

**ISUPTW2021 Plenary Session**

Location: 2F, Global Center Grand Ballroom1-2

**June 17**

08:30-08:45	<b>Opening Ceremony</b>	
08:45-09:25	<i>Recent progresses of high brightness electron beam and its applications</i> <b>Prof.Chuanxiang Tang</b> , Tsinghua University , China	
09:25-10:05	<i>TBA</i> <b>Prof.Zeren Li</b> , China Academy of Engineering Physics, China	
10:05-10:35	Coffee Break & Group Photo	
10:35-11:15	<i>Information Metamaterials in Space Coding, Frequency Coding, Time Coding, and Space-Time Coding</i> <b>Prof.Tiejun Cui</b> ,Southeast University, China	
11:15-11:55	<i>Probing ultrafast spintronic transport with terahertz radiation</i> <b>Prof.Tobias Kampfrath</b> ,The Free University of Berlin, Germany	

**June 18**

08:30-09:10	<i>Recent Progress on THz Liquid Photonics</i> <b>Prof.Xi-Cheng Zhang</b> ,University of Rochester, USA	
13:30-14:10	<i>Terahertz Driven Electron and X-ray Sources</i> <b>Prof.Franz Kaertner</b> ,Deutsches Elektronen-Synchrotron (DESY) / University of Hamburg, Germany	
14:10-14:50	<i>High harmonics, attosecond pulses and incoherent radiation from ultra-relativistic laser-plasmas</i> <b>Prof.Alexander Pukhov</b> ,University of Dusseldorf, Germany	
14:50-15:05	Coffee Break	

# Terahertz Science and Technology I

Location: 2F, Honghu Room

## June 17

### THz Bio I

13:30-14:00	<b>Control and applications of the ultrafast terahertz technology</b> <b>Chao Chang</b>	
14:00-14:20	ATP-photon and quantum neuron <b>Bo Song</b>	
14:20-14:40	A terahertz biosensor based on graphene-electrophoresis technology <b>Yiwen Sun</b>	
14:40-15:00	Manipulation of terahertz optoacoustic detection in water based solution and bio-tissues <b>Zhen Tian</b>	
15:00-15:20	THz Biosensors based on metamaterials <b>Yuping Yang</b>	
15:20-15:35	Coffee Break	
15:35-15:55	Midinfrared modulation of neuronal signaling and animal behavior <b>Yousheng Shu</b>	
15:55-16:15	Promising terahertz technology for biomedical diagnosis <b>Kun Meng</b>	
16:15-16:35	Non-invasive, opsin-free mid-infrared modulation activates cortical neurons and accelerates associative learning <b>Xiaowei Chen</b>	
16:35-16:55	Continuous time-resolved measurements of the electrical conductivity of non-equilibrium warm dense gold using multi-cycle terahertz pulses <b>Zhijiang Chen</b>	
16:55-17:15	Terahertz Spectral Imaging of Biological Samples on the Millimeter, Micrometer and Nanometer Scales <b>Huabin Wang</b>	
<b>Best Student Paper of THz</b>		
17:15-17:30	Real-time Measuring Ultra-Fast Near-field Resonance Response of Cantilevered Terahertz Probe hu min <sup>1*</sup> ; <b>yueming wang</b> <sup>1</sup> ; shenggang liu <sup>1</sup> ; zhang zhuocheng <sup>1</sup> ; zhang xiaoqiuyan <sup>1</sup> ; zhang tianyu <sup>1</sup> ; xu xingxing <sup>1</sup>	
17:30-17:45	Comparison of material characterization in free space between the Vector Network Analyzer and the Terahertz time-domain spectroscopy <b>Dayou Liu</b> <sup>1;2;3;4</sup> ; <b>Feng Qi</b> <sup>1;2;3*</sup>	
17:45-18:00	A Bidirectional Data-Driven Design Approach for Metamaterials Absorber Using Ensemble Learning <b>Yongqiang Zhu</b> <sup>1</sup> ; <b>Yue Wang</b> <sup>1*</sup> ; <b>Zijian Cui</b> <sup>1</sup> ; <b>Lisha Yue</b> <sup>1</sup> ; <b>Xiaoju Zhang</b> <sup>1</sup> ; <b>Xiang Zhang</b> <sup>1</sup> ; <b>Cheng Ma</b> <sup>1</sup>	

<b>June 18</b>	
<b>THz Source I</b>	
09:20-09:50	<b>Terahertz radiation with peak power upto GW-TW from intense laser-foil interactions</b> <b>Yutong Li</b>
09:50-10:20	<b>Recent progress on ultrashort electron beam based THz radiation and its applications at THU</b> <b>Lixin Yan</b>
10:20-10:35	Coffee Break
<b>THz spectroscopy I</b>	
10:35-11:05	<b>Nonlinear response of semiconductor systems under intense THz excitation</b> <b>Alexei Pashin</b>
11:05-11:25	Optimizing two color air plasma system for broadband terahertz time domain spectroscopy Tianwu Wang
11:25-11:45	Detection of aqueous samples by terahertz time-domain spectroscopy Lei Hou
11:45-12:05	Terahertz polarization detection by photoconductive antenna arra Wei Shi
12:05-13:30	Lunch
<b>THz Source II</b>	
15:05-15:35	<b>Photoconductive Antennas Manipulated by Nano- And Micron- Scale Meta-Atoms</b> <b>Jianqiang Gu</b>
15:35-15:55	Towards to Superior Terahertz Response Based on ZnTe crystals by Tailoring the Bulk Defects and Surface Structures Yadong Xu
15:55-16:15	Enhanced High Harmonic and Terahertz Generation from LiNbO3 Metasurface Dongwen Zhang
16:15-16:30	Terahertz tight focusing based on low-index metagratings with nonlocal phase modulation Jierong Cheng <sup>1*</sup>
16:30-16:40	Investigation of tunable strontium titanate terahertz metamaterials Xiaoyong He <sup>1*</sup> ; Hao Zhang <sup>1</sup>
17:05-18:30	Coffee Break & Post Session
<b>June 19</b>	
<b>THz QCL</b>	
08:30-09:00	<b>Patch antennas for THz emission</b> <b>Julien Madéo</b>
09:00-09:20	Two beam self mixing interference in terahertz quantum cascade lasers Weidong Chu
09:20-09:40	Terahertz quantum cascade vortex lasers Gangyi Xu
09:40-10:00	Very long wave infrared and THz quantum cascade lasers Junqi Liu
10:00-10:20	High performance terahertz semiconductor lasers and transmission waveguides Chongzhao Wu
10:20-10:35	Coffee Break

<b>THz detector</b>		
10:35-10:55	Terahertz semiconductor frequency comb and dual-comb sources Hua Li	
10:55-11:10	Research on small size microbolometer type terahertz detector array Jun Wang	
11:10-11:35	Fabrication, Measurement and Imaging Demonstration of Si-based BIB Terahertz array detector Xiaodong Wang	
11:35-11:55	Atomic superheterodyne receiver based on microwave-dressed Rydberg spectroscopy Linjie Zhang	
11:55-12:05	Coherent diffraction radiation of relativistic terahertz pulses from a laser-driven microplasma waveguide Longqing Yi	
12:05-13:30	<b>Lunch</b>	
<b>Tutorial Talk</b>		
14:00-14:45	How to study nonlinear dynamics in semiconductor by terahertz wave free electron laser Harald Schneider	
14:45-15:30	How to accelerate ultrashort ion/particle beams and probe ultrafast dynamics in intense laser-irradiated targets Oswald Willi	

## Terahertz Science and Technology II

Location: 2F, Kaiyan Room

### June 17

#### THz device

13:30-14:00	<b>Ultraintense laser driven extreme terahertz radiation</b> <b>Guoqian Liao</b>	
14:00-14:20	Microstructure-based THz sensing and spectroscopy Qin Chen	
14:20-14:40	Terahertz chiral sensing based on artificial electromagnetic microstructure Fei Fan	
14:40-15:00	The Way towards Terahertz Trace Molecular Fingerprint Sensing with Broadband Enhancement Jinfeng Zhu	
15:00-15:20	Metasurface for the wavefront manipulation of THz waves and high-resolution imaging Yiming Zhu	
15:20-15:35	Coffee Break	

#### THz physics

15:35-16:05	<b>Terahertz Quantum Vacuum Effects in the Ultrastrong Coupling Regime</b> <b>Junichiro Kono</b>	
16:05-16:25	Nonlinear response of multiband superconductor MgB2 driven by tunable THz pulse Tao Dong	
16:25-16:45	Optical anisotropy and terahertz magnons in two-dimensional zigzag antiferromagnets Qi Zhang	
16:45-17:05	Investigation on THz Active Tunable Devices and Its Applications Liangong Wen	
17:05-17:35	<b>Generation of high power terahertz radiation by electron beam-plasma interaction system</b> <b>Yubin Gong</b>	
17:35-17:55	Terahertz Surface Plasmon Polaritons Excited by Free Electrons Min Hu	
17:55-18:10	<b>Gold nanoparticle-enhanced terahertz metamaterials for highly sensitive microRNAs detection in heart failure patients based on strand displacement amplification</b> Ke Yang <sup>1</sup> ; Siyi He <sup>1</sup> ; Xiaohong Wei <sup>1</sup> ; Qin Yue <sup>1</sup> ; Song Wu <sup>1</sup> ; Jie Chen <sup>1</sup> ; Mei Xin <sup>1*</sup> ; Jinbao Zhang <sup>1*</sup>	

### June 18

#### THz device II

09:20-09:50	<b>High-Efficiency Terahertz Isolator and Chiral Manipulation Based on Magneto-optical Metasurface</b> <b>Sheng-Jiang Chang</b>	
09:50-10:20	<b>Multifunction metasurface for special terahertz beam generation</b> <b>Yan Zhang</b>	
10:20-10:35	Coffee Break	

<b>THz device III</b>		
10:35-11:05	<b>A possible database for complete control of phase, amplitude and polarization with all-dielectric metasurface</b> <b>Jianguang Han</b>	
11:05-11:25	Gold Nanoparticles-Toluene Mixture Solution for Terahertz Phase Shifter Tianlong Wen	
11:25-11:45	Research of terahertz chiral metasurfaces and its active manipulation Yuping Zhang	
11:45-12:05	Terahertz metamaterials with high quality factors Xiaoguang Zhao	
<b>THz imaging</b>		
15:05-15:25	Nonlinear THz-Nano Metasurface Xiaojun Wu	
15:25-15:45	Super-resolution Terahertz Metalenses Gang Chen	
15:45-16:05	Applications of pulsed terahertz NDT on glue line of porous ceramics based thermal protection system Lin Liu	
16:05-16:25	High-Resolution Active Terahertz Imaging Feng Qi	
16:25-16:40	Suppressing the Trapping Process by Interfacial Charge Extraction in Antimony Selenide Heterojunctions Zeyu Zhang	
16:40-16:55	Towards mJ-level ultrashort Terahertz generated by optical rectification with a compact Terawatt laser Olivier Zabiolle <sup>1</sup>	
<b>June 19</b>		
<b>THz material</b>		
08:30-09:00	<b>Photo-induced Ultrafast Spin Current from an Antiferromagnet</b> <b>Biaobing Jin</b>	
09:00-09:20	Terahertz Radiation Generation by Efficient Spin-to-Charge Conversion in Surface States and antiferromagnetic layer Tian Jiang	
09:20-09:40	Spintronic based ultrabroadband terahertz emitters: from fundamentals to applications Zuanming Jin	
09:40-10:00	Ultrafast Terahertz Emission in a van der Waals Magnet Guohong Ma	
10:00-10:20	Applications of THz emission spectroscopy in condensed matter physics Xinlong Xu	
10:20-10:35	Coffee Break	
<b>THz material II</b>		
10:35-10:55	Bandwidth-tunable THz absorber based on diagonally distributed double-sized VO <sub>2</sub> disks Jiran Liang	
10:55-11:15	2D Materials Based Broadband Terahertz Absorber Qiyue Wen	
11:15-11:35	Investigation on flexible materials for dynamic control of terahertz wave transmission Qiwu Shi	
11:35-11:55	Singleshot Ultrafast and Terahertz Spectroscopy using Echelon Mirrors and Beyond Katayama Ikufumi	
11:55-12:05	TBA Liang Chen	
14:00-17:00	<b>NSAF Forum I</b>	

# Ultrafast phenomena

Location: 2F, Global Center Grand Ballroom 1

## June 17

### HHG and attosecond laser pulse

13:30-14:00	<b>Attosecond optoelectronics in the strong laser field</b> <b>Peixiang Lu</b>	
14:00-14:20	Intense attosecond vector beams from relativistic plasma mirrors ZiYu Chen	
14:20-14:40	The studies of high order harmonic generation from relativistic plasma mirrors at SJTU Feng Liu	
14:40-15:00	Intense attosecond pulses with angular momentum from relativistic laser-plasmas Jingwei Wang	
15:00-15:15	Attosecond interferometry of CO <sub>2</sub> molecules in two-color strong laser field Yalei Zhu	
15:15-15:30	Coherent control of ultrafast XUV transient absorption Peng Peng	
15:30-15:45	Coffee Break	

### Ultrafast laser control and THz generation

15:45-16:15	<b>Pre-chirp managed ultrafast fiber amplifiers towards GW peak power</b> <b>Guoqing Chang</b>	
16:15-16:35	Ultrafast THz radiation confinement Olga Kosareva	
16:35-16:55	Bessel terahertz radiation from plasma filaments Yanping Chen	
16:55-17:15	Strong THz fields from mid-IR and high repetition rate lasers Stelios Tzortzakis	
17:15-17:35	Femtosecond laser filamentation for guiding discharges Tiejun Wang	
17:35-17:50	Rotational dynamics of water in hydration shell of amphiphilic hyperbranched polyglycerol Liyuan Liu	

## June 18

### Ultrafast spectroscopy and imaging

09:20-09:50	<b>High-resolution X-ray imaging optics for ultrafast plasma diagnostics</b> <b>Zhanshan Wang</b>	
09:50-10:20	<b>Super-radiator</b> <b>See Leang Chin</b>	
10:20-10:35	Coffee Break	
10:35-10:55	Multi-electron dynamics during collision Chunmei Zhang	
10:55-11:15	Quantum Dynamics of Atomic Rydberg Excitation in Intense Laser Field Jing Chen	
11:15-11:35	An ultrafast stopwatch to clock molecular dynamics Jian Wu	
11:35-11:55	Diagnosis of ICF spherically symmetric implosion with X-ray imaging at ShenGuang Zhurong Cao	
11:55-12:05	Studies of quantum coherence in optical systems Luqi Yuan	

12:05-12:20	Dispersion influence on temporal properties of ultrafast spontaneous Raman scattering in optical fibers Nannan Liu	
<b>Mini-symposium on air lasing and filamentation</b>		
15:05-15:35	<b>Filament induced lasing without population inversion in N<sub>2</sub><sup>+</sup></b> <b>André Mysyrowicz</b>	
15:35-15:55	Air Lasing: current status and future opportunities Huailiang Xu	
15:55-16:15	Inteference in air lasing Hongbing Jiang	
16:15-16:35	The influence of ionization and coupling processes on the generation of air lasing Hongqiang Xie	
16:35-16:55	Generation of wavelength-switchable DUV/UUV sources in strong-field-ionized molecules Jinping Yao	
<b>June 19</b>		
<b>Ultrafast spectroscopy and advanced material</b>		
09:00-09:30	<b>TBA</b> <b>Alexander S. McLeod</b>	
09:30-09:50	Ultrafast Spectroscopy in Optical Near-field Jianing Chen	
09:50-10:10	Infrared nanoimaging of lattice reconstruction and domain wall states in twisted bilayer graphene Zhiqiang Li	
10:10-10:30	Unraveling the Hybridization Process in a Quantum Critical Ferromagnet by Ultrafast Optical Spectroscopy Jingbo Qi	
10:30-10:45	Coffee Break	
10:45-11:05	Design, preparation and investigation of ultrafast and high-spatial-resolution scintillation screens with nanorod array structure Zhi-Jun Zhang	
11:05-11:20	Temperature-dependent terahertz dielectric modulation of fluoride Magneto-optical crystals Anhua Wu	
14:00-17:00	<b>NSAF Forum II</b>	