

# Program (tentative)

ver. 20190206

## The 7th International Workshop on Far-Infrared Technologies (IW-FIRT 2019)

5(Tue) -7(Thu) March, 2019, at Conference Room on 13th floor of Science Tower I

5 Mar. (Tue)

Start time	Session	No.	Time	Name (Affiliation)	Title	Chairperson
9:10	Opening remark			(Vice President for Research, Univ. of Fukui)		
9:15	Opening talk	5a-1	0:20	Masahiko Tani (FIR UF)	Research Activities on Far Infrared Technology in FIR UF	
9:35	Development and applications of gyrotrons	5a-2	0:30	Yoshinori Tatematsu (FIR UF)	Development of sub THz gyrotrons in wide frequency band in FIR UF	
10:05	Break		0:25			
10:30	Development and applications of high-power THz-wave	5a-3	0:30	Stefan Knirck (Max-Planck-Institute for Physics, Germany)	Far-Infrared Technologies in Axion and Hidden Photon Astroparticle Physics	
11:00		5a-4	0:30	Yuichi Ogawa (Kyoto Univ., Japan)	Development of the cell measurement system combining a gyrotron and 60 GHz near-field array sensor	
11:30		5a-5	0:30	Michael A. Shapiro (Massachusetts Inst. of Tech., USA)	Recent Results on the 527 GHz DNP Gyrotron and a Laser Controlled Switch	
12:00	Lunch		1:30			
13:30	Development of gyrotrons and amplifiers	5p-1	0:30	Mikhail Yu. Glyavin (Inst. of Appl. Phys., RAS, Russia)	Gyrotrons: What Way Forward	
14:00		5p-2	0:30	Gerd Gantenbein (Karlsruhe Inst. of Tech., Germany)	Overview of KIT activities on high power, high frequency gyrotron development and the role of the new FULGOR teststand at KIT	
14:30		5p-3	0:20	#,‡ Tobias Ruess (Karlsruhe Inst. of Tech., Germany)	A computer-controlled low-power RF system to generate very high-order modes used in future fusion gyrotrons	
14:50		5p-4	0:20	# Nikita M. Ryskin (Saratov State Univ., Russia)	Development of Miniaturized Sub-THz Band Traveling-Wave Tubes	
15:10	Break		0:25			
15:35	THz spectroscopy and techniques	5p-5	0:30	Tae-In Jeon (Korea Maritime and Ocean Univ., Korea)	Long distance THz pulses propagation in the atmosphere and remote gas sensing	
16:05		5p-6	0:30	Masahiko Tani (FIR UF)	New Emitters and Detectors for Terahertz Time-Domain Spectroscopy with 1.55- $\mu$ m Fs Laser Sources	
16:35		5p-7	0:30	Keisuke Tominaga (Kobe Univ., Japan)	Broadband Dielectric Spectroscopy on Proteins and Lipid Bilayers from sub-GHz to THz region	
17:05		5p-8	0:30	Marco Battiato (Nanyang Technological Univ., Singapore)	Far out-of-equilibrium spin populations trigger giant spin injection into atomically thin MoS <sub>2</sub>	
17:35	Break		0:25			
18:00	Banquet		2:00		at Academy Hall	

20:00 end

### Note

All invited talks are 30 minutes talks including the time for discussions (~5 min). Talks of contributed papers indicated by "#" are 20 minutes talks. "‡" indicates awardee of the financial support for young researchers for IW-FIRT2019.

For oral presentations, you can connect your own PC to LCD projector via standard RGB cable (mini D-sub 15 pin connector). If you will bring your presentation file without your own PC, please let us know in advance.

For poster presentations, refer to the note in the list of poster presentations.

### 6 Mar. (Wed)

Start time	Session	No.	Time	Name (Affiliation)	Title	Chairperson
9:00	Magnetic resonance and THz source	6a-1	0:30	Johan van Tol (National High Magnetic Field Laboratory, Florida State Univ., USA)	Pulsed EPR and Dynamic Nuclear Polarization at High Field and Frequency	
9:30		6a-2	0:30	Susumu Takahashi (Univ. of Southern California, USA)	Development of a High Field Nanoscale EPR System Using NV Centers in Diamond	
10:00		6a-3	0:20	# Eduard Khutoryan (FIR UF & O. Ya. Usikov Inst. for Radiophys. and Electronics of NAS, Ukraine)	Development of CW Clinotrons for THz Applications	
10:20	Break		0:25			
10:45	Magnetic resonance	6a-4	0:30	Shojiro Kimura (Tohoku Univ., Japan)	Electromagnon in the Quantum Spin Dimer System	
11:15		6a-5	0:30	Jarno Järvinen (Univ. of Turku, Finland)	Dynamic Nuclear Polarization of Doped Silicon at High Fields and Low Temperatures	
11:45	Group photo		0:15	<i>We shall take a photo with all participants just after the morning session.</i>		
12:00	Lunch		1:30			
13:30	THz spectroscopy and techniques	6p-1	0:30	Yusuke Kajihara (The Univ. of Tokyo, Japan)	Thermal near-field microscopy on materials	
14:00		6p-2	0:30	Elmer S. Estacio (The Univ. of the Philippines Diliman, Philippines)	Generation and detection of terahertz radiation from MBE-grown GaAs/Si photoconductive antenna devices	
14:30		6p-3	0:20	#,‡ Neil Irvin F. Cabello (The Univ. of the Philippines Diliman, Philippines)	Terahertz Emission and Detection Characteristics of MBE-grown GaAs Photoconductive Antennas – Effect of Metal Contact Composition and Substrate Growth Temperature	
14:50		6p-4	0:20	# Mary Clare Escaño (FIR UF)	Origin of two-step photon absorption in low-temperature GaAs by first principles methods	
15:10		6p-5	0:20	# Atsushi Nakanishi (Hamamatsu Photonics K. K., Japan)	Investigation of the terahertz optical properties of wood plastic composite and their effect of water uptake	
15:30	Break		0:20			
15:50	Poster session		1:40		<i>See List of Poster Presentations.</i>	

17:30 end

### 7 Mar. (Thu)

Start time	Session	No.	Time	Name (Affiliation)	Title	Chairperson
9:00	Applications of gyrotrons	7a-1	0:30	Kohei Shimamura (Univ. of Tsukuba, Japan)	Sub-terahertz Wireless Power Transmission using Gyrotron	
9:30		7a-2	0:20	#,‡ Kuniyoshi Tabata (The Univ. of Tokyo, Japan)	Development of a 600 kW Gyrotron for Microwave Rocket Researches	
9:50		7a-3-1	0:15	Masami Kojima (Kanazawa Medical Univ., Japan)	Ocular damage threshold to millimeter wave (162 GHz) exposure	
10:05		7a-3-2	0:15	Yukihisa Suzuki (Tokyo Metropolitan Univ., Japan)	Development and dosimetry of the 162GHz in vivo exposure system with the gyrotron for the investigation of ocular damages	
10:20	Break		0:25			
10:45	Magnetic resonance	7a-4	0:30	Hitoshi Ohta (Kobe Univ., Japan)	Multi-Extreme THz ESR -Recent Developments and Future-	
11:15		7a-5	0:30	Seitaro Mitsudo (FIR UF)	Application of Gyrotron for Millimeter Wave Pulsed ESR Measurements	
11:45	Closing		0:10	Masahiko Tani (FIR UF)		
11:55	end					