

## ///// Research organization

- Director: Prof. Masahiko Tani
- Research Supervisor: Specially Appointed Prof. Teruo Saito
- Vice Director: Prof. Seitaro Mitsudo
- Supervisor of International Cooperation: Specially Appointed Prof. Teruo Saito

## ///// Research groups of FIR UF

### ■ Core Research Division

#### Group for Development of fundamental far-infrared technologies // Prof. Yoshinori Tatematsu, Assistant Prof. Masafumi Fukunari

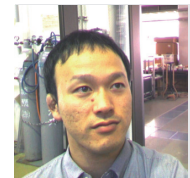
- Development of high-power far-infrared radiation sources
- Research into the high-efficiency, high-stability, and high-frequency operation of gyrotrons

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Yoshinori Tatematsu



Masafumi Fukunari

### ■ Core Research Division

#### Group for Applications of THz technologies for research in materials science and sensing // Prof. Masahiko Tani, Associate Prof. Kohji Yamamoto, Assistant Prof. Takashi Fruya, Specially Appointed Assistant Prof. Dr. Hideaki Kitahara, Postdoctoral fellows: Dr. Jessica Pauline Castillo Afalla, Dr. Valynn Katrine P. Mag-Usara, Dr. Joselite E. Muldera

- Development and application of novel THz-wave emitters and detectors
- THz optical and spectroscopic research using broadband THz waves
- Time-domain coherent anti-Stokes Raman scattering (CARS) spectroscopy in the THz region

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Masahiko Tani



Kohji Yamamoto



Takashi Fruya

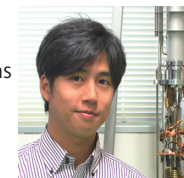
### ■ Core Research Division

#### Group for Development of new technologies in the far-infrared region // Prof. Seitaro Mitsudo, Assistant Prof. Yuya Ishikawa

- Further improvements in the gyrotron performance for application as a high power far-infrared radiation source
- Development of high-performance transmission lines for wider application of the gyrotrons

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Yuya Ishikawa



Seitaro Mitsudo

### ■ Core Research Division

#### Group for Low-temperature and condensed-matter physics // Prof. Seitaro Mitsudo, Associate Prof. Yutaka Fujii

- Electron spin resonance spectroscopy in the submillimeter wave region
- Millimeter and submillimeter wave material processing
- Development and application of dynamic nuclear polarization-enhanced nuclear magnetic resonance (DNP-NMR)

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Seitaro Mitsudo



Yutaka Fujii

### ■ International Research Division

Associate Prof. Mary Clare Sison Escaño, Assistant Prof. Yuusuke Yamaguchi, Specially Appointed Prof. Teruo Saito, Toshitaka Idehara, Specially Appointed Assistant Prof. Dr. Eduard Khutorian  
 In addition, several foreign researchers are employed as "Specially Appointed Professors" under the Cross-Appointment System or the Researcher Invitation System.

- Development of high-power THz-wave radiation sources: the Gyrotron FU CW Series
- Development of new THz technologies through international collaborations

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Mary Clare Sison Escaño



Yuusuke Yamaguchi



Teruo Saito



Toshitaka Idehara

#### ■ Visiting Professor's Division

##### Domestic visitor

Leading researchers in Japan are invited as Visiting Professors.

- Applications of high-power THz waves
- Development and applications of novel THz time-domain spectroscopy (TDS)

#### ■ Visiting Professor's Division

##### Research adviser

Isamu Ogawa, Yoshiaki Tsunawaki, Takao Mizusaki, Kiyomi Sakai, Shintaro Ishiyama, Mitsuru Toda

#### ■ Cooperative Research Division

##### Material physics in the far-infrared region

Prof. Hikomitsu Kikuchi, Prof. Kazutoshi Fukui

- Electron spin resonance (ESR) spectroscopy in the submillimeter wavelength range
- Studies of the optical properties of nitride semiconductors using broadband spectroscopy in the far infrared to vacuum ultraviolet range

#### ■ Cooperative Research Division

##### THz spectroscopy and sensing / Millimeter wave communications

Prof. Kazuki Kurihara, Prof. Mitoshi Fujimoto

- Simulation of submillimeter electromagnetic wave propagation
- Development and application of far-infrared molecular lasers

#### ■ Cooperative Research Division

##### Materials evaluation in the far-infrared region

Associate Prof. Tomomi Honda

- Mechanical characterization of high-quality ceramics
- Surface characterization of new materials formed using high-power far-infrared technology

#### ■ Cooperative Research Division

##### Medical and biological application of far-infrared technologies

Prof. Kanji Katayama, Associate Prof. Hideki Matsumoto

- Evaluation of hyperthermia effect induced by irradiation of electromagnetic wave
- Effect of electromagnetic wave irradiation on biological objects and molecules

#### ■ Cooperative Research Division

##### Kenkyu-Dojo program

Senior Assistant Prof. Takeshi Moriyasu

- Study on the propagation of terahertz pulse in photo-excited semiconductors

#### Research support organization

- Technical staff: Mr. Masashi Tozawa
- Cryogen supply section: Prof. Seitaro Mitsudo (section head)
- Secretaries: Ms. Miyuki Morito, Ms. Kaori Yoshida, Ms. Yoriko Kuwashima, Division of Research Promotion, Department for Strategic Planning & Promotion
- Temporary staff (dispatched from NAKATEC Co., LTD.): Mr. Shigenobu Arakawa