MONDAY 08:30 – 17:50

Latest Advancements in Microwave Measurement Techniques for Future Communications and Quantum Applications

WM02
EuMC

Chair: Xiaobang Shang[1]
Co-Chair: Nick Ridler [1]
[1]National Physical Laboratory (NPL), UK

Room: Juliana 2

This full-day workshop will explore the latest advancements in microwave measurement techniques. Topics covered include on-wafer S-parameter measurements at millimetre-wave and sub-terahertz frequencies, on-wafer noise figure measurements, microwave measurements at cryogenic temperatures, novel VNA calibration methods, millimetre-wave modulation effects in optical links, robot-based field measurement techniques, and the characterisation of dielectric materials at millimetre-wave frequencies, among others.

These advanced measurement techniques are crucial for the development of circuits aimed at future communications and quantum applications. The workshop will feature twelve presentations by distinguished speakers from diverse scientific backgrounds, including representatives from metrology institutes, instrumentation manufacturers, and both industry and academia. This will provide attendees with a comprehensive overview of the topics discussed.

The workshop will conclude with a dedicated session for open discussions, offering an opportunity for both speakers and attendees to engage in a dialogue about the challenges and opportunities facing the microwave measurement community in the years ahead. This interactive session will encourage contributions from all participants, fostering a collaborative exchange of ideas.

PROGRAMME

On-wafer S-parameter Measurement at Millimetre-wave and Sub-terahertz Frequencies
Xiaobang Shang[1]
[1]National Physical Laboratory

Characterisation of a Commercial High Resistance Silicon Calibration Substrate at D-band
Gia Ngoc Phung[1]
[1]PTB, Germany

On Accuracy and Traceability of Wafer-Level Measurements at mm-Wave Frequencies
Andrej Rumiantsev[1]
[1]MPI Corporation, Taiwan

AIST's Cryogenic Testbed System Using Transmission Line with High Thermal Insulation
Hiroyuki Kayano [1]
[1]Advanced Industrial Science and Technology (AIST), Japan

Working Towards A Large-scale Quantum Computer
James Kirkman [1]
[1]Quantum Motion, UK

Avoiding Pitfalls and Optimisation of RF/millimetre-wave Measurements at Cryogenic Temperatures
Gavin Fisher [1]
[1]FormFactor, Germany

R&D Development Challenges in RF and mmWave Lab for S-parameters and Noise Characterisation in an Industrial Environment
Joao Carlos Azevedo Goncalves[1]
[1]STMicroelectronics, France

Millimeter-wave modulation effects in optical links
Jon Martens [1]
[1]Anritsu, US

Recent Developments in VNA Calibration Techniques
Michael Ernst Gadringer[1]
[1]Graz University of Technology, Austria

Robot Based Microwave Measurement Technique
Jae-Yong Kwon[1]
[1]KRISS, South Korea

Radar Based Material Characterization Methods in the Millimetre-wave Range
Jan Barowski[1]
[1]Ruhr University Bochum, Germany

Broadband Material Characterization Using a Balanced-Type Circular Disk Resonator at Millimetre-wave and Sub-Terahertz Bands
Yuto Kato [1]
[1]National Metrology Institute of Japan, Japan