Terahertz Electronics

Vision of the future of Terahertz Electronics

Information and Communication
- Ultrafast wireless THz communication
- Broadband THz amplifier

Security
- THz imaging
- Drugs & Explosives

Material Science and Medicine
- Crystal polymorph analysis
- THz near-field spectroscopy
- Construct THz database
- Large scale molecular dynamics cal.

Biology and Medical Care
- Biomolecular spectroscopy
- THz pathological study
- Single-cell, -molecule THz spectroscopy
- Gene & Protein functional analyses based on THz nano-science

Agriculture and other industries
- Process management
- Production quality control
- Develop device and software

Environment and Space
- Radio astronomy
- Environmental sensing → Earth & Space
- Energy conversion technology

Supporting technologies
- THz spectroscopy components
  - Compact & Mobile Near-field spectroscopy
  - Femtosecond laser Parametric light source
- Photonics
  - Photonic crystal Flexible waveguide
- Semiconductor devices
  - QCL, RTD mmw devices
  - THz single photon detector
  - Heterodyne detection
  - Arrayed detector
- Advanced system integration

THz qubit control

THz wave generation with arbitrary amplitude and phase (THz synthesizer)

For a safe & secure society

New Medicine & Medical care via THz technology

THz science for dark matter and origin of the universe


The Japan Society of Applied Physics