



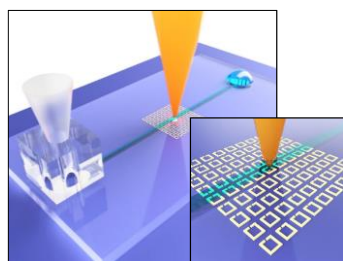
Terahertz Photonics Area (Tonouchi Laboratory)

<https://www.ile.osaka-u.ac.jp/research/thp/>

Prof. Masayoshi Tonouchi (tonouchi@ile.osaka-u.ac.jp) Assoc. Prof. Hironaru Murakmai (hiro@ile.osaka-u.ac.jp)

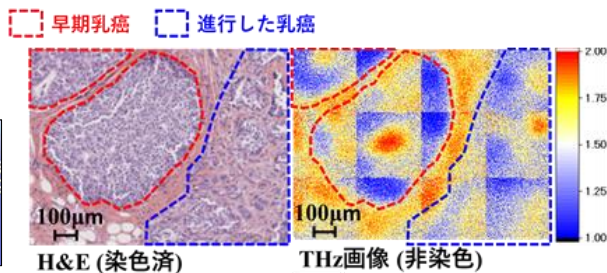
Terahertz Wave Engineering

Cultivation of Terahertz Biotechnology



THz Biochip

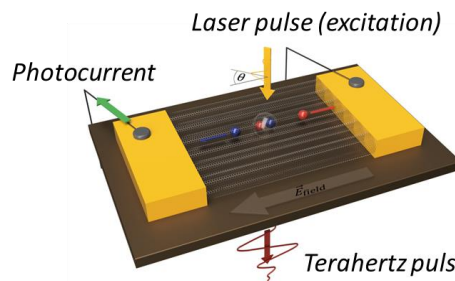
APL Photonics 2018



Imaging of unstained breast cancer

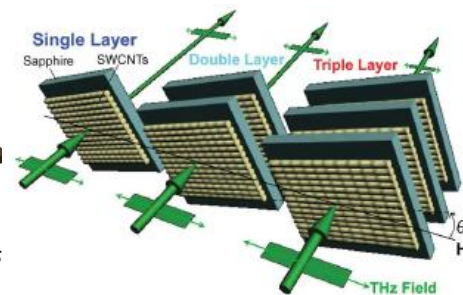
JPhys Photonics 2020

Frontier of Terahertz Nanoscience



Exciton dynamics in Carbon nanotubes

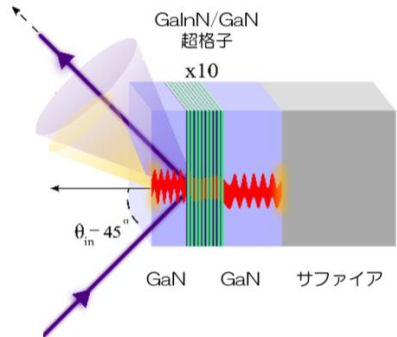
Nano Letters 2020



THz polarizer

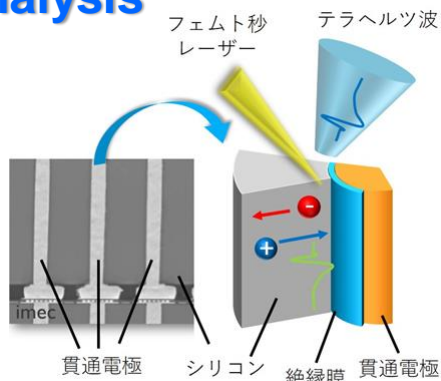
Nano Letters 2009

Ultrafast Semiconductor Spatio-Temporal Analysis



Photons release the strain and induce THz waves

Advanced Optical Materials 2021



3D SLI development

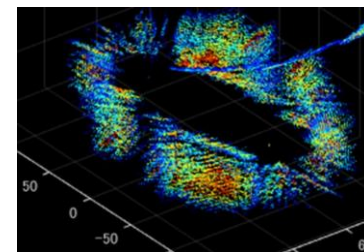
Nature Electronics 2021

Industry-Academia Collaboration



Solar panel evaluation system

MIMO-SAR milli-wave scanner with AI / Machine/Deep Learning



Identification of invisible substances