Image Sample for IR/V-TM100-Q28

The THz microscope is composed of uncooled palm-size THz imager and high-power compact quantum cascade laser (QCL).

**Advantages**
- THz imager
  - Uncooled microbolometer
  - QVGA format
  - High sensitivity
  - Real-time imaging
- High-power QCL
- “Lock In” for SNR improvement

**Applications**
- Biomedical Imaging
- Food inspection
  (Detection of foreign substances)
- Non-destructive testing

**Interference pattern reduction using a new illumination method**

When a sample is illuminated by a coherent light source like a QCL, the interference pattern is appeared. Newly developed illumination method can dramatically reduce the interference pattern, and provide clear image.

**Foreign substances of similar densities in flour**

- Nylon String  
  (Ø300µm)
- Human hair  
  (Ø70µm)

**Drop ethanol and water by a pipette on PVDF membrane**

In collaboration with the Univ. of Tokyo

**PVDF : PolyVinylidene DiFluoride**

Before drop | Running through PVDF membrane
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Ethanol | Water