

大学院集中講義

講義名/Name of this course : 超伝導理工学特別講義／物理学特別講義I

単位数/Credit : 1単位

講師/Lecturer : Prof. Naurang L. Saini (Sapienza University of Rome)

タイトル/Title : 「Advanced x-ray attenuation based spectroscopic techniques for the study functional materials」

講義形式/Lecture style : Online (8回/8 lectures)

日程/Date : 2021年9月13-17日 / 13-17 Sep. 2021

(講義時間などの詳細は後日ご連絡します。 Detailed lecture schedule will be announced later.)

授業番号/Class number : 超伝導理工学特別講義 W0012

物理学特別講義I	理学研究科	博士前期	R0211	博士後期	R0212
	理工学研究科		—	博士後期	R212

[Abstract]

The course will be focused on the x-ray based advanced spectroscopic techniques used for the study of superconductors and thermoelectric materials. After a brief description of the generality on the interaction of radiation with matter the course will deal with the basics of x-ray attenuation based techniques including XANES, EXAFS and XES to probe structural, electronic and magnetic degrees of freedoms. Basic of the photoemission will be discussed briefly with some recent advances for the study of functional materials of interest. The course will also introduce basics of x-ray photon correlation spectroscopy for the study of inhomogeneous functional systems. The course contents can be outlined as follows:

-Generality of ionizing radiation and interaction of radiation with matter

-X-ray attenuation coefficient and introduction to the x-ray sources

-Basics of x-ray absorption spectroscopy (XANES & EXAFS)

-XANES and EXAFS practicals

-X-ray emission and related techniques

-Basic of photoemission and recent advances

-Introduction to the x-ray photon correlation spectroscopy

-Applications of x-ray attenuation based techniques to study some emerging superconductors

※講義は英語で行われます。

Deadline for class registration : Aug.30(Fri.)

Apply at the office of Academic Affairs Section of Science
(2nd floor of Building no.8)

問い合わせ先 (Contact) : 物理学専攻 水口佳一 (Yoshikazu Mizuguchi)

内線3367 E-mail : mizugu@tmu.ac.jp