

# ISSTT2012 Program

## April 2nd (Monday)

8:45 Registration

9:15 Opening Talk

9:20–9:50 Invited Talk

session chair: Brian Jackson

I-1	Pajot, François	IAS	Planck : performance of the HFI instrument during 30 months of operation in space
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9:50–10:50 THz Systems I

C-1	Huebers, Heinz-Wilhelm	DLR	Progress toward a 4.7–THz front-end for the GREAT heterodyne spectrometer on SOFIA
C-2	Emrich, Anders	Omnisys Instrument	The STEAMR instrument
C-3	Reck, Theodore	JPL/Caltech	PASEO – An integrated Radiometer and Spectrometer for Improved Planetary Science

10:50–11:10 Coffee Break

11:10–12:30 Coherent Detectors I

session chair: Takashi Noguchi

C-4	Shan, Wenlei	PMO	An Integrated SIS Multibeam Receiver for Terahertz Astronomical Observation
C-5	Puetz, Patrick	KOSMA	Characterisation of Local Oscillator Noise with a 400 – 500 GHz Integrated Balanced SIS Receiver
C-6	Tong, Edward	SAO	Wideband SIS Receivers Using Series Distributed SIS Junction Array
C-7	Groppi, Chris	Arizona State University	The Kilopixel Array Pathfinder Project (KAPPA), a 16 pixel integrated SIS focal plane array

12:30–14:00 Lunch

14:00–14:30 Invited Talk

session chair: Imran Mehdi

I-2	Griffin, Matt	Cardiff University	Herschel-SPIRE Performance and Science Highlights
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14:30–15:30 Coherent Detectors II

C-8	Richter, Heiko	DLR	A 2.5–THz heterodyne spectrometer front-end integrated in a pulse-tube cooler
C-9	Treuttel, Jeanne	LERMA	A Novel 330 GHz Sub-Harmonic Mixer with Independently Biased Schottky Diodes
C-10	Rea, Simon	RAL	A Compact 340 GHz Receiver Array Front-End

15:30–16:30 Coffee Break and Poster Session

16:30–17:00 Invited Talk

session chair: Sergey Shitov

I-3	Hasegawa, Tetsuo	NAOJ	ALMA: status of construction and the initial observations
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17:00–18:30 ALMA

C-11	Yassin, Ghassan	University of Oxford	The Prospects of THz Technology for ALMA ‘Band 11’
C-12	Hwang, Yuh-Jing	ASIAA	Development Progress and Production Plan of ALMA Band-1 Receivers in Taiwan
C-13	Tan, Boon Kok	University of Oxford	A 700 GHz Integrated Balanced SIS Mixer
C-14	Fujii, Yasunori	NAOJ	Performance of the first six ALMA Band 10 receivers

## April 3rd (Tuesday)

9:00–9:30 Invited Talk

session chair: Shuji Matsuura

I-4	Otsuji, Taiichi	Tohoku University	Emission and Detection of Terahertz Radiation Using Two-Dimensional Electrons in III–V Semiconductors and
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9:30–10:30 THz Systems II

C-15	Nihei, Ryota	University of Tsukuba	Development of an ultra-sensitive far-infrared detector based on double quantum-well structure
C-16	Probst, Petra	Karlsruhe Institute of Technology	YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7</sub> -high-speed detectors for picosecond THz pulses
C-17	Bevilacqua, Stella	Chalmers University of Technology	Fast room temperature THz microbolometers

10:30–10:50 Coffee Break

10:50–12:30 THz components

session chair: Kamaljeet Saini

C-18	Crowe, Thomas	Virginia Diodes Inc.	Multiplier-based Sources for 3THz and Beyond
C-19	Siles, Jose	JPL/Caltech	Enabling Compact Multi-Pixel Heterodyne Terahertz Receivers Using On-Chip Power-Combined Multiplied
C-20	Morgan, Matt	NRAO	Graphical Prediction of Trapped Mode Resonances in Sub-mm and THz Networks
C-21	Wollack, Edward	GSFC/NASA	High Absorptance Coatings for THz Applications
C-22	Nitta, Tom	University of Tsukuba	Beam Pattern Measurements of Millimeter-wave MKIDs Camera with Direct Machined Silicon Lens Array

12:30–14:00 Lunch

14:00–14:30 Invited Talk

session chair: Charles Cunningham

I-5	Roelfsema, Peter	SRON	Herschel-HIFI THz technology in action for astrophysics
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14:30–15:30 THz Systems III

C-23	Jellema, Willem	SRON	An Optical Design Concept for Future Heterodyne Instrumentation in Space
C-24	Matsuo, Hiroshi	NAOJ	Photon Counting Terahertz Interferometry
C-25	Baryshev, Andrey	SRON	Interferometry using dual photon response of submm direct detectors

15:30–16:30 Coffee Break and Poster Session

16:30–18:30 SPICA and Incoherent Detector: session chair: Ken Wood

C-26	Nakagawa, Takao	JAXA	The next-generation infrared space mission SPICA
C-27	Roelfsema, Peter	SRON	The SAFARI Imaging Spectrometer for the SPICA space observatory
C-28	Gao, Jian Rong	SRON	TES technology for SPICA-SAFARI
C-29	Morozov, Dmitry	Cardiff University	Optical performance of ultrasensitive FIR TES detectors for future space missions
C-30	den Hartog, Roland	SRON	Frequency Division Multiplexed readout of TES detectors with Baseband Feedback
C-31	Bradford, Matt	JPL/Caltech	BLISS and Ultrasensitive Bolometers for SPICA

Banquet (19:00–21:00)

## April 4th (Wednesday)

9:00–9:30 Invited Talk

session chair: Karl Schuster

I-6	Hazumi, Masashi	KEK	LiteBIRD: A Small Satellite for the Studies of B-mode Polarization and Inflation from Cosmic Background Radiation Detection
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9:30–10:30 LiteBIRD and Incoherent Detectors II

C-32	Karatsu, Ken'ichi	NAOJ	Development of 1000 arrays MKID Camera for the CMB Observation
C-33	Koga, Kensuke	Tohoku University	Development of TiN-MKIDs for CMB polarization observations
C-34	Suzuki, Aritoki	UCBerkeley	Multi-chroic dual-polarization bolometric focal plane for studies of the Cosmic Microwave

10:30–11:00 Coffee Break

11:00–12:20 Incoherent Detectors III

session chair: Chiko Otani

C-35	Endo, Akira	Delft University of Technology	DESHIMA: Redshift Machine Based on an On-chip Filterbank
C-36	Roesch, Markus	IRAM	Dual polarization Lumped Element Kinetic Inductance Detectors (LEKID) for 1.25 and 2.05mm
C-37	Ferrari, Lorenza	SRON	Taking a snapshot of KIDs
C-38	Chattopadhyay, Goutam	JPL/Caltech	Ultra-Compact Superconducting Spectrometer on a Chip at Submillimeter Wavelengths

12:20–14:00 Lunch

14:00–14:30 Invited Talk

session chair: Wolfgang Wild

I-7	Chen, Ming-Tang	ASIAA	THE YUAN-TSEH LEE ARRAY FOR MICROWAVE BACKGROUND ANISOTROPY
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14:30–15:30 THz Systems IV

C-39	Shi, Sheng-Cai	PMO	Development of THz Superconducting Receivers for DATE5
C-40	Blundell, Raymond	SAO / ASIAA	A New Telescope for Ground-based THz Astronomy
C-41	Smirnov, Andrey	Astro Space Center	THz space mission Millimetron

15:30–16:30 Coffee Break and Poster Session

16:30–17:50 Coherent Detectors III

session chair: Alain Maestrini

C-42	Goltsman, Gregory	Moscow State Pedagogical University	Study of the superconductor-normal metal interface in hot-electron bolometer mixers
C-43	Shiino, Tatsuya	University of Tokyo	The 0.9 and 1.3 THz Superconducting HEB Mixer Receiver for the ASTE 10 m Telescope
C-44	Zhang, Wen	PMO	A 1.4-THz Superconducting HEB Mixer for DATE5
C-45	Ren, Yuan	Delft University of Technology	Stabilized HEB-QCL heterodyne spectrometer at super-terahertz

Conference Summary

Adjourn

## Poster Presentations

P-1	Mizobuchi, Satoko	JAXA	In-orbit Stability Evaluation of the AOS (Acousto-Optical Spectrometer) of Superconducting Submillimeter-Wave Limb-Emission Sounder (JEM/SMILES)
P-2	Schlecht, Erich	JPL/Caltech	Terahertz Radiometer for Outer Planet and Moon Atmospheres (TROPA)
P-3	Whale, Mark	University of Bern	The STEAMR Instrument: Optical Design, Development and Testing
P-4	Emrich, Anders	Omnisys Instrument	Possible Swedish contributions to the FIRE instrument
P-5	Krus, M.	Omnisys Instrument	Spectrometers for THz space applications
P-6	Risacher, Christophe	MPIfR	GREAT : Successful first year of science operation
P-7	Risacher, Christophe	MPIfR	Extension of GREAT into a first heterodyne array for far infrared spectroscopy with SOFIA
P-8	Chen, Zhe	University of Electronic Science and Technology	Development of a 220-GHz Schottky Diode Subharmonic Mixer
P-9	Thomas, Bertrand	RPG	First results of a 1.2 THz MMIC sub-harmonic mixer based GaAs Schottky diodes for planetary atmospheric remote sensing
P-10	Wang, Hui	RAL	A Performance Comparison of Discrete and Integrated Sub-Harmonic Schottky Diode Mixers at 664GHz
P-11	Lee, Jung-Won	KASI	129 GHz SIS Mixer Receiver for Korean VLBI Network
P-12	Nakajima, Tac	NAOJ	Development of a New Multi-Beam Array 2SB Receiver in 100 GHz Band for the NRO 45-m Radio Telescope
P-13	Grimes, Paul	SAO	A 350 GHz Multi-beam Receiver for the GreenLand
P-14	Ishii, Shun	University of Tsukuba	Development of a Transportable Telescope for Galactic Survey at 500 GHz in Antarctica
P-15	Khudchenko, Andrey	SRON	Sideband Separating Mixer Characterization based on SIS junction properties
P-16	Kroug, Matthias	NAOJ	Al/SiO <sub>2</sub> /Al Micro Strip Lines for THz SIS Mixers
P-17	Zhou, Yangjun	University of Oxford	The design and characterisation of ultrawide IF bandwidth SIS mixers
P-18	Chang, Hsian-Hong	ASIAA	Development of 1.4THz Hot Electron Bolometers
P-19	Hayton, Darren	SRON	Stabilized HEB receiver at 2.5 THz
P-20	Boussaha, Faouzi	JPL/Caltech	2.7 THz Waveguide Balanced HEB Mixer Development
P-21	Furuya, R.	University of Tokyo	Fabrication of HEB Mixers Using Substrate Heating in Combination with the AlN Buffer Layers
P-22	Jiang, Ling	Nanjing Forestry University	Intrinsic Mixing Behavior of Superconducting NbTiN HEB Mixer Based on in-situ Technique
P-23	Lefèvre, Roland	LERMA	Terahertz NbN hot electron bolometer fabrication process with a reduced number of steps
P-24	Miao, Wei	PMO	Non-Uniform Absorption of Terahertz Radiation in Superconducting Hot-Electron Bolometer Mixers
P-25	Bevilacqua, Stella	Chalmers University of Technology	MgB <sub>2</sub> Hot Electron Bolometers for THz radio astronomy
P-26	Huang, Yau De	ASIAA	ALMA East Asia Front-End Integration Center
P-27	Hasegawa, Tetsuo	NAOJ/JAO	Integration and verification of ALMA receiver front ends
P-28	Henry, Manju	RAL	Upgraded Local Oscillator System for the ALMA Band 5 Receiver
P-29	Barkhof, J.	University of Groningen	Sideband Separating Mixer for ALMA Band 9 Upgrade: operational aspects
P-30	Gonzalez, Alvaro	NAOJ	Improvements in ALMA band 10 optics: Influence of IR filters and solutions
P-31	Baryshev, Andrey	SRON	Dual frequency ALMA operation extension

P-32	Hesler, Jeffrey	Virginia Diodes Inc.	Wideband THz Sources Using Waveguide Diplexers
P-33	Siles, Jose	JPL/Caltech	A High-Power Biasable 180–200 GHz Schottky Frequency Doubler Using Single-Waveguide Power-Combining
P-34	Thomas, Bertrand	RPG	W-band balanced frequency tripler using a novel coupled lines biasing scheme compatible with flip-chip mounting
P-35	Treuttel, Jeanne	LERMA	Solid State Frequency Multipliers at Sub-Millimeter Wavelength Using European Schottky Technology
P-36	Richter, Heiko	DLR	Operation of a THz quantum-cascade laser in a compact mechanical cryocooler
P-37	Eichholz, R.	DLR	Frequency selection from a multi-mode THz quantum-cascade laser by a grating monochromator
P-38	Hammar, Arvid	Omnisys	A 600 GHz Orthomode Transducer based on a Waveguide Integrated Wire Grid Polarizer
P-39	Navarrini, Alessandro	IRAM	Loss of WR10 Waveguide at 67–116 GHz
P-40	Ishidoshiro, Koji	KEK	Characterization System with Cryogenically-Cooled Loads for next-generation CMB Polarimeters
P-41	Laauwen, Wouter	SRON	Development of a Calibration Source for SAFARI on-ground Calibration
P-42	Hammar, Arvid	Omnisys	Mechanical Tolerance Analysis of the Front-end Optics for the STEAMR Instrument
P-43	Liu, Lei	University of Notre Dame	Cost-Effective Terahertz Quasi-Optical Components Based on Inkjet Printing of Carbon Nanocomposite
P-44	Takekoshi, Tatsuya	Hokkaido University	Optics design of the multi-color TES bolometer camera for the ASTE telescope
P-45	Rahman, Syed	University of Notre Dame	The Development of Terahertz Focal-Plane Array Elements Using Sb-Based Heterostructure Backward Diode
P-46	Takahashi, Kenta	RIKEN	Development of micro-stripline superconducting tunnel junction detectors for terahertz waves
P-47	Hibi, Yasunori	NAOJ	Cryogenic Multi-Channel Readout System for Submillimeter/Terahertz Photon Detectors
P-48	Matsumura, Tomotake	KEK	LiteBIRD Optics, Focal Plane Layout and Sensitivity
P-49	Watanabe, Hiroki	KEK	Development of Superconducting Cooper-pair-breaking Detectors for LiteBIRD
P-50	Kibe, Yoshiaki	Okayama University/KEK	Development of Microwave Kinetic Inductance Detector and its Read-out System for LiteBIRD
P-51	Tajima, Osamu	KEK	GroundBIRD – An experiment for CMB polarization measurements at a large angular scale from the ground
P-52	Naruse, Masato	NAOJ/Saitama University	Development of a MKID camera with high-quality Al films for millimeter-wave astronomy
P-53	Thoen, David	Delft University of Technology	Stray Light Shielding in Transmission Lines for Integrated Filterbanks
P-54	Ferrari, Lorenza	SRON	Development of antenna-coupled KIDs for large cameras
P-55	Janssen, Reinier	Delft University of Technology	Quasiparticle Diffusion and Detection Efficiency of Hybrid Kinetic Inductance Detectors
P-56	Matsuhara, Hideo	JAXA	Cold Payload Module of SPICA
P-57	Jackson, Brian	SRON	Performance Requirements for the SAFARI Detector
P-58	Jackson, Brian	SRON	The SAFARI Focal Plane Array Design Concept
P-59	Khosropanah, Pourya	SRON	Low Noise TES Array for the Short Wavelength Band of the SAFARI Instrument on SPICA
P-60	Audley, Damian	SRON	Optical Measurements of TES Bolometers for SAFARI
P-61	Ferrari, Lorenza	SRON	Focal plane scanning-system design for SAFARI on Ground Calibration
P-62	Beyer, Joern	PTB	SQUID current sensor to read out the TES-bolometers arrays for SAFARI
P-63	Karasik, Boris	JPL/Caltech	Tunable speed single-photon THz nanobolometers
P-64	Shitov, Sergey	IRE	Development of TES Bolometers with High-Frequency Readout Circuit