann Function Type Taper Line (#1570784325)** *Shinobu Ishigami, Masaya Suzuki and Keita Kobayashi, Toshi-ya Ishizaki, Ken Kawamata and Shigeki Minegishi (Tohoku Gakuin Univ.)*	**SA-AM2-SS06-03** **Wideband and High Gain Fabry-Pérot Antenna Array with High-Isolation (#1570784647)** *Bin He (Chongqing University of Posts and Telecommunications)*
11:40am	**SA-AM2-TC09-04** **Fast Calculation and Optimization of Dense Signal/Ground Balls in System-In-Package (#1570784996)** *Bingheng Li (Zhejiang University)*	**SA-AM2-SS09-04** **Influence of Cable Length Between TLP and DUT on ESD Saturation Measurement (#1570784662)** *Yusuke Yano and Jianqing Wang (Nagoya Institute of Technology); Takeshi Ishida (Noise Laboratory Co., Ltd.)*	**SA-AM2-SS06-04** **Design and Optimization of the Quad-Band Negative Group Delay Circuit Based on Genetic Algorithm (#1570784764)** *JiaShuai Duan (Communication University of China)*
12:00pm	**SA-AM2-TC09-05** **Modeling Method for Power Distribution Network in the Micro-System Packaging (#1570782310)** *Wei Li (Xidian University)*	**SA-AM2-SS09-05** **A Study of Phase Offset on AOA Estimation for Partial Discharge Noise (#1570784797)** *Yoshio Nakagawa and Daisuke Anzai (#Nagoya Inst. of Technology); Hisashi Nishikawa (Ritsumeikan Univ. & RFNEXT Co., Ltd.); Jianqing Wang#*	**SA-AM2-SS06-05** **Design of a Compact Microstrip Wideband BPF Based on Dual-Mode DGS (#1570785029)** *Xinyu He, Ling Wang, S. Yang (Comm. Univ. of China); Z. Zhao, W, Wang (Nanyang Technological University)*

Technical Sessions – – Saturday Morning, Sept. 3, 2022 (AM2)

Rooms	Room 305D	Room 305E
10:40am - 12:20pm	**[SS-18] Automotive EMC** ***Chair(s): Zhang Xu, Zhai Li***	**[SS-01] EMI for Power Electronics** ***Chair(s): Zhenyu Zhao, Fei Fan, Kye Yak See***
10:40am	**SA-AM2-SS18-01** **HV-LV Coupling Attenuation Measurement Test and Data Processing of Hydrogen-Oxygen Fuel Power Cell (#1570784607)** *Wang Changyuan and Zhang Yujie (CATARC)*	**SA-AM2-SS01-01** **Customized Test Fixture for Accurate Impedance Measurement of EMI Filtering Chokes (#1570784767)** *Huamin Jie, Zhenyu Zhao and Fei Fan (Nanyang Technological University); Zhenning Yang (NTU); R Simanjorang (Advanced Technology Centre, Rolls-Royce Singapore Pte. Ltd); Firman Sasongko (Rolls-Royce Electrical, Rolls-Royce Singapore Pte. Ltd); Kye Yak See (Nanyang Technological University)*
11:00am	**SA-AM2-SS18-02** **Research on the Difference Phenomenon of Radiation Immunity of the Same Component in Component and Vehicle Test Scenarios (#1570784759)** *Zhe Xu (CATARC New Energy Vehicle Test Center (Tianjin) Co.,Ltd.); Meng Liu (CATARC New Energy Vehicle Test Center (Tianjin) Co.. Ltd.); Yue Zhang (CATARC); Kaiyi Sun (China Automotive Test Center (Tianjijn) Co., Ltd)*	**SA-AM2-SS01-02** **Inductively Coupled In-Circuit Impedance Measurement Under Low Signal-To-Noise Ratio (#1570784901)** *Arjuna Weerasinghe, Zhenyu Zhao, Wensong Wang, Huamin Jie and Kye Yak See (Nanyang Technological University)*
11:20am	**SA-AM2-SS18-03** **Simulation Analysis for Electromagnetic Emission Characteristics of Electric Vehicles Based on MATLAB App Designer (#1570784775)** *Mingli Zhao; Guiying Ren (CATARC (Tianjin) Automotive Engineering Research Institute Co., Ltd.)*	**SA-AM2-SS01-03** **High-Frequency Modeling of Induction Motor Using Multilayer Perceptron (#1570784914)** *Zhenyu Zhao, Fei Fan, Quqin Sun, Pengfei Tu and Kye Yak See (Nanyang Technological University)*
11:40am	**SA-AM2-SS18-04** **Biological Experimental Study on Cumulative Effect of Vehicle Electromagnetic Radiation (#1570784829)** Li Jiang (CATARC)	**SA-AM2-SS01-04** **Electromagnetic Interference Attacks on GaN Half-Bridge Module (#1570784918)** *Fei Fan, Zhenyu Zhao, Pengfei Tu and Huamin Jie (Nanyang Technological University); Minghai Dong (University of Electronic Science and Technology of China); Kye Yak See (Nanyang Technological University)*
12:00pm	**SA-AM2-SS18-05** **Analysis and Optimization of Electromagnetic Interference in Flyback Converter (#1570784837)** *Guoliang Yang , Zilong, Dongsheng Wang, Mingli Zhao Wang (CATARC (Tianjin) Automotive Engineering Research Institute Co., Ltd)*	**SA-AM2-SS01-05** **In-Circuit Impedance Measurement Setups of Inductive Coupling Approach: A Review (#1570785094)** *Zhenyu Zhao, Fei Fan, Huamin Jie, Zhenning Yang (#Nanyang Technological University); Minghai Dong (University of Electronic Science and Technology of China); Eng Kee Chua and Kye Yak See#*

Technical Sessions – – Saturday Afternoon, Sept. 3, 2022 (PM1)

Rms	Room 305A	Room 305B	Room 305C
01:30pm – 03:50pm	**TC-10 Signal & Power Integrity** *Chair(s): Ding-Bing Lin*	**[SS-09] ESD & Transients** *Chair(s): Takahiro Yoshida*	**TC-02 EMC Measurements & Environment** *Chair(s): Yanzhao Xie*
1:30pm	**SA-PM1-TC10-01** **Decoupling Capacitor Placement for Flat PDN Impedance with Rogue Wave Consideration (#1570780648)** *Yen-Hao Chen (#National Taiwan Univ. of Sci. & Tech.; Inventec Corporation); Ding-Bing Lin#; Jhih-Yu Yu (Inventec Corporation); Cheng-Yi Zhuang#*	**SA-PM1-SS09-01** **A Study on ESD Protection Characteristic Difference Measurement of Varistors by VNA (#1570784798)** *Haruhiro Takemura and Takahiro Yoshida (Tokyo University of Science)*	**SA-PM1-TC02-01** **Integrated Detector for the Measurement of Transient Electromagnetic Disturbances (#1570785071)** *Puqing Zhang, Shaofei Wang (#Xi'an Jiaotong Univ.); Y. Wang, M. Sun (Electric Power Res. Inst. State Grid Zhejiang Electric Power Company); Y. Xie#; Bucur M. Novac (Loughborough Univ.)*
1:50pm	**SA-PM1-TC10-02** **An Ultrawideband Absorptive Common-Mode Filter Having High Signal Cutoff Frequency (#1570783274)** *Yu-Hsiang Chen and Cheng-Nan Chiu (Yuan Ze Univ.); Yuan-Fu Ku (Taiwan Testing and Cert. Ctr); Ming-Kun Hsieh (Bureau of Stds, Metr. & Inspection)*	**SA-PM1-SS09-02** **Study on the Malfunction of Robots Using Optional E-Field Measurement System (#1570785377)** *Takayoshi Ohtsu (National Inst. of Tech.); R. Osawa (SEIKOH GIKEN Co., Ltd.); K. Urushibata, Y. Nagao#*	**SA-PM1-TC02-02** **A Set of Mono-Cone Calibration System Loaded by Resistors in Arc-Style Routes (#1570785088)** *Puqing Zhang (Xi'an Jiaotong Univ.); Yifan Wang (*Electric Power Research Institute State Grid Zhejiang Electric Power Company); S. Wang#; J. Gong*; Yanzhao Xie#*
2:10pm	**SA-PM1-TC10-03** **Coupled-Line Curvature Angle Effect on Bandpass Negative Group Delay Characteristics (#1570784789)** *Taochen Gu and Xiaoyu Huang, Fayu Wan (Nanjing Univ. of Information Sci. & Tech.); B. Ravelo (NUIST); Q. Ji (Army Engineering Univ., Shijiazhuang Campus)*	**SA-PM1-SS09-03** **An Experiment Verification: The ESD Protection by DC Grounded Antenna (#1570783731)** *Yongxia Wang (Southwest Univ. of Sci. & Tech.)*	**SA-PM1-TC02-03** **Design of a High-Speed Lightning Signal Acquisition System Based on ZYNQ (#1570785115)** *Tianrui Zhang (Beijing Information Science and Technology University)*
2:30pm	**SA-PM1-TC10-04** **A Simple Analytical Approximation to Evaluate Noise Levels and Maximum Coupling Frequencies During DPI Simulations on BMS IC (#1570784819)** *Badr Guendouz (Insa Toulouse & NXP Semiconductors); K. Abouda (Emc Ic Expert); P. Perruchoud (NXP Drivers and Energy Systems); A. Boyer (LAAS-CNRS); Sonia Ben Dhia (INSA de Toulouse)*		**SA-PM1-TC02-04** **An Optimization Approach for Predicting Worst-Case Positions in EMI Final Measurement Based on Convolution Neural Network (#1570782065)** *Hussam Elias (University of Duisburg-Essen)*
2:50pm	**SA-PM1-TC10-05** **Regulation of Forbidden Frequency Band for Noise Isolation in PDN Using Rectangular Dielectric EBG Units (#1570785068)** *Jiani Hu, Yusheng Hu, Daolong Daolong Zhou and Chouwei Guo (Jimei Univ.)*		**SA-PM1-TC02-05** **Improved Current Clamp Voltage Level Setting Procedure in Conducted Immunity Tests (#1570785146)** *Jinlong Li (Shanghai Institute of Measurement and Testing Technology)*
3:10pm	**SA-PM1-TC10-06** **ESD Robustness Test on MOSFET Power Transistors (#1570785056)** *Clara Oliver Garcia, Oibar Martínez Vílchez and Jose Miguel Miranda (University Complutense of Madrid)*		**SA-PM1-TC02-06** **Lightning Multi-Band Signal Acquisition System Based on Software Defined Radio (#1570785049)** *Chang Liu (Beijing Information Science and Technology University)*

Technical Sessions – – Saturday Afternoon, Sept. 3, 2022 (PM1)

Rooms	Room 305D	Room 305E
01:30pm – 03:30pm	**TC-06 Transportation EMC** ***Chair(s): Dingzhu Wen, Tao Jiang***	**TC-08 Smart Grid & Low Frequency EMC** ***Chair(s): Hengling Chen, Hong Li***
1:30pm	**SA-PM1-TC06-01** **A Complementary Electromagnetic Paradigm for Collaborative Autonomous Vehicles (#1570784306)** *Ruifeng Li (ZJU); Ling Zhang, Xinglei Liang, Da Li and Er-Ping Li (Zhejiang University)*	**SA-PM1-TC08-01** **Secret Key Analysis in the Frequency Domain Focusing on the EM Emissions of Target Processing (#1570784804)** *Yuichi Hayashi, Yoshiki Kitamura and Taiki Kitazawa (Nara Institute of Science and Technology)*
1:50pm	**SA-PM1-TC06-02** **The Research on the Harness Radiation Interference Based on Six-Parameter Lumped Model for Monopole Antenna (#1570785118)** *Wenzhe Su and Hong Li (#Beijing Jiaotong University); Baihua Zhang (Chinese Academy of Sciences); Zhichang Yang#*	**SA-PM1-TC08-02** **Common Mode Interference Modeling and Measurement for Cascaded Photovoltaic Grid-Connected System Module (#1570782739)** *Jie Zhou, Henglin Chen, and Meng Hui (Zhejiang University)*
2:10pm	**SA-PM1-TC06-03** **Vehicle Electromagnetic Interference Suppression Using Characteristic Mode Analysis (#1570785122)** *Wenwen Qian (#China Automotive Engineering Res. Inst. Co., Ltd); Yulin Yang, Junhui Peng and Hailin Cao (Chongqing University); Xiaojiao Li (*State Key Laboratory of Vehicle NVH and Safety Technology); Yangchun Gao#, Jianmei Lei (* & Chongqing Engineering Res. Ctr for Auto. EMC Development)*	**SA-PM1-TC08-03** **Modeling of Conducted EMI in Motor Drive System Based on Double Pulse Test and Impedance Measurement (#1570781350)** *Lei Chen, Zhexiang Xu, Tianxiang Zhou and Henglin Chen (Zhejiang University)*
2:30pm	**SA-PM1-TC06-05** **EM Environment Adaptability Analysis of Airborne Radar Based on Complex Network Theory (#1570785128)** *Mingjuan Cai (Naval Research Academy); Yuxuan Liang; Tao Jiang (Harbin Engineering University)*	**SA-PM1-TC08-04** **Research on Electromagnetic Energy Harvesting Technology for Smart Grid Application (#1570782143)** *Guowei An (#Chengdu University of Information Technology); Congzheng Han (Chinese Academy of Sciences); Fugui Zhang and Kun Liu#*
2:50pm		**SA-PM1-TC08-05** **A Behavioral Model of High-Voltage Traction Inverters for EMC Analysis (#1570785151)** *Franco Fiori, Michele Perotti (Politecnico di Torino); Jianmei Lei, Tian Tian, Yangchun Gao, Xiaojiao Li (China Automotive Engineering Research Institute Co., LTD)*
3:10pm		**SA-PM1-TC08-06** **Study on Electromagnetic Characteristics of Planar Inductors Being of Weak Electromagnetic Radiation Interference (#1570784606)** *Yujie Wu, Yin Zheng, Fan Chongru, Yubo Fu, and Shishan Wang (Nanjing Univ. of Aeronautics and Astronautics)*
3:30pm		**SA-PM1-TC08-07** **Common-Mode Voltage Reduction Method for MMC with Pulse Sequential Connection Asymmetric Carrier Disposition PWM (#1570785108)** *Zhaoyi Chu, Hong Li and Zuoxing Wang (Beijing Jiaotong Univ.)*

Technical Sessions – – Saturday Afternoon, Sept. 3, 2022 (PM2)

Rooms	Room 305A	Room 305B	Room 305C
03:50pm – 05:50pm	**TC-10 Signal & Power Integrity** ***Chair(s): Bo Pu, Decao Yang***	**TC-05 System Level EMC and Protection** ***Chair(s): Da Li, Jingkun Mao***	**[SS-11] Frequency Selective Surfaces/Structures/Circuits** ***Chair(s): Bo Li, Yufeng Yu***
3:50pm	**SA-PM2-TC10-01** **A Method to Reduce Jitter Due to Power Noise by Optimizing Loop Filter in PLL Based Clock Source (#1570783524)** *Haojie Wu, Wenrui Wang, L. Ye, K. Song and X. Sun (Zhejiang Univ.)*	**SA-PM2-TC05-01** **Wideband Dipole-Monopole Antenna (#1570781220)** *Haim Matzner (HIT-Holon Institute of Technology, Israel); Ely Levine (AFEKA, Academic College of Engineering, Israel)*	**SA-PM2-SS11-01** **Efficient Application of Manifold Mapping Algorithm in Optimal Design of Microwave Devices (#1570783806)** *Xuehong Shang and Yijun Sheng (Nanjing University of Science and Technology); Dazhi Ding (China)*
4:10pm	**SA-PM2-TC10-02** **Signal Integrity with Ultra-Low Latency in Heterogeneous Integration System in Display (HiSID) (#1570784601)** *Ma Huicai, Haohui Long and Li Zhang (Huawei Device Co., Ltd.); Decao Yang (Huawei Technologies Co. Ltd. Shanghai)*	**SA-PM2-TC05-02** **A Compact Frequency-Selective Shielding Enclosure for Smart-Antenna Embedded Systems (#1570783278)** *Chen-Ying Hsieh, Chien-Ju Chen, C.-N. Chiu (Yuan Ze Univ.); Y.-F. Ku (Taiwan Testing & Cert. Ctr); M.-K. Hsieh (Bureau of Stds, Metro. & Inspection)*	**SA-PM2-SS11-02** **Transparent and High Angular Stability Frequency Selective Surface for Dual-Band RF Shielding (#1570784667)** *Qingxin Guo (Communication University of China); Huixian Liu and Qingyue Peng (Communication University of China)*
4:30pm	**SA-PM2-TC10-03** **Analysis of Signal and Power Integrity in "Tile" Active Antenna Array (#1570784644)** *Zhao Li, Kan Wang, Hao Zhou, Minmin Guo and Guopeng Yang (Nanjing Research Institute of Electronic Technology)*	**SA-PM2-TC05-03** **Earth Resistance Measurements on Large Scale Cylindrical Earthing Systems: A Case Study (#1570785065)** *Oibar Martínez Vílchez, Clara Oliver Garcia, Silvia Ronda, Patricia Marquez and Jose Miguel Miranda (University Complutense of Madrid)*	**SA-PM2-SS11-03** **Design of S-Band Frequency Selective Surface Based on Multi Screen Structure (#1570784704)** *Xu Zhihao (Nanjing Research Institute of Electronics Technology)*
4:50pm	**SA-PM2-TC10-04** **PCB-Level Thermal & SI/PI Co-Analysis: Progress and Directions (#1570784739)** *Zhixin Xia (& LinkE Tech. (Hengqin)); Jun Fan (Missouri Univ. of Sci. & Tech.); Luo Yunlong (Southwest Jiaotong Univ.); Yihong Qi (DBJ Technologies); Xiaoning Ye (Intel)*	**SA-PM2-TC05-04** **Influence of Conformal Coatings on the EMC Performance of a Printed Circuit Board (#1570785131)** *Haran Manoharan, Ruijie He Fuwei Ma (#Missouri Univ. of Sci. & Tech.); Brian Booth and Kerry Martin (Deere and Company); Daryl Beetner#*	**SA-PM2-SS11-04** **Integrated Low RCS CP Dipole Antenna Array (#1570784966)** *Cheng Jin and Binchao Zhang (#Beijing Inst. of Tech.); Liyuan Yin (Kunming University of Science and Technology); Qihao Lv#; Pengyu Zhang (The China Electronics Tech. Group Corporation); H. Han#*
5:10pm	**SA-PM2-TC10-05** **NRZ and ENRZ SerDes System Comparison with Proposed GA Optimization (#1570784346)** *Zhifei Xu (Kandou Bus)*	**SA-PM2-TC05-05** **Electrification Modeling Method for the Cable Network of Electronic System (#1570779181)** *Qi Jin, W. Sheng, C. Gao (Nanjing Univ. of Sci, & Tech.); X. Meng (Shanghai Inst. of Satellite Eng.)*	**SA-PM2-SS11-05** **A Novel Angularly Stable Wide Passband Frequency Selective Surface (#1570784989)** *Panpan Zuo (Civil Aviation Univ. of China); X. Chen (#Zhejiang Univ.); M. Wang, H. Zheng (Hebei Univ. of Tech.); E-P. Li #*
5:30pm	**SA-PM2-TC10-06** **Signal Integrity Analysis for 10Gbps Photoelectric Links Based on Behavior Model (#1570785575)** *Hao-hang Su (Beijing Institute of Space Mechanics & Electricity)*	**SA-PM2-TC05-06** **A Novel Model for Analyzing the Electric Field Susceptibility of Print Circuit Board in MMC Submodule System (#1570783407)** *Junzhao Zhang and Ruodong Wang Jianan Chen, Dong Jiang and Wei Sun (Huazhong Univ. of Sci. & Tech.)*	**SA-PM2-SS11-06** **A Novel Three-Dimensional Frequency Selective Slab with Quasi-Elliptic Response (#1570785724)** *Jiawei Liu, Quan Xue and Shaowei Liao (South China University of Technology)*

Technical Sessions – – Saturday Afternoon, Sept. 3, 2022 (PM2)

Rooms	Room 305D	Room 305E
03:50pm – 05:50pm	**[SS-03] Lightning Physics & Effects** *Chair(s): Weitao Lyu, Rubin Jiang*	**[SS-10] Modeling & Suppression of EMI** *Chair(s): Da Li, Si-Ping Gao*
3:50pm	**SA-PM2-SS03-01** **Peak Currents of Return Strokes Observed in the Chinese Inland Areas by Ningxia FALMA (#1570784305)** *Dongdong Shi (Yangzhou University)*	**SA-PM2-SS10-01** **A Brief Review of Magnetostatic Wave Technology in Microwave Applications (#1570787076)** *Si-Ping Gao and Yongxin Guo (National University of Singapore)*
4:10pm	**SA-PM2-SS03-02** **Optical Characteristics of Needles in Positive Cloud-To-Ground Lightning Flashes (#1570784435)** *Bin Wu (State Key Laboratory of Severe Weather & #Chinese Academy of Meteorological Sciences); Weitao Lyu, Qi Qi and Ying Ma#; Lyuwen Chen (China Meteorological Administration); Vladimir Rakov (University of Florida); Fanchao Lyu (Nanjing Joint Institute for Atmospheric Sciences & NJIAS); Yang Zhang and Hengyi Liu#*	**SA-PM2-SS10-02** **A Single-Fed Circularly-Polarized UHF Yagi-Uda Antenna (#1570784620)** *Xiaodong Liu, Guoxuan Zhang and Qian Xu (Nanjing University of Aeronautics and Astronautics); Rui Jia (State Key Laboratory of Complex Electromagnetic Environment)*
4:30pm	**SA-PM2-SS03-03** **Modeling of Airborne Ultrashort Wave Radio Receiver and Analysis of Lightning Interference Effect (#1570784754)** *Youwei Meng, Shaoxiong Cai, Yaoyao Li and Donglin Su (Beihang University)*	**SA-PM2-SS10-03** **Absorptive-Material-Based Structure for Suppressing Unwanted Radiation in Chip-Packages (#1570784772)** *Jiaqi Xing, Xinglei Liang, Yudi Fan, Ling Zhang, Da Li and Er-Ping Li (Zhejiang University)*
4:50pm	**SA-PM2-SS03-04** **Thunderstorm Energetic Radiation Observation System (TEROS) and Its Preliminary Results (#1570784811)** *Xiong Zhang, Xiaoqiang Li, Peng Li, Baofeng Cao, Yi Zheng and Zongxiang Li (China)*	**SA-PM2-SS10-04** **Optical-Integrated UWB Antennas with Low Cross-Polarization (#1570784810)** *Meng Donglin, Xiaoqian Song and Fujian Liao (National Institute of Metrology)*
5:10pm	**SA-PM2-SS03-05** **Activation of Breakdown at the Negative-End of the Channel Network as Induced by the Recoil Leader (#1570782862)** *Rubin Jiang, Xiushu Qie and Mingyuan Liu (Institute of Atmospheric Physics, Chinese Academy of Sciences)*	**SA-PM2-SS10-05** **Common Mode Far-Field Radiation Prediction of V- Shaped Cables Based on Retarded Partial Element Equivalent Circuit Method (#1570785027)** *Pengyang Zhao, Junping He (Harbin Institute of Technology, Shenzhen)*
5:30pm	**SA-PM2-SS03-06** **Lightning Transients of the Overhead Catenary System Pillar and Its Adjacent Grounding Systems in a High-Speed Railway Depot (#1570784761)** *Zhiguo Su (CRSC Res. & Design Inst. Group Co., Ltd.)*	**SA-PM2-SS10-06** **Novel Electromagnetic Interference Suppression Techniques in Miniaturized Microwave Circuits (#1570785103)** *Da Yi and Ming-Chun Tang (Chongqing University); Xing-Chang Wei and Er-Ping Li (Zhejiang University)*

Poster Session A – Saturday Afternoon, Sept. 3, 2022

September 3, 2022, Saturday 10:40am-12:20pm
Venue: Poster Sessions Area, 3rd Floor
Chair(s): Zhang Ling

SA-AM2-P-A1
Broadband Electromagnetic Compatibility Model of Three Phase Synchronous Motor (#1570784787)
Ying Xiong (China North Vehicle Research Institute)

SA-AM2-P-A2
Modeling of EMI Filter by Means of Recurrent Neural Network with Encoding Layer (#1570779528)
Jinglong Gao, Dezheng Lu, Shize Ye and Henglin Chen (Zhejiang University)

SA-AM2-P-A3
A Simple Method for Extracting Complex Permeability of Magnetic Core in Common-Mode Choke (#1570783444)
Xinran Yao and Guangxiao Luo (North China Electric Power University (Baoding))

SA-AM2-P-A4
Equivalent Circuit Modeling for Capacitance Determination of Resonant Reactive Magnetic Shield in Wireless Power Transfer (#1570785154)
*Xiangyong Mou (Sichuan University & Chengdu University of Information Technology); Liping Yan and Zhiyuan Gu (Sichuan University); Junyou Cao and Guohong Du (Chengdu University of Information Technology); Richard Xian-Ke Gao (A*STAR Institute of High Performance Computing, Singapore)*

SA-AM2-P-A5
Research on Electromagnetic Interference and Ripple Suppression of LLC Circuit Based on Symmetric Chaotic Spread Spectrum (#1570791151)
Wenrong Yang (Hebei University of Technology)

SA-AM2-P-A6
Proficiency Testing Scheme of Conducted Disturbance at Telecommunication Ports (#1570780916)
Jincai Mi, Chen Hui, Liu Qunxing, Zhang Yuanqin, Wu Yun and Yu Haitao (China CEPREI Laboratory)

SA-AM2-P-A7
Research on Electromagnetic Interference Characteristics of Vehicle-Mounted High-Voltage Electric Drive System (#1570778412)
Ji Zhao (China)

SA-AM2-P-A8
Time Series Modeling and Prediction of Wideband Electric Field Radiation (#1570782115)
Xinwei Song (Beijing University of Civil Engineering and Architecture)

SA-AM2-P-A9
Research on Key Technology of Vehicle Electromagnetic Radiation Immunity Capability Verification (#1570782201)
Yun Wang, Haiming Liu and Zhang Chen (CATARC); Chen Xichen (China Automotive Technology and Research Center Co., Ltd.); Li Jiang (CATARC); Junjie Ma (CATARC Automotive Test Center(Tianjin) Co., Ltd.)

SA-AM2-P-A10
Research on Ray Path Classification in Indoor Electromagnetic Environment (#1570784322)
Yuncheng Mo, Jianfeng Gu, Zedian Wang and Luqi Duan (Nanjing Normal University)

SA-AM2-P-A11
Error Analysis of Electric Field Sensor Caused by Laser Wavelength Shift (#1570784340)
Wanqing Jing (Institute of Electronic Engineering) Academy of Engineering Physics); Bo He (Xi'an Jiaotong University)

SA-AM2-P-A12
Discussion on Computing Isotropy of E-Field Probe (#1570784428)
Yufei Xiong, Xiaoli Yang, Sijia Wan and Yi Zhou (China Academy of Information and Communications Technology)

SA-AM2-P-A13
A Pilot Test for Radiation Electric Field of ±200kV Hybrid DC Breaker in Short Circuit Fault (#1570784628)
Bo hao Zhang, Shao yin He and Yanzhao Xie (Xi'an Jiaotong University); Xiaojun Ni (Electric Power Research Institute of State Grid Zhejiang Electric Power Co., Ltd); Yu Song (Xi'an Jiao Tong University)

SA-AM2-P-A14
Water Calorimeter Design and Correction Factor Analysis for RF Medium Power Measurement (#1570784981)
Jinwen Liu and Wenze Yuan (National Institute of Metrology (NIM)); Yang Zhao (China Jiliang University); Wei Zhao and Xiaohai Cui (National Institute of Metrology)

SA-AM2-P-A15
Repeatability Optimization Method for Reverberation Chamber (#1570785014)
Yifan Guo, Zibin Weng and Yong-Chang Jiao (Xidian University); Huibin Zhang (General Test Systems Inc.); Yihong Qi (Hunan University); Yang Yang (Southwest Jiaotong University)

SA-AM2-P-A16
Research on Cable Coupling Experimental System Test (#1570785147)
Ya peng FU (National University of Defense Technology)

SA-AM2-P-A17
Simulation and Analysis of Nearby Lightning Pulse Magnetic Field Generator (#1570780738)
Fu Qingfeng (University of Engineering)

SA-AM2-P-A18
A Lightning Surge Analysis in a PV System Based on the FDTD Method (#1570783178)
Binghao Li, Jianwei Cheng, Xi Zhang and Yao Yuan (CSG Electric Power Research Institute); Renchi Zhang (Kunming Bureau, CSG EHV Transmission Company); Zhangshi Li (Qionghai Power Supply Bureau, Hainan Power Grid Corporation, CSG)

SA-AM2-P-A19
Experimental Verification of the Lightning Fractal Model Based on Rod-Rod Air Gaps (#1570784619)
Tianyi Yang (Xi'an Jiaotong University)

SA-AM2-P-A20
Study on the Interception Effectiveness of Lightning Rod by Cloud-To-Ground Lightning Model (#1570784497)
Bangyong Wang (Xi'an Jiaotong University); Jun Guo (Xi'an Jiaotong University'); Yanzhao Xie (Xi'an Jiaotong University)

SA-AM2-P-A21
Design and Simulation of a High-Power Fast-Response Dual-Channel Protection Module (#1570780374)
Jingqi Zhang (China Academy of Engineering Physics)

SA-AM2-P-A22
Research on the Electromagnetic Environment of the Airborne VLF DTWA (#1570780818)
Liyuan Su (University of Engineering)

SA-AM2-P-A23
Increasing Peak Power of Short Pulse Source Based on Time Reversal Focusing Cavity (#1570781389)
Bingjing Li and Qiaoli Zhang (University of Electronic Science and Technology of China); Deshuang Zhao (University of Electronic and Science Technolgoy of China); Yu Yang (China Academy of Engineering Physics)

SA-AM2-P-A24
Simulation and Calculation of Proximity Effect of Coils Under Fast Transients (#1570784439)
Zongyang Wang (Xi'an Jiaotong University)

SA-AM2-P-A25
The Research on Frequency-Domain Characteristics of Electromagnetic Pulse (#1570784839)
Han hanJingyu (Beijing & First Research Institute of the Ministry of Public Security)

SA-AM2-P-A26
Performance of 10 kV Metal-Oxide Arresters Excited by High-Altitude Electromagnetic Pulse (#1570784883)
Yanpeng Ge, Yanzhao Xie, Yuying Wu, Yubo Wang, Zetong Li and Liang Tao (Xi'an Jiaotong University)

SA-AM2-P-A27
Simulation of SREMP in the Laser ICF Facility (#1570784987)
Zhiqian Xu (Tsinghua University)

SA-AM2-P-A28
Secondary Electron Emission Characteristics of Tantalum (#1570785081)
Yuting Zhang (China Academy of Space Technology (Xi'an))

SA-AM2-P-A29
Measurement and Analysis of Time-Frequency Characteristics of Return Current of Subway Traction Power Supply (#1570779287)
Wei Song (Tsinghua University); Zhixin He, Xia Chen, Shangsong Ya and Yunyun Zhao (Guangzhou Metro Design and Research Institute Co., Ltd.)

SA-AM2-P-A30
Simulation of Cable Radiation Field of Electric Vehicle (#1570782295)
Fanyun Kong, Guangyu Zhang, Junyan Wang, Ranran Gu, Qiuyuan Qiao and Yaxiu Sun (Harbin Engineering University)

SA-AM2-P-A31
A Lens Antenna Design for In-Cabin Detection (#1570783171)
Ruikang Li and Zibin Weng (Xidian University); Zhanghua Cai (Hunan University); Luo Yunlong (Southwest Jiaotong University); Yihong Qi (DBJ Technologies, Canada)

SA-AM2-P-A32
The Decoupling Analysis of Radome in mm-Wave Applications (#1570783154)
Zhang Weihua and Zibin Weng (Xidian University); Yihong Qi (DBJ Technologies, Canada); Yong-Chang Jiao (Xidian University); Chi Lidong (Hunan University); Luo Yunlong (Southwest Jiaotong University)

SA-AM2-P-A33
Influence Analysis and Verification of Equipment Electromagnetic Radiation on GEO SAR Payload (#1570780203)
Yuting Zhang and Miao Xiao (Beijing Institute of Spacecraft System Engineering); Zhenxing Wang, Chong Ni, Liping Liu and Zhihua Tang (Institute of Remote Sensing Satellite, CAST)

SA-AM2-P-A34
Study on Capability Verification Test of Electromagnetic Pulse Protection for Aircraft (#1570784598)
Yan Wang (Shenyang Aircraft Design and Research Institute)

Poster Session B – Saturday Afternoon, Sept. 3, 2022

September 3, 2022, Saturday 1:30pm-3:40pm
Venue: Poster Sessions Area, 3rd Floor
Chair(s): Yin Sun

SA-PM1-P-B1
The Analysis and Suppression of Electromagnetic Interference on Satellite Automatic Identification System (#1570784700)
Guangdong Dong, Qing Li, Xinsheng Jiang, Shuhai Chen and Xiaoxia Chen (Shanghai Institute of Satellite Engineering)

SA-PM1-P-B2
Simulation Research for Reducing Electromagnetic Interference of Microsecond Communication Signal (#1570779547)
Tianhong Tan (Harbin Engineering University)

SA-PM1-P-B3
Grounding Characteristics of Shielded Wire Crosstalk at High Frequency (#1570782268)
Wu Zhang, Zhou Chen, Jiafei Ding and Yongji Wu (School of Electrical & Automation Engineering, Nanjing Normal University, Nanjing)

SA-PM1-P-B4
Air Vent with Openings of Random Size and Location for Improved EMI Shielding and Air Flow (#1570784316)
Jianquan Lou (CISCO); Alpesh Bhobe and Jerry Pianin (CISCO, USA)

SA-PM1-P-B5
Failure Detection and Identification of UAV Positioning System Based on Equivalent Dynamic Test Method (#1570784609)
Baisen Guo (Strategic Support Forth Information Engineering University); Yu Daojie and Kai He (Strategic Support Force Information Engineering University); Changlin Zhou (Zhenzhou Information Engineering University); Dong Wang (Strategic Support Force Information Engineering University)

SA-PM1-P-B6
Performance Analysis of a Coaxial Conical Transverse Electromagnetic Wave Cell (#1570784612)
Xingxun Liu (Beijing Institute of Radio Metrology and Measurement); Xianyou Cheng (Research Institute of Chemical Defense); Beichen He (Beijing Institute of Radio Metrology and Measurement)

SA-PM1-P-B7
Method of Controlling the Single-Ended Clock Bus Interference to the RF Bands (#1570784924)
Tiankai Wu (Nanjing Research Institute of Electronics Technology)

SA-PM1-P-B8
Design of SIW Filter Transition Structure Based on Quarter-Wavelength Impedance Matching (#1570785093)
Sicheng Li and Xinglin Sun (Zhejiang University)

SA-PM1-P-B9
Optimization and Design of High-Speed Transmission Line Cables (#1570785599)
Jie Liao, Jingxiao Li, Zhizhen Su and Oussama Gassab (Zhejiang University); Fang He (Zhejiang Zhaolong Interconnect Technology Co., Ltd.

SA-PM1-P-B10
Research on Transient Conduction Sensitivity of the Chips Using TLP Method (#1570776154)
Lu Fu (Beihang University); Zhaowen Yan, Yuzhu Liu and Donglin Su (Beihang University)

SA-PM1-P-B11
Research on Electromagnetic Radiation Emission Characteristics of Vehicle Regulation Computing Chips Based on TEM Cell Method (#1570785143)
Sai Zhu (Beijing & China Electronics Standardization Institute)

SA-PM1-P-B12
Simulation Design of System-Level Power Integrity and Signal Integrity of Vehicle Chip DDR (#1570783404)
Jie Zhang (CATARC New Energy Vehicle Test Center (Tianjin) Co., Ltd.)

SA-PM1-P-B13
Signal Integrity Design and Optimization of a High Speed Single Ended Multi Load Circuit (#1570784741)
Tao Xu and Haiqing Dai (Research Institute of Engineering)

SA-PM1-P-B14
Effect of Nickel-Coating on High-Speed Connector Transmission Properties (#1570784752)
Yu Bi, Shitao Liu and Bi Yi (ZTE Corporation)

SA-PM1-P-B15
Simulation Design and Optimization of Multi-Channel High-Frequency Transmission Lines Applied to Optical Modules (#1570784288)
Guoliang Yang, Dandan Guo, Ming Li and Ning-Hua Zhu (State Key Laboratory on Integrated Optoelectronics, Institute of Semiconductors, CAS, Beijing); Xin Wang (State Key Laboratory on Integrated Optoelectronics, Institute of Semiconductors, CAS, Beijing, China)

SA-PM1-P-B16
Efficiently Solving Electromagnetic Scattering from Metasurface Structures Based on Improved Volume Surface Integral Equation Method (#1570782106)
Wentao Wu, Haoyong Liu, Jun Hu and Lin Lei (University of Electronic Science and Technology of China)

SA-PM1-P-B17
A Fast and Accurate Rational Fitting Model for Sommerfeld Integrals in Multilayered Planar Medium (#1570784335)
Zi-Hao Zhao, Yun-Han Chen and Biyi Wu (Beijing Institute of Technology); Xin-Qing Sheng (School of Information and Electronics, Beijing Institute of Technology)

SA-PM1-P-B18
The Asymptotic Method for Multi-Conductors Excited by Multiple Plane Waves with a Lossy Ground (#1570784437)
Wei-chen Xie, Jun Guo, Yanzhao Xie, Qun-shuang Zheng (Xi'an Jiaotong University)

SA-PM1-P-B19
A Novel Method for Fast Generation of Electromagnetic Model of Multi-Core Aviation Connector Based on Method of Moments (MOM) (#1570784760)
Shaoxiong Cai, Yaoyao Li, Youwei Meng and Donglin Su (Beihang University)

SA-PM1-P-B20
Solving Electromagnetic Scattering Contribution from Each Component Region with HO-SIE-DDM Solver (#1570785075)
Quan Deng, Qiang-Ming Cai and Xin Cao (Southwest University of Science and Technology); Wen Jiang (University of Electronic Science and Technology of China); Yuying Zhu and Yuyu Zhu (Southwest University of Science and Technology); Jun Fan (Missouri University of Science and Technology, USA)

SA-PM1-P-B21
A Novel Probability Density Taper Approach for Planar Array Thinning (#1570785119)
Zhen Ye, Qiang-ming Cai, Yuyu Zhu and Xin Cao (Southwest University of Science and Technology)

SA-PM1-P-B22
Characterizing Effects of Cluster Scattering on Channel Performances in MIMO Systems with the Foldy-Lax Multiple Scattering Formulation (#1570785144)
Haonan Chen, Zhaoyang Feng, Xuyang Bai, Chunzeng Luo and Shurun Tan (Zhejiang University)

SA-PM1-P-B23
Dispersion Analysis and Advantages of High-Order Discrete Singular Convolution FDTD (#1570778793)
Qiuyuan Qiao and Yaxiu Sun (Harbin Engineering University)

SA-PM1-P-B24
Assessment of Millimeter Wave Exposures Using Anatomical Head Model (#1570782146)
Yinliang Diao (South China Agricultural University); Akimasa Hirata (Nagoya Institute of Technology)

SA-PM1-P-B25
A Microfluidic Device Based on a Rectangular Transmission Line Structure for the Application of Picosecond Pulsed Electrical Fields on Suspension Cells (#1570784451)
Xuezhao Hao (Xi'an Jiaotong University)

SA-PM1-P-B26
A Compact Reconfigurable Filtering Antenna for Wireless Applications (#1570784446)
Yihang Li and Meie Chen (Beijing Jiaotong University)

SA-PM1-P-B27
Band-Notched Ultra-Wideband Bandpass Filter with Broad Stopband (#1570784605)
Yinchuan Xiao (Shanghai University)

SA-PM1-P-B28
Surface-Mounted Parallel-Coupled Microstrip Bandpass Filter with Vertical Transition for 5G Millimeter-Wave Applications (#1570784969)
Yunan Han (Beijing University of Chemical Technology)

SA-PM1-P-B29
A Transparent Ultra-Wide Stopband Frequency Selective Surface for Millimeter Wave Electromagnetic Shielding (#1570785005)
*Li Tang, Liping Yan and Xiang Zhao (Sichuan University); Richard Xian-Ke Gao (A*STAR Institute of High Performance Computing, Singapore); Li Xi and Jin Yushuang (Sichuan University)*

SA-PM1-P-B30
A Dual-Polarized Traveling-Wave Slot Array for X-Band Applications (#1570785058)
Shilu Deng and Qiang-Ming Cai (Southwest University of Science and Technology); MuLin Liu (Tongyu Communication Inc.); Xin Cao (Southwest University of Science and Technology); Tao Liu (Sichuan Jiuzhou Electric Group Co., Ltd); Yuyu Zhu and Feng Guo (Southwest University of Science and Technology); Jun Fan (Missouri University of Science and Technology, USA)

SA-PM1-P-B31
Isolation Enhancement of MIMO Antenna Using Characteristic Mode Analysis (#1570785139)
Zi-qiang Wu, Qiang-Ming Cai, Xin Cao and Yuying Zhu (Southwest University of Science and Technology); MuLin Liu (Tongyu Communication Inc.); Yuyu Zhu (Southwest University of Science and Technology); Jun Fan (Missouri University of Science and Technology, USA)

SA-PM1-P-B32
Low Infrared and Optically Transparent Mobile Phone Signal Jammer for Sub-6 GHz 5G Bands (#1570784880)
Li Shuying (Nanjing University of Aeronautics and Astronautics)

SA-PM1-P-B33
Design of Holographic Scalar Impedance Surfaces with Controllable Polarizations (#1570785135)
Guohong Du, Peiwen Yin, Xiaofeng Sun and Yuan Zhao (Chengdu University of Information Technology)

SA-PM1-P-B34
Pattern Reconfigurable Metasurface Antenna Based on Characteristic Mode Analysis (#1570785136)
Guohong Du, Jianxin Jiang, Xiaofeng Sun and Yuan Zhao (Chengdu University of Information Technology)

Technical Sessions – – Sunday Morning, Sept. 4, 2022 (AM1)

Rooms	Room 305A	Room 305B	Room 305C
08:40am – 10:20am	**[SS-12] Machine Learning for EMC/SI/PI** ***Chair(s): Ling Zhang, Da Li, Bo Pu***	**TC-05 System Level EMC and Protection** ***Chair(s): Xinglin Sun***	**TC-13 Wireless Comm EMC** ***Chair(s): Yihong Qi, Panpan Zuo***
8:40am	**SU-AM1-SS12-01** **Research on electromagnetic compatibility fast simulation method of radar with large carrier platform** *Lei Sun (Science and Technology on Antenna and Microwave Laboratory, CETC14)*	**SU-AM1-TC05-01** **Switchable Optically Transparent Frequency Selective Surface for Ultrawide-Band Electromagnetic Shielding (#1570784530)** *Chengrong Wang, Liping Yan, Zihan Sun and Xiang Zhao (Sichuan University)*	**SU-AM1-TC13-01** **A High-Gain and Wideband Circularly Polarized Antenna for LEO Satellite Communications (#1570783275)** *Jia-Cheng Liang and Cheng-Nan Chiu (Yuan Ze University)*
9:00am	**SU-AM1-SS12-02** **Bayesian Machine Learning for Extracting Parasitic Parameters of GSG Calibration Standards (#1570784319)** *Jiefeng Zhou, Ling Zhang, Da Li, Junhui Chen, Chenghan Wu, Li Jiang and Er-Ping Li# (#Zhejiang Univ.)*	**SU-AM1-TC05-02** **Field-To-Wire Coupling Model for FourTwisted Twisted-Wire Pairs Above Ground Plane (#1570784707)** *Zongfei Zhou, Peng Huang, Bing Li and Donglin Su (Beihang University)*	**SU-AM1-TC13-02** **A Dual-Band Cavity Antenna Having High Gain and Shielding Effectiveness (#1570783276)** *Hao Hsiang Yang and Cheng-Nan Chiu (Yuan Ze University)*
9:20am	**SU-AM1-SS12-03** **Resonance Frequency of Vertical SIW Based on the Artificial Neural Network (#1570784986)** *Yuru Feng, Xing-Chang Wei and Qi-Han Xiao (Zhejiang University)*	**SU-AM1-TC05-03** **An FSS-Based Broadband Absorber for Electromagnetic Shielding (#1570784984)** *Zihan Sun, Liping Yan, Chengrong Wang and Xiang Zhao (Sichuan Univ.); Richard Xian-Ke Gao (A*STAR Inst. of High Performance Computing)*	**SU-AM1-TC13-03** **Modeling of RF Interference Caused by Solid-State Drive Noise (#1570784946)** *Junho Joo, Woncheol Song and Taelim Song (#Missouri Univ. of Sci. & Tech.); Sunkyu Kong, Jungcheol Lim, Inmyung Song and Jongjoo Lee (SK Hynix Inc.); Chulsoon Hwang#*
9:40am	**SU-AM1-SS12-04** **Intelligent Design of Arbitrary Bandstop FSS Through Deep Learning and Genetic Algorithm (#1570784997)** *Zheming Gu, Da Li, Yudi Fan, Ling Zhang and Er-Ping Li (Zhejiang University)*	**SU-AM1-TC05-04** **Optimization Design of EMI Filter Considering the Components Frequency Variation Characteristics (#1570784991)** *Lei Zhang (Naval Universtiy of Engineering)*	**SU-AM1-TC13-04** **Analysis of the Potential Impact of Randomly Coded Meta-Surfaces on V2X Electromagnetic Environment (#1570785096)** *Syed Imran Haider (ZJU-UIUC Institute, #Zhejiang University); Shurun Tan and Er-Ping Li#*
10:00am	**SU-AM1-SS12-05** **A Neural Network Model for Electro-Thermal Effect Affected Hot Carrier Injection Reliability in Nanoscale MOSFETs (#1570785059)** *Yimin Wang (Zhejiang University); Yanbin Yang (Zhijiang Intelligence Institute in Chengdu Tianfu District); Wenchao Chen (Zhejiang University)*	**SU-AM1-TC05-05** **Modeling and Physical Explanation of the "Suck-Out" in High-Speed Transmission Line Cables (#1570785594)** *Zhizhen Su, Jingxiao Li, Jie Liao, Oussama Gassab and Qunping Luo (Zhejiang University); Fang He (Zhejiang Zhaolong Interconnect Technology Co., Ltd.)*	**SU-AM1-TC13-05** **EM Environment Adaptability Evaluation of Ultrashort Wave Frequency Hopping Radio Based on Exploratory Data Analysis (#1570785228)** *Jiangnan Xing and Tao Jiang (#Harbin Engineering University); Jialin Shi (Naval Research Academy); Ping Xu#*

Technical Sessions – – Sunday Morning, Sept. 4, 2022 (AM1)

Rooms	Room 305D	Room 305E
08:40am – 10:20am	**[SS-03] Lightning Physics & Effects** ***Chair(s): Weitao Lyu, Rubin Jiang***	**TC-04 High Power Electromagnetics** ***Chair(s): Meng Cui, Lihua Shi***
8:40am	**SU-AM1-SS03-01** **Evolution Characteristics During Initial Stage of Triggered Lightning Based on Continuous Interferometer Observation (#1570785052)** *Yang Zhang (Chinese Academy of Meteorological Sciences)*	**SU-AM1-TC04-01** **Susceptibility Evaluation of Commercial Drone in Harsh Electromagnetic Environment (#1570785701)** *Tengiz Svimonishvili, Eng Kee Chua and Kye Yak See (Nanyang Technological University)*
9:00am	**SU-AM1-SS03-02** **Simulated Impacts of Two Adjacent Cloud-To-Ground Lightning Flashes on the Sprite Inception by Using a Three-Dimensional EMP Model (#1570785097)** *Jinbo Zhang (Jiangsu University of Science and Technology); Qilin Zhang and Jiaying Gu (Nanjing University of Information Science and Technology)*	**SU-AM1-TC04-02** **Conducted EMI Analysis and Modeling for the Main Circuit of a MMC Submodule (#1570784289)** *Ruodong Wang (Huazhong University of Science and Technology)*
9:20am	**SU-AM1-SS03-03** **Relations Between the Planar Region, Transition Region, and Spherical Region in the Moon Excited by a Vertical Magnetic Dipole (#1570785177)** *Zhu Hong Lin (Zhejiang University); Yan Li (China Jiliang University)*	**SU-AM1-TC04-03** **Design of an HEMP Simulator with Smooth Transition Section (#1570784763)** *Lihua Shi (the National Key Laboratory on Electromagnetic Environmental Effects and Electro-optical Engineering)*
9:40am	**SU-AM1-SS03-04** **Identification and Analysis of Overshooting Connections Combined with Lightning Data (#1570785047)** *Lixia Bi, Yang Zhao, Xiangzhen Kong and Jinlei Yan (Nanjing University of Information Science & Technology)*	**SU-AM1-TC04-04** **A Platform for Properties Investigation of Narrow Gap Electrostatic Discharge (#1570784973)** *Fangming Ruan (Guizhou Normal University)*
10:00am	**SU-AM1-SS03-05** **Statistical Analysis of Severe Convection Characteristics Using FY-4A Data (#1570785063)** *Yang Zhao, Lixia Bi, Xiangzhen Kong and Jinlei Yan (Nanjing University of Information Science & Technology)*	**SU-AM1-TC04-05** **Calculation and Assessment for HEMP Response of Overhead Transmission Line (#1570785023)** *Ni Li (China Electric Power Research Institute); Jun Guo (Xi'an Jiaotong University'); Jiangong Zhang (State Key Laboratory of Power Grid Environmental Protection); Yanzhao Xie (Xi'an Jiaotong University); Zheyuan Gan (China Electric Power Research Institute)*
10:20am	**SU-AM1-SS03-06** **Research on the Relationship Between Lightning and Convective Available Potential Energy and Precipitation in Different Regions of China (#1570785070)** *Jinlei Yan, Yang Zhao, Xiangzhen Kong and Lixia Bi (Nanjing University of Information Science & Technology)*	

Technical Sessions – – Sunday Morning, Sept. 4, 2022 (AM2)

Rooms	Room 305A	Room 305B	Room 305C
10:40am – 12:20pm	**TC-10 Signal & Power Integrity** *Chair(s): Xiuqing Chu, Han Hu*	**[SS-20] AI for EM Simulation** *Chair(s): Hualin Li, Jing Zhou, Decao Yang*	**[SS-04] Near-field EMI** *Chair(s): Richard Xian-Ke Gao, Xing-Chang Wei*
10:40am	**SU-AM2-TC10-01** **Insertion Loss Reduction Using Rounded Corners to Mitigate Surface Roughness Effect in PCB Transmission Lines (#1570785003)** *Yuandong Guo, DongHyun Kim and Yuanzhuo Liu (Missouri University of Science and Technology); Xiaoning Ye (Intel); Jun Fan (Missouri University of Science and Technology); Jimmy Hsu (Intel)*	**SU-AM2-SS20-01** **Physics-embeded learning schemes for electromagnetic modeling and data inversion** *Maokun Li, Rui Guo, Tao Shan, Ke Zhang, Zhichao Lin, Hongyu Zhou, Haolin Zhang, Fan Yang, and Shenheng Xu (Tsinghua University)*	**SU-AM2-SS04-01** **Radiated Emission Prediction for PCBs in Shielding Enclosure Based on Numerical Green's Function (#1570779821)** *Zi An Wang and Ping Li (Shanghai Jiao Tong University)*
11:00am	**SU-AM2-TC10-02** **Analysis of the Immunity of Touchscreens to Intentional Electric Field Interference (#1570785335)** *Shuo Wang (University of Florida)*	**SU-AM2-SS20-02** **Inverse design of micro-nano-gratings: theory and engineering application** *Wei E. I. Sha (Zhejiang University)*	**SU-AM2-SS04-02** **Near Magnetic Field EMI Analysis and Modeling for a MMC Submodule (#1570784135)** *Ruodong Wang (Huazhong University of Science and Technology)*
11:20am	**SU-AM2-TC10-03** **De-Embedding for Coupled Three-Port Devices (#1570785687)** *Yuandong Guo, Bo Pu, DongHyun Kim and Jun Fan (Missouri University of Science and Technology)*	**SU-AM2-SS20-03** **Application of deep learning technique in forward and inverse EM and heat conduction problems (#1570796517)** *Qiang Ren, Yinpeng Wang, Jianing Cao and Hongyu Gao (Beihang University)*	**SU-AM2-SS04-03** **An Improved Differential Evolution Optimization-Based Source Reconstruction Method by Employing Near-Field Scanning (#1570784904)** *Tian-Hao Song, Si-Yao Tang and Xing-Chang Wei (Zhejiang University)*
11:40am	**SU-AM2-TC10-04** **Analyzing the Influence of Parasitic Effects on Memristor STDP with the PEEC Method (#1570785725)** *Can Wang, Shurun Tan and Er-Ping Li (Zhejiang University)*	**SU-AM2-SS20-04** **Multilayer Machine-Learning-Assisted Optimization and its Application to Robust Design of Antennas** *Haiming Wang (Southeast University)*	**SU-AM2-SS04-04** **Dual-Polarized Ultra-Wideband Electromagnetic Absorbers with Good Angular Stability (#1570782889)** *Mengmeng Cheng (School of Electronic & Information, Hangzhou Dianzi University); Yufeng Yu and Weiliang Yu (Hangzhou Dianzi University)*
12:00pm	**SU-AM2-TC10-05** **2-Port GSG Probe Calibration Using TRL and 16- Term Error Model Up to 100GHz (#1570784320)** *Junhui Chen, Ling Zhang, Da Li, Jiefeng Zhou, Chenghan Wu, Li Jiang and Er-Ping Li (Zhejiang University)*	**SU-AM2-SS20-05** **Applications and Challenges of Artificial intelligence on scientific computing for EM simulation of terminal devices** *Yu Pan (Huawei Technologies Co., Ltd)*	**SU-AM2-SS04-05** **Electromagnetic Near-Field to 3-Meter Field Transformation Based on Equivalent Dipoles (#1570784916)** *Liang Wentao (Zhejiang University); He Qi-Bo, Gao Zheng-Xiang, Zhao Chong-Feng, Huang Dong-Xu and Xiao Feng (OPPO)*

Technical Sessions – – Sunday Morning, Sept. 4, 2022 (AM2)

Rooms	Room 305D	Room 305E
10:40am – 12:20pm	**[SS-18] Automotive EMC** ***Chair(s): Zhang Xu, Zhai Li***	**[SS-01] EMI for Power Electronics** ***Chair(s): Zhenyu Zhao, Fei Fan, Kye Yak See***
10:40am	**SU-AM2-SS18-01** **Measurement-Based Modeling of High Frequency Equivalent Circuit of Permanent Magnet Synchronous Motor of Electric Vehicle (#1570785077)** *Shuangjie Yang and Li Zhai (Beijing Institute of Technology); Guixing Hu (Hangzhou Hikvision Digital Technology Co., Ltd)*	**SU-AM2-SS01-01** **A High-Frequency Multi-Band Coil for Online Bearing Health Monitoring (#1570785116)** *Zhenning Yang (NTU); Kye Yak See, Fei Fan, Zhenyu Zhao, Huamin Jie and Muhammad Faeyz Karim (Nanyang Technological University)*
11:00am	**SU-AM2-SS18-02** **An Active Filtering Method Based on Low Frequency Electromagnetic Interference Cancellation for Motor Drive System of Electric Vehicle (#1570785091)** *Mengyuan Lv, Li Zhai and Jianchang Ou (Beijing Institute of Technology)*	**SU-AM2-SS01-02** **Comparison Study on EMI Performance of SiC and Si Diodes in Cockcroft-Walton Voltage Multiplier (#1570782865)** *Minghai Dong and Hui Li (University of Electronic Science and Technology of China); Kye Yak See (Nanyang Technological University); Shan Yin (University of Electronic Science and Technology of China); Zhenyu Zhao and Fei Fan (Nanyang Technological University); Yingzhe Wu (University of Electronic Science and Technology of China)*
11:20am	**SU-AM2-SS18-03** **Modeling and Simulation of HEMP Coupling Effect on Motor Drive System for Special Vehicle (#1570785095)** *Shuliang Wang and Li Zhai (Beijing Institute of Technology)*	**SU-AM2-SS01-03** **Investigation of Conducted Electromagnetic Interference of Three-Level SiC Power Module (#1570782984)** *Yingzhe Wu, Honglang Zhang and Shan Yin (#University of Electronic Science and Technology of China); Shaofeng Lin and Tian Jiang (Xiamen SAN-U Optronics Co., Ltd.); Chuang Bi, Hui Li, and Yuhua Cheng #*
11:40am	**SU-AM2-SS18-04** **A Reference Less Far-Field Radiation Measurement System for Vehicle EMC Based on Software-Defined Radio (#1570785101)** *Hailin Cao, Aojie Liu, Zhuolin Li and Zahid Ali (Chongqing University); Tian Tian (#State Key Laboratory of Vehicle NVH and Safety Technology, Chongqing); Jianmei Lei (# & Chongqing Engineering Research Center for Automotive EMC Development)*	**SU-AM2-SS01-04** **Common-Mode Noise Mitigation Method for Planar Transformer Based on FB LLC Converter (#1570784860)** *Yue Cao and Wenjie Chen (Xi'an Jiaotong University)*
12:00pm	**SU-AM2-SS18-05** **EMI Modeling for Vehicle Body Using Characteristic Mode Analysis (#1570785104)** *Wenwen Qian (China Automotive Engineering Research Institute Co., Ltd); Yulin Yang, Junhui Peng and Hailin Cao (Chongqing University); Xiaojiao Li (#State Key Laboratory of Vehicle NVH and Safety Technology); Yangchun Gao (China Automotive Engineering Research Institute Co., Ltd.); Jianmei Lei (# & Chongqing Engineering Research Center for Automotive EMC Development)*	

Technical Sessions – – Sunday Afternoon, Sept. 4, 2022 (PM1)

Rooms	Room 305A	Room 305B	Room 305C
01:30pm – 03:30pm	**[SS-19] Risk assessment for EMC** ***Chair(s): Congguang Mao, Wenxiao Fang***	**TC-11 CEM & Multiphysics III** ***Chair(s): Huapeng Zhao, Minglin Yang***	**Industry Forum II**
1:30pm	**SU-PM1-SS19-01** **Overview and Progress of Risk Assessment for EMC (#1570784659)** *Mao Congguang (Northwest Institute of Nuclear Technology)*	**SU-PM1-TC11-01** **The Numerical Analysis of the Doppler Effect of an Arbitrarily Shaped PEC Object in Uniform Motion (#1570784618)** *Hongyun Deng (Shanghai Jiao Tong University); Gaobiao Xiao (Shanghai Jiaotong University)*	*(Industry Forum II)*
1:50pm	**SU-PM1-SS19-02** **Sampling Rate of HEMP Waveform for Reducing Numerical Dispersion in FDTD Framework (#1570784661)** *Mao Congguang (Northwest Institute of Nuclear Technology)*	**SU-PM1-TC11-02** **A Novel Fast Generation Method of Electromagnetic Model of Multilayer Microstrip Structure (MMS) Based on Method of Moments (MOM) (#1570784756)** *Shaoxiong Cai, Yaoyao Li, Youwei Meng and Donglin Su (Beihang University)*	
2:10pm	**SU-PM1-SS19-03** **Three-Dimensional Conformal Symplectic FIT Technique (#1570784689)** *Aiping Fang (Xi'an Jiaotong University)*	**SU-PM1-TC11-03** **Efficiently Coating Approach for Reducing Backscattering from Cavities (#1570784896)** *Cong-Bo Zhang (Beijing Institute of Technology); Xin-Qing Sheng (School of Information and Electronics, Beijing Institute of Technology)*	
2:30pm	**SU-PM1-SS19-04** **General Platform Designed for E3 Risk Assessment Based on Software-Defined Radio (SDR) Principles (#1570784976)** *Chuanbao DU (State Key Laboratory of Intense Pulsed Radiation Simulation and Effect); Wanzhi Ma (University of Electronic Science and Technology of China); Mao Congguang (Northwest Institute of Nuclear Technology)*	**SU-PM1-TC11-04** **Statistical Prediction of the Microstrip Inside Chaotic Microwave Cavities (#1570785024)** *Ping Wu, Zhiqian Xu, Maoxing Zhang and Cui Meng (Tsinghua University)*	

Technical Sessions – – Sunday Afternoon, Sept. 4, 2022 (PM1)

Rooms	Room 305D	Room 305E
01:30pm – 03:30pm	**TC-03 Lightning** ***Chair(s): Yoshihiro Baba, Guangzhi Chen***	**[SS-13] Emerging Modelling & Design of HIRF Protection** ***Chair(s): Shunchuan Yang, Haoran Zhu***
1:30pm	**SU-PM1-TC03-01** **Electromagnetic and Thermal-Stress Analysis of a Square-Shape MOV for a Short Lightning Current (#1570780778)** *Ryohei Tosa, Yoshitaka Nishizawa and Yoshihiro Baba (Doshisha University), Tokuya Tanaka (CTI Engineering Co.), Yoshimasa Tsujimoto and Naoyuki Tsukamoto (Otowa Electric Co.)*	**SU-PM1-SS13-01** **A Miniaturized Microwave Limiter by Using T-Type LC Network Topology with GaAs Technology (#1570784840)** *Jun Wang (Anhui University)*
1:50pm	**SU-PM1-TC03-02** **Visual Design of Direct Lightning Risk Assessment Based on 3D Model Discretization Algorithm (#1570784454)** *Siyu Guo (Xi'an Jiaotong University); Jun Guo (Xi'an Jiaotong University')*	**SU-PM1-SS13-02** **A U-Shape Compensation Structure for Differential-To-Common Mode Conversion Noise Suppression in 90°-Bended Differential Line (#1570784865)** *Zhikang He (Anhui University)*
2:10pm	**SU-PM1-TC03-03** **Research on Impulse Characteristics of Grounding Device Under Two Consecutive Lightning Strikes (#1570782431)** *Wei Song and Bo Zhang (Tsinghua University); Donghui Luo (Sichuan Electric Power Research Institute)*	**SU-PM1-SS13-03** **An Accurate Time-Domain Simulation Technique for Several High-Power Electromagnetic Environments (#1570785102)** *Xinsong Wang (Beihang University & Shen Yuan Honors College)*
2:30pm	**SU-PM1-TC03-04** **Charge Dissipation Devices for Lightning Protection (#1570785057)** *Oibar Martínez Vílchez, Clara Oliver Garcia, Irene Santa Romo, Aroa del Mar Matas Pinto and Jose Miguel Miranda (University Complutense of Madrid)*	**SU-PM1-SS13-04** **An Unconditionally Stable Conformal LOD-FDTD Method for HIRF Simulations (#1570785121)** *Hanhong Liu (Beihang); Xiaoying Zhao (Beihang University); Xianghua Wang (Tianjin University of Technology and Education); Shunchuan Yang (Beihang University); Zhizhang (David) Chen (Dalhousie University)*
2:50pm	**SU-PM1-TC03-05** **Discussion on Lightning Cable Bundle Test of DO160 (#1570781538)** *Yin Fang (Suzhou Three-ctest Electronic Co., Ltd.)*	**SU-PM1-SS13-05** **A Provably Stable Subgridding Technique for FDTD Method for SAR Calculation (#1570785138)** *Yu Cheng and Yuhui Wang (Beihang University); Hanhong Liu (Beihang); Lilin Li (Beihang University); Xianghua Wang (Tianjin University of Technology and Education); Shunchuan Yang (Beihang University)*

Technical Sessions – – Sunday Afternoon, Sept. 4, 2022 (PM2)

Rooms	Room 305B	Room 305C	Room 305E
03:50pm – 05:50pm	**[SS-16] Recent Advances in EMC & Sensing** ***Chair(s): Dongying Li, Song Sun***	**[SS-06] EMI for Wireless Body Area Networks** ***Chair(s): Wensong Wang, Zhenyu Zhao, Shuhui Yang***	**[[WS7] Power Electronics**
3:50pm	**SU-PM2-SS16-01** **Nanoantenna Enabled Magnetic Strong Coupling (#1570781382)** *Song Sun (CAEP Microsystem and Terahertz Research Center)*	**SU-PM2-SS06-01** **Design of Conformal Snake-Shaped Line Based Dicyclic Nested Electromagnetic Bandgap Structure for SSN Suppression (#1570785030)** *Fanglu Tong and Shuhui Yang (Communication University of China); Zhenyu Zhao and Wensong Wang (Nanyang Technological University)*	*(See the section on Workshop Program)*
4:10pm	**SU-PM2-SS16-02** **The Construction of Radar-Visual Surround View Dataset and Intrinsic and Extrinsic Calibration Method for the System (#1570784616)** *Chenyu Zhang (Shanghai Jiao Tong University); Dongying Li (Shanghai Jiaotong University); Wenxian Yu (Shanghai Jiao Tong University)*	**SU-PM2-SS06-02** **Checkerboard-Shaped Electromagnetic Bandgap Structure Combining Metamaterial-Based Absorber for Simultaneous Switching Noise Suppression (#1570785043)** *Chenyin Yu and Shuhui Yang (Communication University of China); Wensong Wang (Nanyang Technological Univ.); Richard Xian-Ke Gao (A*STAR Inst. of High Performance Computing)*	
4:30pm	**SU-PM2-SS16-03** **Design of Magnetic-Resonance Coil for Position-Insensitive Wireless Power Transfer (#1570784998)** *Huapeng Zhao (University of Electronic Science and Technology of China)*	**SU-PM2-SS06-03** **A Wideband Capsule Antenna for Health Monitoring (#1570785126)** *Jiajie Chu and Shuhui Yang (Communication University of China); Wensong Wang, Zhongyuan Fang and Yuanjing Zheng (Nanyang Technological University)*	
4:50pm	**SU-PM2-SS16-04** **EMI Source Positioning Method Based on Phaseless Near-Field Scanning (#1570785011)** *Jun-Jian Ju, Xu Zixiang and Xing-Chang Wei (Zhejiang University)*	**SU-PM2-SS06-04** **A Method to Determine an Electrical Parameter of Form-In-Place Shielding Material with Two Other Parameters Known by Calculation and Simulation (#1570785206)** *Jingkang Ji (ZTE); Li Wei (ZTE Co., Ltd); Yuanlong Liu (ZTE Corporation); Hao Du and Wei Go (ZTE); Yi Su (Chinaunicom)*	
5:10pm	**SU-PM2-SS16-05** **Terahertz Refractive Index Sensor Based on Metamaterial Ring with Embedded Split Rings (#1570785090)** *Yuanze Huang, Yuanli Wang and Qingguo Du (Wuhan University of Technology)*		

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APEMC2022 Exhibition Time Arrangement

8:30-17:00	September 1-Thursday	Booth Dressing for Exhibitors
9:30-16:30	September 2-Friday	Technical Exhibition Open
9:00-16:30	September 3-Saturday	Technical Exhibition Open
9:30-16:00	September 4-Sunday	Technical Exhibition Open
16:00-20:00	September 4-Sunday	Technical Exhibition Removal

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华为技术有限公司
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是德科技提供先进的设计和验证解决方案，旨在加速创新，创造一个安全互联的世界。我们在关注速度和精度的同时，还致力于通过软件实现更深入的洞察和分析。在整个产品开发周期中，即从设计仿真、原型验证、自动化软件测试、制造分析，再到网络性能优化与可视化的整个过程中，是德科技能够更快地将具有前瞻性的技术和产品推向市场，充分满足企业、服务提供商和云环境的需求。我们的客户遍及全球通信和工业生态系统、航空航天与国防、汽车、能源、半导体和通用电子等市场。2021 财年，是德科技收入达 49 亿美元。关于是德科技公司（NYSE：KEYS）的更多信息，请访问 www.keysight.com。

Ansys China
安似科技
Booth No.: 118

Ansys 公司创立于 1970 年，已经发展成为世界最大的仿真技术公司。 50 年来，一直致力于开发新的仿真技术，产品覆盖了结构仿真、流体动力学仿真、电子设计与仿真、电路和系统设计与仿真、高安全性嵌入式代码设计、芯片设计与仿真以及光学仿真等多个学科和物理域，解决实际的工程问题；通过集成化的仿真环境，覆盖产品从系统设计到系统集成和虚拟验证的全过程，进行多学和多物理场耦合与协同仿真，实现完备的虚拟原型；通过自动化的仿真工作流程， 让工程师专注于解决工程设计问题，而不是如何运行软件或者获得满意的仿真结果；通过定制化工具包不断改进软件的易用性， 增加技术深度，进行多物理场耦合分析，创建仿真生态体系，让分布于不同工作地点、从事不同学科仿真的工程师在同一个设计项目中便捷地实现互动设计，从而 减少设计周期、提高设计质量， 实现动态 CAE 协同。

Ansys 将仿真技术与物联网技术相结合，构建包含了数字探索、数字原型和数字双胞胎完整的全数字化工程流程，将仿真技术的应用扩展至产品的整个生命周期，涵盖工程所有阶段，从概念、设计、制造、运维直至产品生命终止构建了仿真驱动工程的基础，帮助企业部署企业级仿真平台，实现更快、更好、更有效的工程，推进企业创新和发展。

Founded in 1970, ANSYS is headquartered south of Pittsburgh, Pennsylvania, U.S.A. Employs nearly 3,000 professionals, many of whom are expert M.S. and Ph.D.-level engineers in finite element analysis, computational fluid dynamics, electronics, semiconductors, embedded software and design optimization. Our exceptional staff is passionate about pushing the limits of world-class simulation technology, so our customers can turn their design concepts into successful, innovative products faster and at lower cost. As a measure of our success in attaining these goals, ANSYS has been recognized as one of the world's most innovative companies by prestigious publications such as Bloomberg Businessweek and FORTUNE magazines.

If you've ever seen a rocket launch, flown on an airplane, driven a car, used a computer, touched a mobile device, crossed a bridge or put on wearable technology, chances are you've used a product where ANSYS software played a critical role in its creation. ANSYS is the global leader in engineering simulation. Through our strategy of Pervasive Engineering Simulation, we help the world's most innovative companies deliver radically better products to their customers. By offering the best and broadest portfolio of engineering simulation software, we help them solve the most complex design challenges and create products limited only by imagination.

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EMC Laboratory of Zhejiang University
浙江大学电磁兼容实验室

浙江大学电磁兼容实验室于 2010 年成立，团队主要研究方向为：

- **未来通信与感知：**包括但不限于电磁信息理论与系统、空间承载网络、物联网、智能车联网、智能家居、遥感技术等。
- **神经形态器件及类脑芯片设计和集成技术：**包括但不限于尖峰神经网络，神经形态传感、脑机接口、人工智能芯片设计与应用、高能效数字芯片设计、人工智能芯片电磁/多物理兼容与协同优化设计等。
- **器件-电路-系统异构/异质集成：**包括但不限于先进半导体器件、射频集成电路、光电集成电路、高速互连、微机电系统等，以及异构/异质集成电路中电磁兼容/信号完整性 EDA 工具研发。
- **电磁场理论、电磁计算与逆向设计、智能超材料、多物理场计算等领域基础研究。**

电磁兼容实验室拥有 3 米法暗室和屏蔽室在内的完整 EMC 测试平台。可开展 IT 产品、家用电器、医疗器械、汽车零部件、小型军工电子产品、工业电子用品、通信等领域 EMI 和 EMS 的研究。

集成电路 EMC 测试系统可以完成传导耦合以及电磁场耦合条件下的 EMC 测试任务，具备集成电路测试系统，可开展集成电路设计、封装、测试及应用领域的研究。

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China Jiliang University (CJLU)
中国计量大学

中国计量大学是国家市场监督管理总局与浙江省人民政府共建高校、浙江省教育厅与义乌市人民政府共建重点高校、中国质量监督检验检疫领域唯一本科高校，入选教育部“卓越工程师教育培养计划”、“新工科研究与实践项目”、国家级大学生创新创业训练计划，为“一带一路”标准化教育与研究大学联盟牵头单位。1978 年国家计量总局创建的杭州计量学校；1983 年改建为杭州计量测试专科学校；1984 年改为杭州计量专科学校；1985 年经教育部批准升格为中国计量学院；2016 年更名为中国计量大学。

中国计量大学信息工程学院——浙江省电磁波信息技术与计量检测实验室，于 2015 年筹建，2018 年获批浙江省重点实验室。实验室主要有以下 4 个实验平台：射频通信及计量测试保障实验室、微波太赫兹器件加工实验室、移动通信技术综合实验室、磁共振影像技术创新实验室。实验室瞄准科学研究和技术前沿，秉承“立足浙江、瞄准前沿、开拓创新、争创一流”的理念，紧密围绕电磁波信息技术中的关键问题，在基础研究与工程应用研究方面均取得了显著成果。

Nanjing University of Science and Technology (NJUST)
南京理工大学

南京理工大学是隶属于工业和信息化部的全国重点大学，学校由创建于 1953 年的新中国军工科技最高学府——中国人民解放军军事工程学院分建而成，1993 年更名为南京理工大学。1995 年，学校成为国家首批“211 工程”重点建设高校；2000 年，获批成立研究生院；2011 年，获批建设“985 工程优势学科创新平台”；2017 年，学校入选“双一流”建设高校，“兵器科学与技术”学科入选“双一流”建设学科。学校学科门类齐全，办学特色鲜明。

南京理工大学电子工程与光电技术学院是依托于现代信息技术领域两大主干基础学科——电子和光学，于 1992 年 10 月组建而成。学院设有通信工程系、电子工程系、光学工程系、光电技术系、探测与控制工程系、电工电子教学实验中心、国防重点学科实验室、无线通信与传感网研究所、微纳光电子器件及应用研究所、实验室管理中心等教学、科研机构等，教学水平突出，育人成果丰硕。

上海交通大学“微波与射频技术研究中心

上海交通大学“微波与射频技术研究中心（Center for Microwave and RF Technologies: CMRFT）”于 2006 年 4 月成立，其前身是电子工程系微波教研室。

多年来，该学科围绕现代高速、射频和微波集成电路理论，复杂结构和环境中的电磁辐射、散射和传播以及天线技术等方面开展了比较系统和深入的研究，取得了一系列创新成果，主持了国家自然科学基金委基础科学中心、国家重点研发计划等项目。目前 CMRFT 主要研究领域包括:

（1）三维异构集成与先进封装，包括硅基 MEMs 光敏薄膜多层布线工艺、高速信号完整性建模、电、热应力多物理耦合机理、芯片、天线的异构融合与高性能/多功能协同设计、以及毫米波前端在通信中的应用等；

（2）射频和微波集成电路，主要研究基于先进 CMOS 工艺的硅器件和集成模块的建模、分析、设计和应用；新型砷化镓和氮化镓基微波和毫米波集成电路的混合物理场效应分析，特殊环境中大功率集成电路和系统的物理可靠性研究等.

（3）天线、电波传播和电磁兼容，主要研究电磁场快速数值计算方法；新型天线构造技术及应用；复杂环境与结构中的电磁辐射与散射特性；通信系统和通信平台中的电磁干扰抑制、物理可靠性与综合电磁防护技术;

CMRFT 十分重视与国际相关著名研究中心、实验室和著名教授及研究团队之间的密切学术交往和合作。我们将做好知名学者请进来、高质量研究生送出去的双向互惠人才培养和学术交流工作，积极举办、参加国际学术活动，不断扩大 CMRFT 在国际学术界的影响和知名度。

信息科学发展日新月异的今天，中心全体人员将继续努力，攀登高峰。热诚欢迎国内外同行和青年科学家前来 CMRFT 交流访问，共同求索，相携前进！

EMC Laboratory of Electronic Devices
电子器件电磁可靠性实验室

河北工业大学（天津）“电子器件电磁可靠性实验室”致力于新型电子器件与材料的电磁可靠性分析，探索复杂环境下微结构中的电磁辐射与散射特性，实现微电子器件的物理建模、加工制备、分析测试的过程研究。“电子器件电磁可靠性实验室”依托河北工业大学电子科学与技术一级学科博士点、博士后流动站，服务于省部共建“电工装备可靠性与智能化国家重点实验室”、“电子材料与器件天津市重点实验室”2 个科研平台，形成了以国家千人计划专家、长江学者为带头人的学术队伍。近些年来承担了国家自然科学基金、河北省自然科学基金、天津市自然科学基金等一批重要的科研项目，在 IEEE TAP、EMC 等会刊发表学术论文，获得多项国家发明专利；与华为公司、鹏鼎控股等大型企业建立了稳定的合作关系，实现资源共享、协同创新、成果转化，合作开展电磁兼容技术研究，解决电子器件电磁兼容问题。

研究领域

(1)新一代 5G 通信、AI 芯片的互连与先进封装结构电磁特性；新型互连技术的物理建模、数值分析方法和测试技术；特殊环境中集成电路和系统电磁可靠性。

(2)柔性电子器件与柔性基板的微结构模型设计；多物理场变化对微结构模型电磁特性的影响机理；体表共形柔性电子设计与人体电磁效应。

(3)新型微结构超材料、二维材料的电磁效应；新型微结构超材料、二维材料在电磁屏蔽与吸收领域的应用。

实验环境

“电子器件电磁可靠性实验室”建设面积 1200 平方米，其中超净实验室面积 155 平方米。建成电子束蒸发镀膜系统、脉冲激光沉积系统、10 纳米聚焦离子束刻蚀加工系统、ICP 刻蚀机、电场扫描电镜、X 射线衍射仪、原子力显微镜、近场光学扫描成像系统等微电子器件加工制作和分析表征成套设备。配备微波暗室、46.5GHz 矢量网络分析仪、30GHz 矢量信号源、26GHzEMI 接收机、IC 电磁兼容测试系统、EMSCAN 电磁干扰扫描仪、GTEM 小室辐射抗扰度测试系统、静电放电测试系统等较为完备的电磁兼容测试与检测仪器。拥有 CST 电磁仿真计算软件、Comsol 多物理场仿真计算软件，能够开展电子器件的物理建模、数值分析与信号测试。

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电磁环境效应国家级重点实验室

电磁环境效应国家级重点实验室是国内从事静电和强电磁场防护领域教学和科研工作的国家级重点实验室，实验室的主要任务是根据装备电磁环境效应和防护技术的发展需求，开展探索性、创新性研究和高层次人才培养工作，为装备在复杂电磁环境下设计、研制、试验提供电磁环境效应试验平台、检测评价方法和防护技术支撑，解决装备面临的电磁兼容与防护技术问题。实验室先后获国家科技进步一、二等奖各 1 项，军队科技进步一、二等奖 20 余项，攻克了电磁防护系列关键技术，在国防、航天装备等方面得到了广泛应用，为保障装备在复杂电磁环境下的生存能力提供理论和技术支撑。

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AFJ Instruments Suzhou Co., Ltd.
苏州安辐捷电子科技有限公司
Booth No.: 105

意大利 AFJ 是专业的 EMC 仪器制造公司，位于米兰，致力于研创信赖度高与具经济效应的仪器并依循电磁兼容（EMC），射频监控，安规产品，电子测试与量测以及工业设备领域的各项标准要求来提供符合世界各国的测试需求。

产品包含依据国际性电磁干扰，欧规及产品标规要求并符合传导/辐射电磁干扰量测之傅立叶（FFT）技术研制基础之电磁干扰测试接收机，喀呖（断续）分析仪，人工网络，灯具量测三环天线（Van Veen Loop

Antenna），灯具对人体暴露辐射之量测探头（Van Der Hoofden Test Head）与量测传导器，用于工业、汽车和军事应用的 EMC 测试的宽带功率放大器。

AFJ 以优秀的技术，完善产品功能以及具竞争的性价比，能满足客户的测试需求。

AFJ is a professional EMC instrument manufacturer located in Milan, Italy, dedicated to the development of reliable and cost-effective instruments and standards in the field of electromagnetic compatibility (EMC), radio frequency monitoring, safety products, electronic testing and measurement and industrial equipment to meet the testing needs of the world.

The products include an electromagnetic interference test receiver based on the international electromagnetic interference, European standard and product standard requirements and in accordance with the conducted/radiated electromagnetic interference measurement Of Fourier (FFT) technology, Click (discontinuous) analyzer, artificial network, lamp measurement of Van Veen Loop Antenna, Van Der Hoofden Test Head and measuring transmitter, wideband power amplifier for EMC testing in industrial, automotive and military applications.

AFJ can meet customers' test requirements with excellent technology, perfect product functions and competitive cost performance.

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ALBATROSS PROJECTS RF TECHNOLOGY (SHANGHAI) CO., LTD.
奥尔托射频科技（上海）有限公司
Booth No.: 101

Albatross Projects 的前身是德国 SIEMENS 公司，其所有 EMC 业务的起源都是从 Siemens AG 开始。

- 1929 年在柏林 Siemens & Halske AG 成立销售部；
- 1930 年，第一个由木结构和铜箔为医疗应用制作的法拉第笼面世；
- 1947 年，Siemens 开始进入 EMC 测试场地领域；
- 1970 年，EMC 业务成为 Siemens AG 五个分支之一；
- 1989 年，建 Siemens Matsushita Components GmbH，EMC 成为该合资公司的主营业务；
- 1999 年，Siemens Matsushita EMC 由公司管理层收购，随后 Albatross Projects GmbH（APG）在德国 Nattheim 成立。两个主要的关键技术，屏蔽和 RF 吸波材料的供应商成为新公司的股东，并且原来 Siemens EMC 系统的关键人员均加入到了新公司；
- 2010 年，Albatross Projects 收购了 Emerson & Cumming Microwave Products NV 的电波暗室业务;

如今，Albatross Projects Group 业务已遍布全球，在美国、中国、印度成立了全资子公司，成为 RF 屏蔽、EMC、MW 测试暗室和吸波材料领域的佼佼者，为全球各地的用户提供各种暗室产品和安装服务，用户范围覆盖政府机构、国防军事、交通运输、工业、医疗和私人客户。

定制化的解决方案、专业的技术支持、长期的合作共赢

——这是 Albatross Projects 坚持不懈的追求

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ATS Technology Limited
广州众测电子科技有限公司
Booth No.: 120

ATS 众测是从事于试验室建设技术服务的专业公司，拥有多专业的、具有二十多年产品检测认证、试验室建设与管理的专家团队，包括电磁兼容（EMC）、环境可靠性与安规等方面。

ATS 众测致力于产品技术法规、标准和检测技术研究，能为客户提供试验室建设技术方案咨询、试验室建设规划与监理服务，以及检测技术培训等。

ATS 众测拥有 20 多年 EMC 标准与测试经验的 EMC 专家团队，熟悉各领域的 EMC 标准、测试仪器和系统，是众多国际知名品牌 EMC 设备和测试软件国内授权代理商；销售与集成各类测试仪器设备、测试系统，具备强大的 EMC 系统集成能力，可以提供交钥匙 EMC 实验室建设工程服务。

ATS is professional testing solutions provider with more than 20 years experience in lab engineering and lab management, product testing and certification in many technical fields such as EMC (Electro-Magnetic Compatibility), environmental and reliability testing, electric safety testing and performance testing, chemical and material testing, acoustic testing and so on.

ATS is dedicated to research on technical regulation, standards and testing technology, and provide lab consulting and engineering, testing technology training.

At the same time, ATS sells and integrates test instruments and systems such as EMC testing equipments and systems, environmental and reliability testing equipments, chemical and material testing equipments etc.

ATS cooperate with different test equipment manufactures in many fields, so as to provide professional and cost-effective lab construction solutions according to difference requirements, and assure the test lab can meet the requirements of ISO/IEC 17025 and related test standards.

ATS is the authorized agent of various famous EMC instruments and software manufactures, and has an international know-how EMC experts team with more than 20 years EMC standardization and testing experience. ATS has powerful capability of system integration and can provide turn-key EMC project service.

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北京北化新橡特种材料科技股份有限公司
BEIJING BEIHUAXINXIANG SPECIAL MATERIAL TECHNOLOGY PTY.LTD

BEIJING BEIHUA XINXIANG SPECIAL MATERIAL TECHNOLOGY PTY. LTD.
北京北化新橡特种材料科技股份有限公司
Booth No.: 205

北京北化新橡特种材料科技股份有限公司（以下简称新橡科技）成立于 2001 年 7 月，是中关村科技园区国家高新技术企业。公司主要从事特种混炼胶及制品、电磁屏蔽高导电橡胶、导热界面材料、包覆型导电粉体、无卤阻燃电缆料及热塑性弹性体产品的研发、生产和销售。

目前公司拥有 3 个生产基地，分别位于北京市密云经济开发区-功能橡胶材料生产基地、江苏宜兴军民融合产业园-无卤阻燃电缆料生产基地、广东江门电镀园区-导电粉体生产基地，厂房面积总计约 20,000 余平米，员工 200 余人。

Beijing Beihua Xinxiang Special Material Technology PTY.Ltd. was established in July 2001. It is a national high-tech enterprise in Zhongguancun Science and technology park. The company is mainly engaged in the R & D, production and sales of special rubber compounds and products, electromagnetic shielding high conductive rubber, thermal conductive interface materials, coated conductive powder, halogen-free flame retardant cable materials and thermoplastic elastomer products.

At present, the company has three production bases, which are located in Beijing Miyun Economic Development Zone - functional rubber material production base, Jiangsu Yixing military civilian integration Industrial Park - halogen-free flame retardant cable material production base, Guangdong Jiangmen electroplating Park - conductive powder production base, with a total plant area of more than 20,000 square meters and more than 200 employees.

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Beijing Jia Zhao Hua Ming Electronic Technology Co., Ltd.
北京嘉兆华明电子科技有限公司
Booth No.: 124

北京嘉兆华明电子科技有限公司，是 RIGOL 品牌的签约授权代理商。RIGOL（普源精电科技股份有限公司）于 1998 年成立，作为全球测试测量行业的创新者，RIGOL 所设计研发的产品深受客户支持与喜爱，且已成为全球电子测试测量行业的优秀品牌之一。RIGOL 主要产品为示波器、频谱仪、射频信号源、任意波发生器、直流电源、万用表等通用仪表的国内制造商。

嘉兆华明主要业务为国内外多品牌高科技测试测量仪器在中国大陆地区的代理推广，同时公司有维修中心负责仪器仪表的维修、租赁及二手仪器业务。所代理推广的测试测量产品的主要应用领域包括：通用射频微波测量、电磁兼容测试、电磁环境辐射场强测试、电磁环境仿真、移动通信测试、可编程精密交直流电源等各种通用测试仪器仪表。产品主要应用于航空、航天、卫星通信、军事通信及铁路通信领域的测试与生产。主营品牌是 Vectawave-AR-RIGOL-Narda-HILO-AE-Ametek-Solar-ETS -Schwarzbeck-Montena- FCC-Ettus-NoiseKen-IZT-DBM 等。

Beijing Jiazhao Huaming Electronic Technology Co., Ltd. is the authorized agent of RIGOL brand. RIGOL (Puyuan Jingdian Technology Co., LTD.) was established in 1998. As an innovator in the global test and measurement industry, the products RIGOL designs and develops are deeply supported and loved by customers, and have become one of the outstanding brands in the global electronic test and measurement industry. RIGOL is a domestic manufacturer of oscilloscopes, spectrum meters, RF signal sources, arbitrary wave generators, DC power supplies, multimeters and other general instruments.

JiaZhao Huaming's main business is the agent promotion of multi-brand high-tech test and measurement instruments in mainland China, and the company has a maintenance center responsible for instrument maintenance, leasing and second-hand instrument business. The main application areas of test and measurement products include: general RF and microwave measurement, electromagnetic compatibility testing, electromagnetic environment radiation field intensity testing, electromagnetic environment simulation, mobile communication testing, programmable precision AC and DC power supply and other general testing instruments. The products are mainly used in the testing and production of aviation, aerospace, satellite communications, military communications and railway communications. The main brand is Vectawave-AR-RIGOL-Narda-HILO-AE-Ametek-Solar-ETS -Schwarzbeck-Montena- FCC-Ettus-NoiseKen-IZT-DBM and other brands.

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BEIJING JITAI ELECTROMAGNRTIC TECHNOLOGY CO., LTD.
北京吉太电磁科技有限公司
Booth No.: 125

北京吉太电磁科技有限公司，成立于 2017 年，公司位于北京市丰台区和义文化产业园 D 座。

我们，以“自主、科学、质量、服务”为公司的理念，致力于打造国内顶级的电磁兼容设备。公司目前自研场强探头、低噪声放大器、点频源、有源拉杆天线等。场强探头频率覆盖 5kHz~60GHz，最高场强可到 3000V/m；低噪放频率涵盖 20MHz~40GHz；点频源频率和功率可根据客户定制。我们可为 EMC 检测及计量/校准实验室提供专业、可靠的测试设备及配套产品。

我们拥有专业的技术开发团队；专业的测试调试、技术支持、售后维护团队；先进的仪器设备、设施。凭借先进的技术、卓越的产品、完善的服务，目前我公司已为国内多家 EMC 测试机构提供服务，产品已遍布北京、上海、广州、武汉、成都、西安、无锡、宜昌等地区。赢得客户的信任与好评。

我们探头系列产品具备以下优势：第一，性能指标优异：其频率范围、工作场强、灵敏度、线性度等 性能指标完全等同于国外进口探头产品；第二兼容功能强大：硬件方面能够与现有探头监视仪 FM7004A 及光 供接口单元 FL7000 相兼容，软件方面能够与现有的 R&S 等厂商的测试软件完美兼容。可在现有测试系统上实现透明扩展与升级；第三售后服务质量承诺：出现任何故障，12 小时内响应，72 小时完成维修或更换损坏器件，

在探头维修期间可提供同型号探 头替换产品供用户使用，实现维修期间零等待；第四用户定制：可根据用户需要，定制特殊工作频率及场强幅度；第五质保期：3 年。

我们期待成为您忠实的朋友和合作伙伴，共创互惠双赢的未来。

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Beijing Taipaist Technology Development Co., Ltd.
北京泰派斯特科技发展有限公司
Booth No.: 201

北京泰派斯特成立于 1997 年，是国内较早从事电磁兼容（EMC）、电磁防护和防信息泄漏（TEMPEST）的专业公司，致力于为客户提供一站式的电磁兼容、电磁安全与电磁防护解决方案、产品和技术服务。

我们的产品包括：屏蔽材料、导热材料、吸波材料、滤波防护组件、电磁加固设备、电磁干扰定位和测试设备等。

公司的业务覆盖航空、航天、兵器、中电、中船等各大军工集团。二十多年来，泰派斯特为陆军、海军、空军、火箭军、战略支援部队和联勤保障部队的众多信息化、智能化装备提供了电磁安全与电磁防护解决方案。为装备定型提供了强力技术支撑，保障了装备在复杂电磁环境下遂行作战任务的能力，为多项国家重点工程做出了贡献。

公司获得了北京市政府《高新技术企业》认证、ISO9001C 质量体系认证、具备武器装备承制单位资格认证以及武器装备科研生产单位三级保密资格认证资质。拥有各类专利 50 余项，主导制定国家行业标准 1 项，参与制定国家军用标准 2 项。

未来，泰派斯特将坚持以军工为基点，辐射轨道交通、新能源、医疗、电力等民用领域。以务实严谨的态度，专业扎实的能力，致力于成为电磁兼容行业的领导者，打造电磁兼容行业第一品牌，为中国国防事业保驾护航。

Founded in 1997, Beijing Taipaist is an early professional company engaged in electromagnetic compatibility (EMC), electromagnetic protection and information leakage prevention (tempest) in China. It is committed to providing customers with one-stop electromagnetic compatibility, electromagnetic safety and electromagnetic protection solutions, products and technical services.

Our products include: shielding materials, heat conducting materials, microwave absorbing materials, filter protection components, electromagnetic reinforcement equipment, electromagnetic interference positioning and testing equipment, etc.

The company's business covers aviation, aerospace, weapons, China Electronics, China Shipbuilding and other major military industrial groups. For more than 20 years, tepast has provided electromagnetic security and electromagnetic protection solutions for many information and intelligent equipment of the army, Navy, air force, rocket force, strategic support force and joint logistics support force. It provides strong technical support for equipment finalization, ensures the ability of equipment to carry out combat tasks in complex electromagnetic environment, and has made contributions to a number of national key projects.

The company has obtained the Beijing Municipal Government's "high tech enterprise" certification, iso9001c quality system certification, the qualification certification of weapons and equipment manufacturing units and the three-level confidentiality qualification certification of weapons and equipment scientific research and production units. It has more than 50 patents, led the formulation of one national industry standard and participated in the formulation of two national military standards.

In the future, tepasite will adhere to the military industry as the basic point and radiate the civil fields such as rail transit, new energy, medical treatment and electric power. With a pragmatic and rigorous attitude and professional and solid ability, we are committed to becoming a leader in the EMC industry, building the first brand in the EMC industry and escorting China's national defense.

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Beijing XUTEC Technology Co., Ltd.
北京信测科技有限公司
Booth No.: 003

北京信测科技有限公司，是测试与测量解决方案的设计者。我们致力于让你的测试过程更轻松，测试结果更准确。

因为你和你的试验室有持续进化的需求，我们在全球挑选合适的测试测量产品，并按照中国标准及使用调整，来呼应这种需求。过去的十余年，我们已经和全球超过二十家软硬件生产厂家建立汽深度合作关系。包括作为其中 4 个国际知名品牌在中国的总代理；另外十多个品牌在中国的一级代理。基于这些深度的合作，我们得以海纳全球智慧，用轻松的测试来为你提供精准的测试测量结果。

- 为保持服务于你的专业水准，信测团队持续参与国际交流，实时更新行业前沿知识；
- 我们也参与中国标准制定的工作组、参与国内专家的课题研究，保持对于中国市场趋势把握的准确性；
- 信测每年还在各个城市举办多场技术研讨会，和你一起持续认知升级；
- 我们还特别感谢你给我们分享全球的好产品，信测现在合作的许多品牌正是由你促成，你的信息让我们价值共生。

我们通过覆盖全国各地的经销商联盟给你提供贴近的服务。经销商和信测的应用支持团队配合，对你的需求做出精确的梳理。配置方案时，我们不但立足于你当下的需求，更关切于你未来的发展前景，确保你的方案在未来 5 年不过时。

为保证你工作中良好的仪器使用体验，信测组建了专业的技术支持团队，无论你从哪里购买的设备，信测的技术服务中心都提供安装调试、使用培训、维修保养的服务。我们还联合了国外的仪器生产商，在中国建立技术服务中心，目前已经建立了 4 个国际品牌的中国甚至亚太地区的技术服务中心。为你的全球产品提供近距离的本地专业服务。

Beijing XUTEC Technology Co., Ltd. is a Chinese provider of test and measurement solutions. We are committed to making your testing process easier and your test results more accurate.

Because you and your laboratory have the needs of continuous evolution, we select suitable equipment from around the world, and adjust them according to Chinese standards and use to respond to such needs. In the past years, we have established in-depth cooperation relationships with more than 20 manufacturers around the world. Including being the general distributor of 4 internationally renowned brands in China; the directly distributor of more than ten other brands in China. Based on this in-depth cooperation, we are able to provide you with accurate measurement results with easy testing.

- In order to maintain the professional level of serving you, the XUTEC team will continue to participate in international exchanges and update the innovate knowledge.
- We also participate in the working group of Chinese standards, and participate in the research of domestic experts, so as to maintain the accuracy of grasping the trend of the Chinese market.
- XUTEC also holds technical seminars in various cities every year to continuously upgrade cognition with you.
- We also especially thank you for sharing the world's good products with us. Many brands that XUTEC is now cooperating with are driven by you, and your information makes us value symbiotic.

We provide you with close services through dealers covering all parts of the country. Dealers cooperate with XUTEC support team to make precise diagnosis of your needs. When configuring the solution, we are not only based on your current needs, but also care about your future development prospects to ensure that your solution will suit for next 5 years.

In order to ensure a good experience of using the equipment in your work, XUTEC has set up a professional technical support team. No matter where you buy the equipment, XUTEC's technical service center provides installation and commissioning, use training, maintenance and repair services. We also cooperate with original manufacturers to establish technical service centers in China. At present, we have established 4 technical service centers for China and even in for Asia-Pacific region. Local professional service close by for your global products.

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Beijing Yifeng Technology Co., Ltd.
北京亦锋科技有限公司
Booth No.: 102

北京亦锋科技有限公司成立于 2019 年 9 月 3 日，是一家集微波测试产品研发及射频微波、电磁兼容相关产品代理于一体的高科技企业，公司位于北京市亦庄经济技术开发区，目前自主研发的产品包括：定向天线、宽带全向天线、衰减器、滤波器、滤波器切换单元、电测环境自动测试系统、电磁兼容测试系统、射频测试屏蔽室、微波暗室等产品。

公司代理的产品包括 Montena/AR/AE Techron/Solar/Lumiloop/Schwarzbeck 等。

Beijing Yifeng Technology Co., Ltd. was established on September 3, 2019. Beijing Yifeng Technology Co., Ltd. is a high-tech enterprise integrating the research and development of microwave test products and the agency of RF microwave and electromagnetic compatibility related products. Omnidirectional antenna, attenuator, filter, filter switching unit, automatic test system for electrical measurement environment, electromagnetic compatibility test system, RF test shielding room, microwave anechoic room and other products.

The products represented by the company include Montena/AR/AE Techron/Solar/Lumiloop/Schwarzbeck, etc.

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BUAA EMC Technology Institute
北航电磁兼容技术研究所
Booth No.: 123

北京航空航天大学电磁兼容技术研究所（以下简称研究所）是北京航空航天大学直属研究所。研究所前身为建设于 1984 年的北航电磁兼容学科，1990 年开始承担型号论证工作，1998 年承担特种飞机型号研制中的电磁兼容工作内容，1998 年参与总装电磁兼容定型试验系统论证，2006 年获国务院学位办批准设立“电磁兼容与电磁环境”博士学位授权并获批设立“北航电磁兼容试验室”，2011 年获批设立“北航电磁兼容技术研究所”。

研究所定位于国内领先世界一流的专业电磁兼容技术研究机构，现有人员 150 余人。具备理论分析、工程设计、系统集成、试验评估、问题整改、培训服务的全价值链能力。在国家自然科学基金、国防基金、国家安全重大基础研究、国家重大科学仪器专项、国防探索项目、国家重大型号研制及高新工程条件保障建设等支持下，研究所已经形成了以电子科学与技术基础研究、战场电磁环境下电磁兼容性设计检测与评估、系统级电磁兼容测试系统研制、电磁兼容测试方法研究、电磁态势可视化、特种天线设计、雷达目标特性分析、射频识别技术等为发展方向的研究格局，具备坚实的学术研究基础和丰富的工程实践经验，是国内独具特色的电磁兼容研究所、

曾获得国家技术发明一等奖 1 项（2018 年），国家科技进步二等奖 2 项（2007 年、2012 年），国防科学技术一等奖 4 项（2006、2010、2011、2017 年），拥有授权发明专利 100 多项。

研究所肩负“忠于国家、献身国防”的神圣职责和庄严使命，提出的自顶向下、系统级量化的电磁兼容与设计方法成功应用在多款直升机和特种飞机的研制中，缩短了装备研制周期、提升了研制过程质量控制，被多个主机厂所采用；研究所为 31、32、33 等基地研制的电磁兼容测试系统得到了广泛应用，提升了基地试验能力；在多年积累的测试经验和设备研制等基础上，成功研发了国内首台电磁发射要素分析仪、精确多频传导 EMS 快速检测系统、大范围电磁分布探测系统、便携式电磁干扰快速检测系统、环境感知和辐射源定位系统等测试系统，填补了国内空白；在多年积累的算法、数据库基础上，开发出了系统级电磁兼容性设计平台、电磁环境数据库、电磁兼容性测试、电磁兼容性质量管理等软件，具有完全的自主知识产权，为大型系统设计提供了有效手段。

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CHANGZHOU PIONEER ELECTRONIC CO., LTD.
常州派涅电子有限公司
Booth No.: 126

常州派涅电子有限公司，是一家专业服务于国防军工、航空航天、电子信息产品的高端技术配套产品供应商，专注于 EMI/EMC 解决方案，集高科技产品的研发、设计、生产、销售和代理于一体，是一家综合性的科技密集型企业。我们与合作伙伴共同努力，为客户提供定制产品及解决方案，行业覆盖：国防军工、航空航天、通信设备、医疗设备、数据存储、网络设备、汽车电子、光伏风力等新能源产业。

我司产品：EMI / EMC 电源滤波器，屏蔽配件（屏蔽门、屏蔽窗、通风波导窗）和屏蔽材料（铍铜簧片，导电泡棉，导电胶带，金属丝网）以及整屏蔽房及电波暗室项目。我司拥有电磁屏蔽实验室和相关配套测试设备为产品提供测试，也可以为客户提供 EMC 整改服务

公司秉承“诚信、专业、高效的理念，致力于缔造品牌，产品和技术服务的核心竞争力，为客户提供优质的产品以及卓越的服务。

EMCPIONEER is one of the leading manufacturer and supplier focus on the EMC/EMI market in China.

EMCPIONEER designs, manufactures and installs the RF Shielded Enclosures, Anechoic Chambers and MRI Cages for military, commercial and medical facilities. We manufactuer and supply a wide range of RF shielding products, as Power Filter,Signal Filter ,RF Shielded Door,Honeycomb Vent, ,RF Window,BeCu Finger Gasket,Wire Mesh, Foam Absorber,Ferrite Tile and other shielding components. EMCPIONEER`s products are widely used in the field of the information security, measurement & detection, postal and telecommunication,aerospace,military,power testing, government institutions,laboratory,university,electronics industry and others.

Our engineers and workers with over 10 years experience will work together with you from the design to final installation.Our factory with advanced fabrication facilities allows us to provide high quality ,short delivery time and low cost shielding solutions.

High quality products and excellent service help us win many stable and creditable customers all over the world.

EMCPIONEER slogan: Credible,Professional & Efficient

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Dassault Systèmes (Shanghai) Information Technology Co., Ltd.
达索析统(上海)信息技术有限公司
Booth No.: 109

达索系统成立于 1981 年。作为一家为全球客户提供 3D 体验解决方案的领导者，达索系统为企业和客户提供虚拟空间以模拟可持续创新。其全球领先的解决方案改变了产品在设计、生产和技术支持上的方式。达索系统的协作解决方案更是推动了社会创新，扩大了通过虚拟世界来改善真实世界的可能性。达索系统为 140 多个国家超过 22 万个不同行业、不同规模的客户带来价值，被美国《商业周刊》评为“10 家不为人熟知但却正在改变世界的欧洲公司”之一。

在中国，达索系统的 3D 体验解决方案已经在 12 个行业有成熟且深入的应用，包括航空航天、汽车、船舶、工业设备、高科技、建筑、消费品、包装消费品、生命科学、能源、采矿以及商业服务。达索系统为行业客户提供了量身定做的解决方案，帮助其进行产品创新、协同和管理、加速市场反应并提升核心竞争力。

此外，达索系统的身影早已出现在中国近年来很多家喻户晓的项目的背后。鸟巢国家体育场、CCTV 新址以及天津的地标性建筑津塔等在中国建筑业极具影响力的作品，均采用了达索系统的解决方案进行设计或模拟。举世瞩目的国庆六十年阅兵仪式的 3D 彩排、2010 年上海世博会的实体园区和网上世博以及牵动国人之心的国产大飞机 C919 项目，也均有达索系统解决方案的贡献。

Dassault Systèmes, the 3DEXPERIENCE Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced,

and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 220,000 customers of all sizes, in all industries, in more than 140 countries. It has been rated as one of the "ten little-known European companies that are changing the world" by the Business Week magazine.

In China, the Dassault Systèmes 3DExperience solutions have been applied maturely and deeply in 12 industries, including Aerospace & Defense, Transportation & Mobility, Marine & Offshore, Industrial Equipment, Architecture, Engineering & Construction, High-tech, Consumer Goods, Consumer Packaged Goods-Retail, Life Sciences, Energy, Process & Utilities, Natural Resources, Financial & Business Services.

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ETS-LINDGREN
北京凌昆电磁技术有限公司
Booth No.: 119

ETS-Lindgren 的历史可以追溯到 1932 年，总部在美国德州奥斯汀，其母公司 ESCO 是一家美国的上市公司。作为全球性的 EMC 测试和无线测试的解决方案供应商，公司致力于为全球客户构建成功的测试解决方案，如 EMC 暗室和 EMC 测试系统、无线终端测试的 OTA 系统、混响暗室及 HIRF 系统、天线测试的暗室和系统、以及各类天线和场强探头，并以不断的技术创新在行业居以领先地位。2002 年 8 月以来，ETS-Lindgren 先后在中国成立全资子公司—北京凌昆电磁技术有限公司和凌昆科技（天津）有限公司，两者共同构成了 ETS-Lindgren China，服务于中国客户。公司成立以来已成功在国内安装了数百个电波暗室、屏蔽室、EMC 测试系统和 OTA 系统。

追求卓越，是我们不变的选择！

Ets-lindgren was founded in 1932 and headquartered in Austin, Texas, USA. its parent company ESCO is a listed company in the United States. As a global supplier of EMC testing and wireless testing solutions, the company is committed to building successful testing solutions for customers around the world, such as EMC Chamber and EMC testing system, OTA System for wireless testing, reverb Chamber and HIRF system, antenna testing Chamber and system, as well as various antennas and field probes. With continuous technological innovation, the company occupies a leading position in the industry. Since August 2002, ETS Lindgren has successively established wholly-owned subsidiaries in China - Beijing Lindgren E.M Technology Co., Ltd. And ETS-Lindgren Technology (Tianjin) Co., Ltd., which together constitute ETS Lindgren China to serve Chinese customers. Since its establishment, the company has successfully installed hundreds of anechoic chambers, shielding chambers, EMC test systems and OTA systems in China.

Beyond Measure!
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HANGZHOU EVERFINE EMC TECHNOLOGY CO., LTD.
杭州远方电磁兼容技术有限公司
Booth No.: 113

杭州远方电磁兼容技术有限公司是远方信息（股票代码：300306）控股子公司，专业从事电磁兼容仪器、测试系统、系统集成方案和实验室交钥匙工程的研发、制造、销售、工程施工、技术服务于一体的 EMC 整体解决方案和服务提供商。

远方公司是国内最早独立进行全系列电磁兼容产品研发的国家火炬计划重点高新技术企业。公司建有企业院士工作站、博士后工作站、企业技术中心、省级研发中心等科研平台。经过多年的技术积累和发展，远方公

司的 EMC 产品已远销全球 70 多个国家和地区，广泛应用于汽车电子、医疗、电动工具、照明、家电、IC&半导体、电力电子、通讯、军工等领域。

公司以雄厚的技术实力、一流的发展理念，长期致力于 EMC 专业事业，并为客户提供优质的产品、全面的解决方案和专业的技术服务。让每一位客户更加满意。

EVERFINE EMC Technology Co.,LTD is a Sub-Company of EVERFINE Corp.(Stock Code: 300306),specializing in EMC compatibility instrument, test systems, systems integration solutions and laboratory turnkey project research and development, manufacturing, sales, engineering construction, technical services in one of the EMC overall solutions and services provider.

EVERFINE is the first national torch plan key high-tech enterprise to independently develop a full range of EMC products in China. EVERFINE has academician workstation, post-doctoral workstation, enterprise technology center, provincial R&D center and other scientific research platforms. After years of technology accumulation and development, EMC products of EVERFINE have been exported to more than 70 countries and regions in the world, widely used in automotive electronics, medical, power tools, lighting, home appliances, IC& semiconductor, power electronics, communications, military and other fields.

With strong technical strength and first-class development concept, EVERFINE is committed to EMC professional cause for a long time, and provides customers with high-quality products, comprehensive solutions and professional technical services. Make every customer more satisfied.

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Jiashan Frankonia EMC Co., Ltd.
嘉善法兰克尼亚电磁兼容有限公司
Booth No.: 104

Frankonia 集团成立于 1987 年，致力于提供能满足日益增长的专业化电子及汽车领域测试环境需求的 EMC 实验室解决方案，努力成为定制产品以及最新尖端产品需求客户的首选合作伙伴。

EMC 测试实验室行业是一个高科技的创新且不断变化的利基市场，超过 30 年的行业经验使 Frankonia 始终处在全球 EMC 行业的领导地位。

我们的电波暗室涵盖了全球范围内不同行业的测试业务，我们的客户来自检测机构、电子设备制造工业、汽车工业以及军工行业等，凭借我们的专业性，灵活性，高品质和高技术，我们可以提供面向全球面向未来的 EMC 解决方案。

The Frankonia Group was founded in 1987 as a solution provider for EMC laboratories,meeting the increasing demand for highly specialized testing environments for the electronic and automotive industry, strives to be the preferred partner for customized and state-of-the-art solutions.

The EMC testing industry is a highly technical, innovative and fast-changing nicheindustry.With morethan30 years ofexperience to date, Frankonia maintains its leading position in EMC solutions worldwide.

Frankonia's Anechoic Chambers are part of testing laboratories in different industries all over the world. Customers from commercial testinstitutes, manufacturersof electronic devices, With our expertise, flexibility, quality and a high degree of technology, we generate future-proof solutions on a global scale.

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Jiangsu Safe Electromagnetic Environment Technology Co., Ltd.
江苏森服电磁环境技术有限公司
Booth No.: 108

江苏森服电磁环境技术有限公司致力于 EMI/EMC 电源滤波器、信号滤波器的研发与生产及专注于电磁兼容领域产品的配套与服务。公司有电磁兼容测试室和电磁兼容工程师，可为军用、民用类客户进行前期产品的选型指导与测试；可为产品提供完善的技术支持与售后服务。

公司先后通过：ISO9000 质量体系认证、GJB5792-2006 军用信息安全认证、CE 认证等。公司能在 2-3 周内为客户提供 0.5A～2000A 各种规格的单相、三相、交直流电源滤波器、信号滤波器、并且可为有特殊要求的顾客设计和定制滤波器，以帮助您的设备有效地抑制沿电源线传输的电磁干扰，满足电磁兼容（EMC)规范的要求。

公司生产的 EMI/EMC 电源滤波器、信号滤波器应用于：

电波暗室、屏蔽机房、伺服变频、电力电源、通信通讯、铁路等行业。

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Ningbo DetooLIC Technology Co., Ltd.
宁波德图科技有限公司
Booth No.: 206

宁波德图科技有限公司致力于解决后摩尔时代由于集成电路工作频率上升带来的电磁兼容性和信号完整性问题，以及应对芯片制程与材料革新所带来的新型物理问题，如功率完整性和热稳定性问题。凭借核心技术团队在 EMC/SI/PI/EMI 领域多年的工业界和学术界工作经验积累，德图掌握了电磁算法、多物理场耦合算法、异构先进封装参数提取算法和高速数字链路的设计优化算法等核心算法，更透彻的理解了 EDA 工具的用户交互体验。德图将打造一个集 SiP 多物理仿真工具、异构先进封装参数提取工具、三维电磁场工具和高频高速电路分析工具为一体的综合 EDA 平台，客户可以利用德图的技术、产品和服务，帮助客户实现商业价值。

Ningbo DetooLIC Technology Co., Ltd. is dedicated to solving the problems of EMC and signal integrity in the post-Moore era caused by the increase in the operating frequency of IC, as well as new physical problems brought about by chip process and material innovation, such as power integrity and thermal stability issues. With the core technical team's years of experience in industry and academia in the field of EMC/SI/PI/EMI, DetooLIC has mastered core algorithms such as electromagnetic algorithms, multi-physics field coupling algorithms, heterogeneous advanced package parameter extraction algorithms and high-speed digital link design optimization algorithms, and more thoroughly understands the user interaction experience of EDA tools. DetooLIC will build a comprehensive EDA platform integrating SiP multi-physics simulation tools, heterogeneous advanced package parameter extraction tools, 3D electromagnetic field tools and high-frequency high-speed circuit analysis tools, Clients can leverage technology, products and services of DetooLIC to realize business value.

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RuiFeng RF Technology (Shanghai) Co., Ltd.
芮锋射频技术（上海）有限公司
Booth No.: 103

芮锋射频技术（上海）有限公司（简称 RFT）总部位于上海张江高科技园区盛大天地源创谷。公司专业提供电磁屏蔽场地整体解决方案。包括各类屏蔽室、电波半（全）暗室、微波暗室和混响室以及相关的材料和配件。可完成暗室系统的总体设计、工程安装和测试方案等交钥匙工程及技术咨询一体化服务。

公司拥有独特的自有电磁屏蔽技术和工艺，在国内拥有生产加工工厂及专业的工程设计和施工团队。并且和欧洲著名厂家荷兰 COMTEST 公司有着深层次的合作。不仅是 COMTEST 公司电波暗室（包括屏蔽门，吸波材料）的代理商，而且传承 COMTEST 多年专业的 EMC 知识和多年的技术经验。通过技术创新和改进始终保持公司在微波暗室、电波暗室、混响室领域的活力，掌握着业内最前沿的技术，并提供一流的技术服务。

Ruifeng RF Technology (Shanghai) Co.,Ltd. (Abbreviation: RFT) is headquartered in Zhangjiang High Tech Park, Shanghai. The company specializes in providing overall solutions for electromagnetic shielding sites. Including all kinds of shielding rooms, EMC chambers, Microwave chambers and reverberation chabmers, as well as relevant materials and accessories. It can complete turnkey engineering and technical consulting integrated services such as overall design of chambers, project's installation and test system.

The company has its own unique electromagnetic shielding technology and workmanship, and has production and processing factory and professional engineering design and installation teams in China. And it has deep cooperation with COMTEST, a famous European manufacturer. RFT is not only the agent of COMTEST's anechoic chamber (including shielded doors&gates and absorbers), but also inherits COMTEST's many years of professional EMC knowledge and technical experience. Through technological innovation and improvement, RFT has always kept its vitality in the field of microwave chamber, EMC chamber and reverberation chamber, mastered the advanced technology and provided first-class technical services.

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SAFETY & EMC
《安全与电磁兼容》 (★Medium Parterner★)
Booth No.: 122

《安全与电磁兼容》是工业和信息化部主管、中国电子技术标准化研究院（CESI）主办的双月刊，它是唯一专门介绍电子、电气、通信等产品安全和电磁兼容技术的国家正规出版物（CN 11-3452/TM, ISSN 1005-9776）。创刊于 1989 年,一直保持着其前瞻性、专业性、实用性、知识性等特点，为读者提供最新的政策法规、认证程序、测试方法，以及最前沿的研究技术、学术信息等。

《安全与电磁兼容》内容涉及标准解读、设计、测试、预测与仿真、材料研发及应用、电磁环境构建、静电放电、信号和功率完整性、先进技术的研究进展以及在应用方面面临的挑战、未来的发展方向建议等。以行业专家组成的编委会为期刊的技术内容、专业导向及权威性把关，为产学研用各方搭建一个公平、开放的交流平台，推动安全、电磁兼容相关技术和行业的发展。

《SAFETY & EMC》is the unique official publication (CN 11-3452/TM, ISSN 1005-9776) synthetically introducing the safety and EMC technology of electronic and electric industry at present in China, which is supervised by Ministry of Industry and Information Technology of PRC and sponsored by China Electronic Standardization Institute (CESI). 《SAFETY & EMC》 started the first publication in 1989, it has maintained its characteristics in forward-looking, professional, practical and knowledgeable. Providing its readers with the latest policies and regulations, certification procedures, testing methods, as well as cutting-edge research technology, academic information and so on.

《SAFETY & EMC》 contents involve standard interpretation, design, testing, prediction and simulation, material development and application, electromagnetic environment construction, electrostatic discharge, signal and power integrity, research progress of advanced technology and challenges in application, and suggestions for future development direction. The editorial board that composed of experts provides guidance for the technical content, professional orientation and authority of 《SAFETY & EMC》, the purpose are to build a fair and open exchange platform for all parties, and promote the development of safety and electromagnetic compatibility related technologies and industries.

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海泰电子
Hitech Electronic
陕西海泰电子有限责任公司
Shaanxi Hitech Electronic Co.,Ltd.

Shaanxi Hitech Electronic Co., Ltd.
陕西海泰电子有限责任公司
Booth No.: 004

陕西海泰电子有限责任公司（简称“ 海泰电子”，Hitech Electronic）创立于 1997 年，是中船重工科技投资发展有限公司和西安海泰科技有限公司及自然人股东共同投资，按照现代化企业制度规范运作的一家高新技术企业。

海泰电子专注于虚拟仪器、系统集成和电磁兼容三个业务领域相关技术的研究、开发与推广应用，目前各类业务的产品和服务已经广泛应用于船舶、航空、航天、电子和核工业等众多领域，在广大客户和众多供应商中树立了“测试测量与电磁兼容专家”的企业形象。

海泰电子恪守“客户的成功就是我们的成功”的经营理念，努力创新，不断地为客户提供专业、可靠的测试测量与电磁兼容系统解决方案，致力于将自身发展成为测试测量行业的全球化公司。

Shaanxi Hitech Electronic Co., LTD. (Hitech Electronic for short) was founded in 1997. It is a high-tech enterprise jointly invested by China Shipbuilding Industry Technology Investment and Development Co., LTD., Xi 'an Haitai Technology Co., LTD., and natural person shareholders, and operates in accordance with modern enterprise system.

Hitech Electronic focusing on the virtual instrument, system integration and electromagnetic compatibility of three business areas related technology research, development and application, the current products and services of all kinds of business has been widely used in ship, aviation, aerospace, electronics and nuclear industry, and many other areas, in the broad masses of customers and many suppliers set up "the electromagnetic compatibility & test and measurement experts" corporate image.

Hitech Electronic adheres to the business philosophy of "customer's success is our success", strives to innovate, continuously provides customers with professional and reliable test measurement and EMC system solutions, and is committed to developing itself into a global company in the test and measurement industry.

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TDK

TDK (Suzhou) Co., Ltd.
TDK（苏州）电子有限公司
Booth No.: 115

自 1969 年开发全球首个铁氧体型电波暗室以来，TDK 的电波暗室技术不断满足了挑战下一代技术的机构和企业的热切期望与高规格要求。因此现在，我们的电波暗室受大家的良好评价和信赖支持。

为了发展绿色环保的电子技术，对于探求更高境界的 EMC 设计者来说，需要更加高效舒适的开发环境和更为方便的测试技能。为了满足这些要求，我们在已得到公认的“世界标准电波暗室”的基础上，对特性和性能进行充分地优化升级，尽力满足尖端客户的高要求。

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The 33rd Research Institute of China Electronics Technology Corporation
中国电子科技集团公司第三十三研究所
Booth No.: 203

中国电子科技集团公司第三十三研究所（华北电磁防护技术研究所）成立于 1958 年，是中国电子科技集团直属的科研事业单位，位于山西省省会太原市科教文化区世纪大道长风街。是专门从事综合电磁安全防护技术的国家一类研究所，国家电磁防护专业技术组成员单位，主要研究方向为电磁安全防护技术、磁应用技术、电子信息系统集成技术、轨道交通测控技术等，通过 GJB9001B-2009 质量体系。本所现有 3 个学科（计算机应用技术、材料学、材料物理与化学）的硕士学位授予点。在我所建立了山西省信息安全及综合电磁防护技术研究生培养基地。工业和信息化部信息记录及防泄漏产品质量监督检验中心、中国计算机及信息处理标准化委员会柔性磁媒体分技术委员会和太原市钕铁硼工程技术中心设在本所。

全所现有职工 1100 余人，各类专业技术人员占 70%，形成了专业齐备、人才梯次结构合理的技术队伍，形成了从材料器件到整机分系统研究的电磁防护技术科研生产体系。

主要产品有：电磁防护方舱系列产品,电磁屏蔽室、电波暗室、楼宇防护、磁屏蔽室系列产品,低辐射计算机系列产品,电磁防护机箱、机柜、机桌系列产品,电磁防护服、电磁防护眼镜,电磁屏蔽缝隙防护系列产品,电磁防护可视窗系列产品,电磁防护通风窗系列产品,电磁屏蔽化工产品系列,电磁屏蔽热缩管系列产品,导热材料系列产品,结构功能一体化电磁复合材料系列产品,吸波材料系列产品,新型高分子材料系列产品,钕铁硼磁性材料,存储技术,磁敏元件系列产品,党政信息网系统集成,信息管理系统,智能广播应急指挥系统集成,智慧城市系统集成,轨道交通车辆检修产品,轨道交通运行安全监控产品。

多年来，在上级机关和地方政府的大力支持下，取得各类科研成果 300 多项，获得各类奖项、专利一百余项，多项成果达到国际、国内领先水平，拥有电磁防护材料类、器件类、整机类专利证书，在国家各项重大工程中得到了广泛的应用。

The 33rd Research Institute of China Electronics Technology Corporation (North China Electromagnetic Protection Technology Research Institute), established in 1958, is a scientific research institution directly under China Electronics Technology Corporation. It is located in Changfeng street, Century Avenue, science, education and culture zone, Taiyuan, the capital of Shanxi Province. It is a national first-class research institute specializing in comprehensive electromagnetic safety protection technology and a member of the national electromagnetic protection professional technology group. Its main research directions are electromagnetic safety protection technology, magnetic application technology, electronic information system integration technology, rail transit measurement and control technology, etc. it has passed the gjb9001B-2009 quality system. The Institute has master's degree awarding points in three disciplines (computer application technology, material science, material physics and Chemistry). A postgraduate training base for information security and comprehensive electromagnetic protection technology in Shanxi Province has been established in our institute. The information recording and leak proof product quality supervision and inspection center of the Ministry of industry and information technology, the flexible magnetic media sub Technical Committee of China computer and information processing standardization committee and Taiyuan NdFeB engineering technology center are located in the Institute.

At present, the Institute has more than 1100 employees, and all kinds of professional and technical personnel account for 70%. It has formed a technical team with complete specialties and reasonable talent echelon structure, and formed a scientific research and production system of electromagnetic protection technology from materials and devices to complete machine subsystem research.

The main products are: electromagnetic protection shelter series products, electromagnetic shielding room, anechoic chamber, building protection, magnetic shielding room series products, low radiation computer series products, electromagnetic protection chassis, cabinet, machine table series products, electromagnetic protection clothing, electromagnetic protection glasses, electromagnetic shielding gap protection series products, electromagnetic protection visual window series products, electromagnetic protection ventilation window series products, electromagnetic shielding chemical products series, Electromagnetic shielding heat shrinkable tube series products, heat conducting material series products, structure function integration electromagnetic composite material series products, microwave absorbing material series products, new polymer material series

products, neodymium iron boron magnetic materials, storage technology, magnetic sensor series products, party and government information network system integration, information management system, intelligent broadcasting emergency command system integration, smart city system integration, rail transit vehicle maintenance products, Rail transit operation safety monitoring products.

Over the years, with the strong support of higher authorities and local governments, it has achieved more than 300 scientific research achievements, won more than 100 awards and patents, achieved international and domestic leading levels in many achievements, and has patent certificates for electromagnetic protection materials, devices and complete machines, which have been widely used in various major national projects.

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TMYTEK
稜研科技股份有限公司
Booth No.: 110

稜研科技 TMY Technology, Inc. (TMYTEK) 是 5G / B5G 与卫星通讯应用技术的创新者，致力为全球客户提供突破性的毫米波解决方案。TMYTEK 透过创新的技术改造毫米波射频前端，拥有最先进的天线封装 (AiP, Antenna-in-Package) 技术，实践毫米波阵列天线，打造通讯基础建设所需的阵列天线模组与主被动元件，以及独创的毫米波 OTA 测试方案，加快产品开发及量产测试的速度，并研发为 R&D 市场打造的波束成形开发与教学套件，已被全球顶尖研究所及 Fortune 500 企业采用。TMYTEK 希望透过毫米波技术缩短人们之间的距离，为生活与科技发展开创无限机会。

了解更多：**https://tmytek.com/**

TMY Technology, Inc. (TMYTEK) is an innovator and a game-changer that delivers the breakthroughs of millimeter-wave solutions in 5G/B5G and satellite communication applications to worldwide clients. As a leading technology developer, TMYTEK enables people's everyday life with better connectivity from our clients' products. By transforming the mmWave RF frontend with innovative devices, implementing phased arrays with modern Antenna-in-Package (AiP) technology, and redefining the OTA testing methodology, TMYTEK empowers industrial inventions to market faster. Together with our global partners and allies, we make historical firsts and positively impact society.

Learn more: https://tmytek.com/

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Foshan Lambda Technology Co., Ltd
佛山蓝谱达科技有限公司
Booth No.:110

佛山蓝谱达科技有限公司是一家专注于为客户提供微波射频器件及电磁测量解决方案的科技型企业。公司坐落于佛山市博士和博士后创新创业孵化基地和南海区狮山镇华夏芯谷科技园，研发技术团队由多名教授、博士和硕士组成，核心成员均拥有十余年在无线通信领域的专业技术背景，理论功底过硬，研发经验丰富。目前公司的主要业务包括多种规格的微波暗室测试系统，低成本可移动毫米波测试箱，雷达测试系统，汽车整车测试系统，材料介电参数测量系统，毫米波相控阵天线的研发、设计（LTCC 工艺制程），以及定制化天线研制（3D 打印天线，透镜天线，低轨道卫星天线）等业务。公司依托佛山智能制造优势，立足大湾区，面向全国，致力于成为电磁测量技术的领先者。

Foshan Lambda Technology Co., Ltd. is a manufacture and trader, specializing in the research, development and

production of microwave anechoic chamber solutions, the core members have more than 10 years of professional technical background in the field of wireless communication. At present, the company's main business includes a variety of specifications of microwave antenna test system, millimeter wave test chamber, radar test system, vehicle OTA test system, dielectric constant measurement system, millimeter wave phased array antenna design (LTCC process), and custom antenna development (3D printed antenna, lens antenna, low orbit satellite antenna) and so on.

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Zhejiang Noyetec Technology Co., Ltd.
浙江诺益科技有限公司
Booth No.: 106

浙江诺益科技有限公司(Noyetec 诺益）诞生于美丽的钱塘江畔，是一家以产品技术创新为驱动的国家高新技术企业，杭州市政府科创型入库企业，拥有杭州市电磁兼容企业研发中心，EMC 测试技术研究所，专业从事 EMC 电磁兼容&RF 射频无线通讯解决方案（涵盖信息技术、RF 射频&无线通信，5G 天线微波、IC 集成电路等），为客户提供完善的暗室设计建设、EMC&RF 射频无线通信系统、CNAS 认可咨询、EMC 研发整改等服务，争做国际 EMC 解决方案一站式服务的领航者。

作为 EMC 国家标准化委员会委员单位、国家集成电路电磁兼容工作组成员，公司积极参与国内外 EMC 标准化工作，先后主导/参与起草国家标准二十余项，推动标准实施和行业应用。公司是业内领先的专业 EMC&RF 射频实验室解决方案供应商，拥有包括发明、实用新型专利、软件产品著作权在内自主知识产权 30 余项。

凭借多年研发生产和服务经验，积累了雄厚的技术实力，已为上百家客户提供了优质服务，客户包括:中国科学院、CQC 中国质量认证中心、工信部五所、美的、大华、卧龙集团、荣耀、河南电子所、上海计量院、浙大、北航等众多著名检测机构，企业及高校。

诺益专注于电磁兼容领域，坚持稳健经营、持续创新、开放合作，在 IC、信息电子、汽车电子、军工等领域已构筑了端到端的解决方案优势，为企业客户、高校、第三方实验室提供完善、高端、体系化的 EMC 实验室解决方案、产品和服务，并致力于让未来信息社会更可靠、安全，构建更美好的智能世界。

Zhejiang noyetec Technology Co., Ltd. (noyetec) was born on the Bank of the beautiful Qiantang River. It is a national high-tech enterprise driven by product technology innovation. It is a science and innovation warehousing enterprise of Hangzhou municipal government. It has Hangzhou electromagnetic compatibility enterprise R & D center and EMC Testing Technology Research Institute, Specializing in EMC electromagnetic compatibility & RF radio frequency wireless communication solutions (covering information technology, RF radio frequency & wireless communication, 5g antenna microwave, IC integrated circuit, etc.), providing customers with perfect darkroom design and construction, EMC & RF radio frequency wireless communication system, CNAs approval consulting, EMC R & D rectification and other services, striving to be the leader of one-stop service of international EMC solutions.

As a member of EMC National Standardization Committee and a member of national integrated circuit EMC working group, the company actively participated in EMC standardization at home and abroad, LED / participated in the drafting of more than 20 national standards, and promoted standard implementation and industrial application. The company is a leading provider of professional EMC & amp; RF RF RF laboratory solutions in the industry. It has more than 30 independent intellectual property rights, including invention, utility model patent and software product copyright.

With years of R & D, production and service experience, it has accumulated strong technical strength and has provided high-quality services to hundreds of customers, including many famous testing institutions, enterprises and universities, such as Chinese Academy of Sciences, CQC China Quality Certification Center, five institutes of the Ministry of industry and information technology, Midea, Dahua, Wolong group, glory, Henan Institute of electronics, Shanghai Institute of metrology, Zhejiang University, Beihang and so on.

Nuoyi focuses on the field of electromagnetic compatibility, adheres to steady operation, continuous innovation and open cooperation, has built an end-to-end solution advantage in IC, information electronics, automotive electronics, military industry and other fields, provides perfect, high-end and systematic EMC laboratory solutions,

products and services for enterprise customers, universities and third-party laboratories, and is committed to making the future information society more reliable and safe and building a better intelligent world.

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APEMC: PAST, PRESENT AND FUTURE

The Asia-Pacific EMC Symposium (APEMC) was initiated with the success of 2006 Zurich International Symposium on Electromagnetic Compatibility in Singapore, where Asia-Pacific EMC Chairpersons held a meeting to have a unification of EMC symposia in the Asia-Pacific region. Since the APEMC was held annually cross the Asia-Pacific region. So far it has been organized 12 symposiums since its inception in 2008, Today, APEMC became one of the top three symposium in the world.

APEMC Symposium web: www.apemc.org

2006 1st Asia-Pacific EMC Chairpersons Meeting in Singapore

At the 2006 EMC-Zurich Symposium in Singapore between 27 Feb to 3 March, 2006, the first Asia-Pacific EMC Chairpersons Meeting was held con-currently called by Prof. Li ErPing. The meeting concluded to unify the EMC symposia cross the Asia-Pacific region, and to establish one united Asia-Pacific Symposium on EMC in Asia-Pacific region, and the first such Asia-Pacific Symposium on EMC was held in 2008 in Singapore.

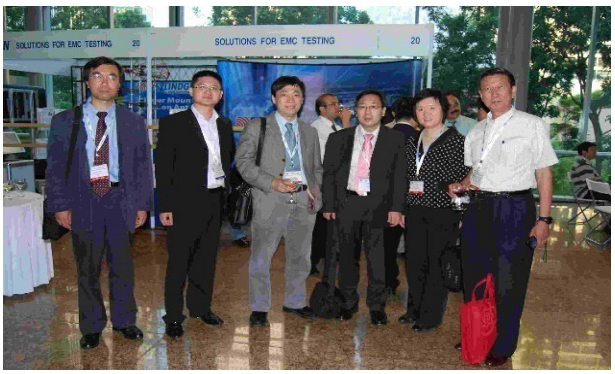
Photo of the Asia Pacific EMC Chair-Persons Meeting held in Singapore on 28 Feb. 2006

From Left (clock-wise direction): From Left, Prof. Andrei Marinescu, Romania Chapter, Prof. He Jinliang (Tsinghua University), Elya JOFFE, VP of IEEE EMC-S, Andrew DROZD , President of IEEE EMC-S, Francesca Maradei, EMC-Society Chapter Coordinator, Prof. KOGA Ryuji, Japan EMC Chapter, Mark Montrose,USA, Prof. YOSHINO Takeo, Japan EMC Chapter, John Norgard,USA, Dr. LI ErPing, Singapore EMC Chapter, Prof. PACK Jeong-Ki, Korea, A/Prof. Werachet Khan-ngern, Thailand, Prof. GAO You Gang, Beijing EMC Chapter, Dr. Vesna Roje, Croatia Chapter. Prof. CUI Xiang, China EMC.

Photo of Opening session at EMC Zurich in Singapore 27 Feb – 3 March, 2006

2008 APEMC in Singapore

The first APEMC, Asia-Pacific International Symposium on EMC, was held in conjunction with the 19th International Zurich Symposium and Technical Exhibition on Electromagnetic Compatibility under the theme "The Gateway to Emerging Technology," from 19-222 May 2008 at the Singapore SUNTEC International Convention and Exhibition Center. This event addressed the needs of a rapid rising EMC community in the region. The 2008 APEMC laid down the Asia-Pacific EMC foundation and identity, and it will continue from this point onwards.



***2008 APPEMC Delegates**: Prof. Jianqing Wang from Japan; Dr. Tian Jian from Huawei, China, Prof. Jinliang He from Tsinghua University, China; Dr. Erping Li from Singapore; Prof. Donglin Su from Beihang University, China; and Dr. C. K. Chou from Motorola, USA*

The Symposium was chaired by Dr. Erping Li, A*STAR-IHPC, Singapore, General Co-Chair was the late Professor Ruediger Vahldieck from ETH

Zurich. The Technical Program Committee Chairs were Professor Shen Zhongxiang from Nanyang Technological University, and Professor Flavio Canavero from Politecnico di Torino, Italy. 370 delegates from 31 countries/regions attended the symposium. 320 papers were submitted and 203 papers were accepted presenting at the symposium.

2008 APEMC Delegate Reception

2010 APEMC in Beijing

The 2010 Asia-Pacific International Symposium on Electromagnetic Compatibility (APEMC) was held from 12-16 April, 2010 at the Beijing International Convention Center with the theme of "EMC Harmonizes the World." Over 700 delegates from 43 countries and regions attended this event, 432 paper from 578 submissions were accepted at the symposium, which makes the APEMC a truly global conference. In addition, 68 exhibitors were collocated with the APEMC 2010. The General Chair was Professor Jinliang He from Tsinghua University, TPC Chairs: Professor Su Donglin from Beihang University and Professor Todd Hubing from Clemson University.

Photo taken on 12 April 2010 plenary session of APEMC 2010

Photo of 2010 APEMC from left to Right*: Prof. Erping Li, APEMC 2010 general co-chair Dr. Jie Zhao, co-president Mr. Wenliang Zhang, Plenary speakers Prof. Niels Kuster, IEEE EMC Society President Prof. Francesca MARADEI, TPC Chair Prof. Todd Hubing Symposium President Prof. Jinliang He*

2011APEMC in Jeju Island, Korea

The 2011 Asia-Pacific EMC Symposium (2011 APEMC) was held in Jeju Island in Korea from 16-19 May 2011 at the Ramada Plaza Jeju Hotel. Jeju Island, Korea. The General Chair was Dr. Jeong-Ki Pack, Chungnam National University and theTPC Chairwas Professor Joungho Kim from KAIST . 215 papers were presented and 375 people from 20 countries/regions attended this symposium. The technical exhibition was held concurrently with the symposium with 16 exhibitors.

2012 APEMC In Singapore

The 2012 Asia-Pacific International Electromagnetic Compatibility Symposium and Technical Exhibition was back to Singapore and held on 21-24 May, 2012 in Resorts World Sentosa (RWS) Singapore. The Symposium was chaired by Professor Wolfgang Hoefer and the TPC Chair was Prof. Er-Ping Li.

The symposium was attended with 414 delegates and 233 papers were presented from 324 submissions, where a memorial session to late Prof Ruediger Vahldieck was held, his wife and daughter and his former friends attended the session.

Photo taken at the Memorial Session to Prof Vahldieck at 2012 APEMC *, from left Ke WU from University de Montreal,Wolfgang Hoefer from A*STAR Singapore, Peter Russer from Technical University of Munich, Michael Mrozowski from Gdansk University of Technology, Poland, Masha Vahldieck daughter of Prof Vahldieck, Zorka Vahldieck wife of Prof Vahldieck,Joannes Russer from Technical University of Munich, Ingo Wolff from IMST GmbH, Germany, Er-Ping Li, Symposium President, Christophe Fumeaux from University of Adelaide, Australia*

APEMC 2012 Organizing Committee was shown with two keynote speakers on 22 May 2012 *from left Zhao Huapeng, Chua Eng Kee, Wolfgang Hoefer,Joungho Kim, Ingo Wolff, Erping LI, James Drewniak, En-Xiao Liu, Xingchang Wei, Mark Tan*

Delegates attended the presentation 21 May2012 by Dr. Bill Radsky

2013 APEMC in Melbourne, Australia

APEMC 2013 was moved to South Pacific, Melbourne, Australia, and held at the iconic Melbourne Cricket Ground (MCG) on 20-23 May, 2013. It was hosted by the EMC Society of Australia, with the IEEE EMC Society as Technical Co-Sponsor. General Chair was Dr. Franz Schlagenhaufer, TPC Chairs were Dr. Bill Radasky and Prof. Christophe Fumeaux. 132 were presented at this symposium from 21 countries/regions.

Members of the APEMC 2013 Council *included (from left) Paul Payne of Faraday Shielding Pty Ltd; Paul Kay of the Australian Dept of Defence; Mark Mifsud of Nova Systems; Andrew Walters of the Australian Dept of Defence; Gordana Klaric Felic of National Information and Communications Technology Australia, University of Melbourne; Franz Schlagenhaufer (Symposium Chairman) of the International Centre for Radio Astronomy Research, Curtin University, Australia; and Kingsley McRae of Faraday Shielding Pty Ltd. Paul Payne is a member of the EMC Society of Australia; the others shown are Councillors of the EMC Society of Australia.*

2015 APEMC in Taipei

The 2015 Asia-Pacific International Symposium on Electromagnetic Compatibility (APEMC 2015) was successfully held on 25-29 May, 2015 at the Grand Hotel, Taipei, Taiwan. The General Chair was Prof. Tzong Lin Wu from National Taiwan University and the TPC Chair: Dr. Ding-Bing Lin, National Taipei University of Technology. 447 delegates from 22 countries/regions attended and 198 accepted papers from 256 submissions were presented at this conference.

Photo of Organizing committee and invited guests taken at the opening session on 25 May, 2015

APEMC Delegates visiting TSMC on 25 May, 2015

2016 APEMC in Shenzhen

The 2016 Asia-Pacific International Symposium on Electromagnetic Compatibility (APEMC 2016) was moved to Shenzhen and held on 18-21 May, 2016 at the Shenzhen Convention and Exhibition Center.

The General Chair was Professor Er-Ping LI, and the TPC Chairs were Professor Farhad Rachidi from Swiss Federal Institute of Technology, Professor Lijun Jiang from Hongkong University, and Dr. En-xiao Liu from A*STAR , Singapore. Shenzhen is pioneering status of being China's Window to the World, and its fabulous facilities and being home of world-class electronic industries.

388 papers were accepted and presented at the conference from close 500 submissions from 31 countries/regions, and 1172 delegates/visitors attended the meeting.

Frank Leferink from Netherlands delivered his keynote speeches at the opening ceremony in the morning of 19 May

Photo of 2016 APEMC Organizing committee*: from Left Liu Enxiao, Wang Mengjun,Sara Gou, Jinag Mei, Xu Yimin, Zhang Xinhai, Li Erping, Jiang Lijun, Janet O'Neil, Zhang Yaojiang, Yin Wenyan, Wei Xhinchang, Chen Henglin*

EMC Board Meeting on 20 May 2015 at Shenzhen APEMC *from left John Norgard (IEEE EMCS), Lijun Jiang (University of Hongkong), Er-Ping Li (APEMC), Enxiao Liu (A*STAR, Singapore), Joungho Kim (KAIST, Korea), Janet O'Neil（EMCS）, Vignesh Rajamani,（EMCS）, Frank Leferink (Netherlands)， Perry Wilson（EMCS）, Peter Leong (City University of Hong Kong), Osami Wada (Kyoto University, Japan), Mike Violette (EMCS), Tzong-Lin Wu (National Taiwan University),Jinliang He(Tsinghua University), and Don Heirman (EMCS)*

2017 APEMC in Korea

The 2017 Asia-Pacific International Symposium on Electromagnetic Compatibility (APEMC 2017) was held on June 20-23, 2017, Seoul, Korea. Prof. Joungho Kim served as General Chair, TPC was Prof Jong-Gwan Yook. The symposium attracted 415 attendees from 21 countries/regions and presented 163 papers from 202 submissions.

Key members of the APEMC Symposium and International Steering Committee included (from left) Prof. Jonghoon Kim, Prof. Er-Ping Li, Prof. Joungho Kim, Prof. Tzong-Lin Wu, Prof. Osami Wada, Prof. En-Xiao Liu, Prof. Hideaki Sone, and Prof. Seungyoung Ahn.

2018 Joint IEEE EMC/APEMC in Singapore

In 2018, the IEEE International Symposium on Electromagnetic Compatibility & Asia-Pacific Symposium on Electromagnetic Compatibility (2018 Joint IEEE EMC & APEMC) was jointly organized in Singapore, 14-17 May 2018 chaired by Dr Liu Enxiao and the TPC Chairs were Dr. Jun Fan and Richard Gao Xianke. This is first time that APEMC jointly with IEEE EMC. The symposium marked the 60th edition of the IEEE International EMC Symposium and 10th anniversary for APEMC. The symposium was attended with 841 delegates from 31 countries/regions. 382 out of 490 submissions were presented at this symposium.

2018 Organizing committee members photo at the banquet dinner on 16 May*. Front row from left: Caroline Chan, Janet O'neil, Jun Fan, Er-Ping Li, Bruce Archambeault, Richard Xian-Ke Gao, Xiaoning Ye, Mike Violette, Siping Gao. Back row from left: En-Xiao Liu, Chao-Fu Wang, Vignesh Rajamani, Xing-Chang Wei, Zaifeng Yang, Albert Lee, Hui Min Lee*

Dr. En-Xiao Liu once again gave a warm welcome to all the delegates

Delegates attended the APEMC 2018 opening ceremony and the first plenary session

2019 APEMC in Sapporo, Japan

2019 APEMC was held at Sapporo Convention Center, Sapporo, Hokkaido, Japan, from June 3 to 7, 2019 Jointly with International Symposium on Electromagnetic Compatibility, chaired by Prof. Sone from Tohoku University.

432 delegates from 25 countries/regions attended the symposium.

2020 APEMC in Sydney, Australia

2020 APEMC was chaired by Mark Mifsud, and supposed held in Sydney Australia, but was cancelled due to COVID-19. Thanks are given to the organizing committee, who did a tremendous preparation work.

2021 APEMC in Bali, Indonesia

2021 APEMC was held in Bali, Sept 27-30, 2021 in hybrid mode, chaired by Dr. Dwi Mandaris from National Research and Innovation Agency, Indonesia, Technical Program Committee were chaired by Frank Lefink and En-Xiao Liu from A*STAR Singapore. This symposium initially will be organized fully on-site in Bali, Indonesia on May 2021. Unfortunately, since the beginning of 2020, there is covid-19 outbreaks spreading all over the world. Then it's been shifted to September 2021.

2022 APEMC in Beijing

2022 APEMC is held during the 2022 Beijing EMC Week (www.emcconf.org), in Beijing, China, from Sept. 1-4, 2022. the first city to hold both of Sumer and Winter Olympics. The EMC week is chaired by Prof. Su Donglin and the APEMC is chaired by Prof. Li Er Ping. TPC is co-chaired by Jun Fan and Liu Enxiao.

2023 APEMC in India

Joint APEMC and INCEMIC 2023 is proposed to be held as an on-site conference from 22nd to 25th May 2023 in Bangalore, India and to be chaired by Dr Dipanjan Gope. The venue will be Sheraton, Bangalore.
EMAIL: dipanjan@iisc.ac.in

2024 APEMC in Japan

2024 APEMC will be held on May 20-24 in Okinawa, Japan and to be chaired by Prof. Yoshitaka TOYOTA
EMAIL: emc2024-contact@mail.ieice.org

浙江大学电磁兼容实验室

团队研究方向介绍

浙江大学电磁兼容实验室于2010年成立，团队主要研究方向为：

- 未来通信与感知：包括但不限于电磁信息理论与系统、空间承载网络、 物联网、智能车联网、智能家居、遥感技术等。
- 神经形态器件及类脑芯片设计和集成技术：包括但不限于尖峰神经网络、神经形态传感、脑机接口、人工智能芯片设计与应用、高能效数字芯片设计、人工智能芯片电磁/多物理兼容与协同优化 设计等。
- 器件-电路-系统异构/异质集成：包括但不限于先进半导体器件、射频集成电路、光电集成电路、 高速互连、微机电系统等，以及异构/异质集成电路中电磁兼容/信号完整性EDA工具 研发。
- 电磁场理论、电磁计算与逆向设计、智能超材料、多物理场计算等领域基础研究。

暗室EMC测试系统

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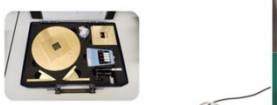
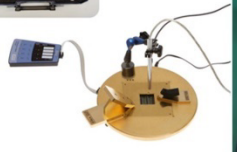
本暗室目前拥有3米法暗室和屏蔽室在内的完整EMC测试平台。可开展IT产品、家用电器、医疗器械、汽车零部件、小型军工电子产品、工业电子用品、通信等领域EMI和EMS的研究。

序号	测试项目	国家标准
1	电源端子传导骚扰	GB/6113、GB9524、GB4824
2	辐射骚扰	GB/6113、GB9524、GB4824
3	射频辐射抗扰度	GB/T17626.3
4	电快速瞬变脉冲群抗扰度	GB/T17626.4-2019
5	浪涌抗扰度	GB/T17626.5-2018
6	电压暂降、短时中断和电压变化的抗扰度	GB/T17626.11-2008

集成电路EMC测试系统





该集成电路测试系统可以完成传导耦合以及电磁场耦合条件下的EMC测试任务，具备集成电路测试系统，可开展集成电路设计、封装、测试及应用领域的研究。

序号	测试项目	国家标准
1	EMI测试	IEC 61967
2	射频EMS	IEC 62132
3	脉冲抗扰度	IEC 62215

联系人：李达博士 li-da@zju.edu.cn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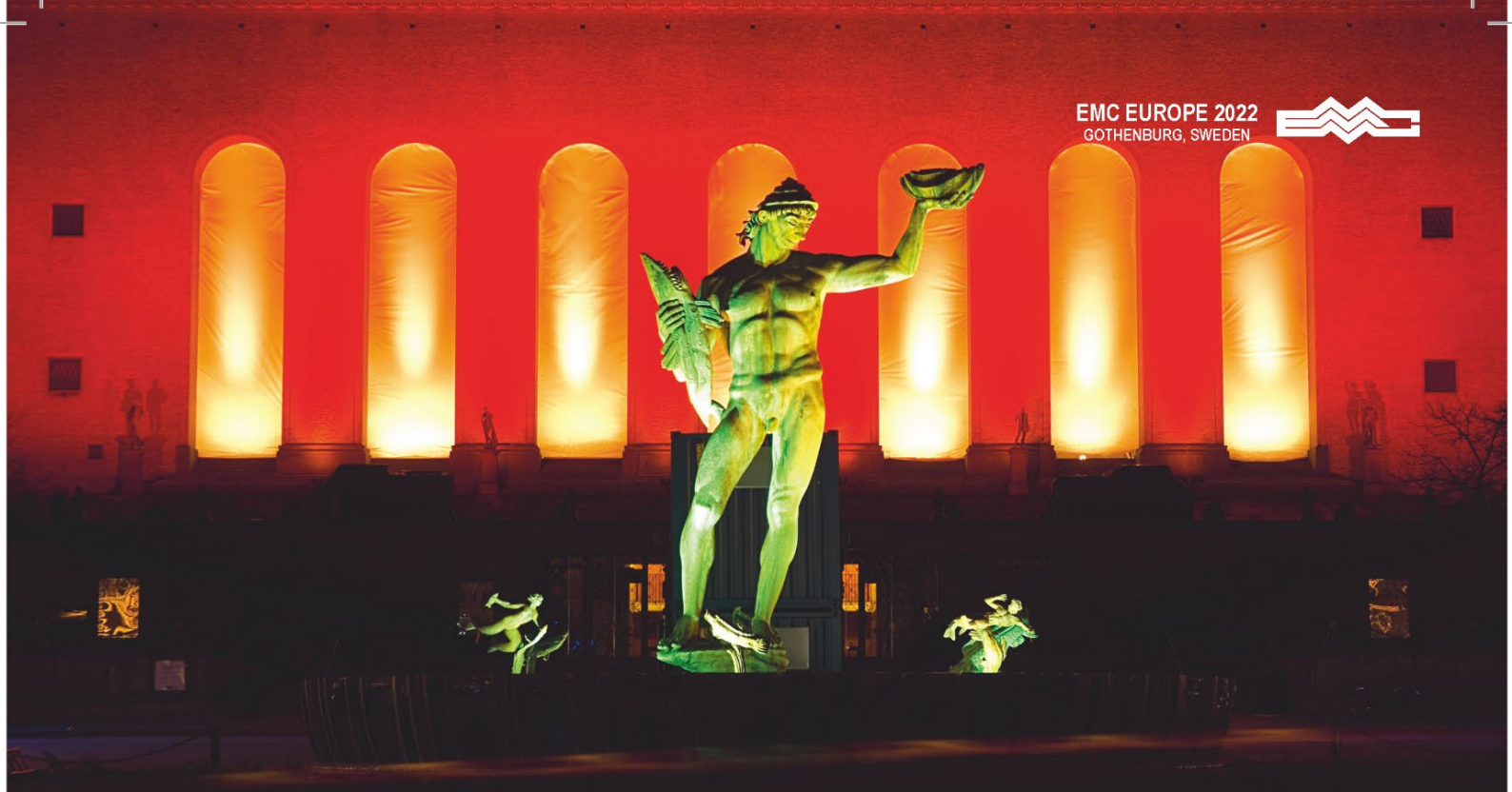

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First Announcement

APEMC 2024

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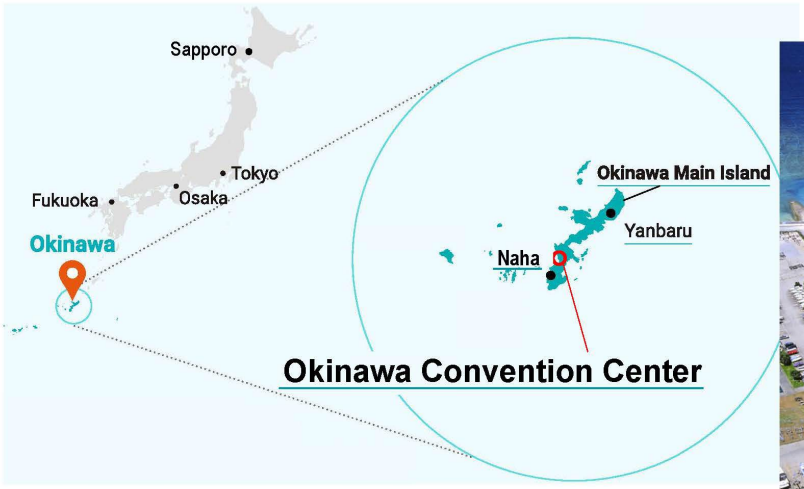
Will be held in Japan five years after EMC Sapporo & APEMC 2019



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卫生防疫参会须知

尊敬的各位参会、参展人员：

为进一步做好新冠肺炎疫情防控和医疗保障服务工作，提供安全、健康、放心的参会环境，切实维护您的身体健康，请您阅读并遵守以下参会须知，做好个人防护工作：

一、所有进入会场的人员须在会前做好自我健康状况监测，确保体温检测低于 37.3℃，确保本人及密切接触者无发热、咳嗽、乏力、腹泻、呕吐、味嗅觉异常等症状；

二、会议不接受涉疫风险人员及来自疫情中高风险地区的人员参会和进入会场；

三、会议期间，严格实施现场全体人员健康安全管理，所有人员需配合会议组委会开展自主健康监测，所有进入会场的人员须统一采用“**提供本人 48 小时内核酸检测阴性证明（现场本人信息扫码登记）+实名身份验证+测温+佩戴口罩**”的入场方式；

四、在电梯、楼道、公共卫生间等场所，进出会场、展馆、宾馆、餐厅时，以及在活动期间（身份识别、用餐和上台发言时可以除外），请您佩戴一次性医用口罩；

五、会议期间，请您保持 1 米的安全社交距离，佩戴口罩期间，不要接触自己面部，特别是鼻孔和眼睛。不聚集不簇拥，减少身体接触；

六、会议期间，将在接待处和会场的主要出入口配置免洗消毒剂，以供参会人员消毒使用；

七、会议期间，请您尽量不要到除会议场地之外人流密集的公共场所。外出请佩戴口罩、勤洗手、保持社交距离、自觉遵守会场和当地各项防疫规定；

八、会议期间，如您有下列症状：发热、干咳、腹泻、呕吐等不适时，请立即联系会议组委会，并至就近医院排查。

祝大家身体健康、工作顺利！

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2022 年 9 月


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