

シラバス参照

開講年度/Year	2024
科目名	固体分光学基礎
曜日・講時/Day/Period	後期 木曜日 2講時
単位数/Credit(s)	2
担当教員/Instructor	遊佐 剛
学期/Semester	後期
科目ナンバリング /Course code/number	SPH-PHY509B
使用言語 /Language Used in Course	2カ国語以上
メディア授業科目 /Media Class Subjects	
主要授業科目 /Essential Subjects	

所属講座等	理学研究科物理専攻
授業題目	Lecture on Basic Solid State Spectroscopy
Course Title	Lecture on Basic Solid State Spectroscopy
授業の 目的と概要	The field of spectroscopy has been established through the study of visible light and has over time expanded to include the electromagnetic spectrum from radio frequency waves to gamma radiation. It is now a far-reaching analytical tool particularly in material science. In this course, you will be imparted broad and basic knowledge of spectroscopy of solids as an experimental technique.
Purpose /Abstract	The field of spectroscopy has been established through the study of visible light and has over time expanded to include the electromagnetic spectrum from radio frequency waves to gamma radiation. It is now a far-reaching analytical tool particularly in material science. In this course, you will be imparted broad and basic knowledge of spectroscopy of solids as an experimental technique.
学習の 到達目標	You will learn a basic knowledge of solid-state spectroscopy as an experimental technique through the topics below.
Goal	You will learn a basic knowledge of solid-state spectroscopy as an experimental technique through the topics below.
授業内容・ 方法と 進度予定	Course Outline: 1. Fundamentals, electromagnetic radiation 2. Optical responses, dielectric response function 3. Light sources and detection, lasers and detectors 4. Spectroscopy in visible regime (including optical properties of semiconductors) 5. Spectroscopy in infrared regime (Raman spectroscopy, infrared absorption, and Fourier transform infrared spectrometer) 6. Magnetic resonance spectroscopy (including nuclear spin dynamics) 7. Other spectroscopy and microscopy
Contents and progress schedule of the class	Course Outline: 1. Fundamentals, electromagnetic radiation 2. Optical responses, dielectric response function 3. Light sources and detection, lasers and detectors 4. Spectroscopy in visible regime (including optical properties of semiconductors) 5. Spectroscopy in infrared regime (Raman spectroscopy, infrared absorption, and Fourier transform infrared spectrometer) 6. Magnetic resonance spectroscopy (including nuclear spin dynamics) 7. Other spectroscopy and microscopy
成績評価 方法	Exam



Grading	Exam
教科書 および 参考書	References will be introduced during the course
Books required /referenced	References will be introduced during the course
授業時間外 学習	Students are strongly encouraged to review the content of each lecture.
Preparation and review	Students are strongly encouraged to review the content of each lecture.
実務・ 実践的授業 /Practical business ※○は、 実務・実践的 授業であるこ とを示す。 /Note: "○" Indicates the practical business	
その他	
Remarks	
更新日付	2024/03/14 17:45

1単位の授業科目は、45時間の学修を必要とする内容をもって構成することを標準としています。1単位の修得に必要な学修時間の目安は、「講義・演習」については15～30時間に授業および授業時間外学修（予習・復習など）30～15時間、「実験・実習及び実技」については30～45時間の授業および授業時間外学修（予習・復習など）15～0時間です。
One-credit courses require 45 hours of study. In lecture and exercise-based classes, one credit consists of 15-30 hours of class time and 30-15 hours of preparation and review outside of class. In laboratory, practical skill classes, one credit consists of 30-45 hours of class time and 15-0 hours of preparation and review outside of class.

