



Mon, March 11 & Tue, March 12, 2024

FHI, PC Department, Room G 2.06

Joint Workshop Fritz Haber Institute, Berlin (FHI) and The Institute for Solid State Physics, Kashiwa, Japan (ISSP):
“THz and SFG spectroscopy and related phenomena in Solid-State Physics and Surface Science”

Mon, March 11 - Morning Session, Chair: A. Shiotari

09:30	Jun Yoshinobu, ISSP (30)	Opening remark: Introduction of ISSP
10:00	Jun Haruyama, ISSP (30+5)	First-principles study of monolayer ice on Pt(111): adsorption energy and second-order nonlinear susceptibility
10:35	Coffee Break	
10:55		Student-Guest Short Presentations
	Hongyu Li, ISSP (10+3)	Theoretical study of oxidation of CO and desorption dynamics of CO ₂ on Pt(111) by van der Waals DFT calculations
	Haruka Yoshioka, ISSP (10+3)	Hydrogenation reaction of formic acid on Cu(997) with pre-adsorbed atomic hydrogen by HREELS and TPD
	Fumihiko Ozaki, ISSP (10+3)	Electronic states and reactions of a MoS ₂ edge surface prepared by laser cutting
	Risako Kameyama, ISSP (10+3)	Broadband IR detection by up-conversion through sum-frequency generation
	Group photo	
12:00	Fingerfood buffet in the library	

Mon, March 11 - Afternoon Session, Chair: S. Tanaka

14:00		Nonlinear Interfacial Spectroscopy Group
	Martin Thämer, FHI (5)	Combining nonlinear vibrational spectroscopy with spatial resolution
	Alvaro Diaz Duque, FHI (12+3)	Depth-Resolved SFG/DFG Spectroscopy of Charged Aqueous Interfaces
	Alexander Fellows, FHI (12+3)	Spiralling Hierarchical Structures in Chiral Lipid Monolayers Mapped with SFG Microscopy
14:40	Naoki Nagatsuka, Kyoto Univ. (30+5)	Electronic properties of surface defects and their effect on adsorption structure on H ₂ O/Pt and H/TiO ₂
15:15		Lattice Dynamics Group
	Alex Paarmann, FHI (12+3)	Infrared Free-Electron Laser-Based SFG Microscopy of Polaritons
	Niclas Sven Müller, FHI (12+3)	Spectroscopic and Interferometric SFG Imaging of Strongly Coupled Polaritons in a Metasurface
15:45	Chat with coffee	



Tue, March 12 - Morning Session, Chair: Y. Murotani + L. Parra López

09:00	Shunsuke Tanaka, ISSP (30+5)	Gapless Detection of Broadband THz pulses by using Air Molecules and a Metal Surface
09:35		Ultrafast Scanning Probe Microscopy Group
	Melanie Müller, FHI (5)	Overview: Ultrafast Scanning Probe Microscopy Group
	Alkisti Vaitisi, FHI (12+3)	Rotating spintronic THz emitter for high-power and field-driven applications at MHz repetition rate
	Luis Parra López, FHI (12+3)	Observing correlated electron dynamics in the local density of states of 1TTaS ₂ by THz-STM
10:15	Coffee break	
10:35		THz Structural Dynamics Group
	Sebastian Maehrlein, FHI (5)	Overview: THz Structural Dynamics Group
	Maximilian Frenzel, FHI (12+3)	Quartz as an Accurate High-Field Low-Cost THz Helicity Detector
	Joanna Urban, FHI (12+3)	THz control of coherent phonon dynamics in low-dimensional hybrid perovskites
11:15	Yuta Murotani, ISSP (30+5)	Terahertz spectroscopy of light-induced anomalous Hall effect for semiconductor spintronics and Dirac electron dynamics
11:50	Tobias Kampfrath, FU-Berlin (30+5)	Ultrafast spin-orbitronics with terahertz electromagnetic pulses
12:25	Akitoshi Shiotari, FHI (5)	Closing remark