

REIMEI Workshop: Positron Diffraction Studies on 2D Materials and Related Novel Surface Analysis Techniques

30th March 2026, 13:30 – 17:20 (JST), Online

Scope: In recent years, research on material surfaces and two-dimensional (2D) materials using positrons — the antiparticles of electrons — has advanced markedly. Synergistic studies that combine positron techniques with photoelectron spectroscopy and first-principles calculations are also progressing rapidly. At the same time, novel surface-analysis methods based on positrons are being developed. This workshop will bring together leading researchers who are at the forefront of such synergistic positron-based investigations and of new methodological development. We will discuss the current state of positron-based surface science and explore future directions for the field.

Program

Chair: Y. Fukaya

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| 13:30 - 13:35 | Opening remarks |
| 13:35 - 14:00 | T. Hyodo (KEK)
<i>Positron Diffraction</i> |
| 14:00 - 14:25 | Y. Yamada-Takamura (JAIST)
<i>Structural Details of Epitaxial Xenon Revealed by Total-Reflection High-Energy Positron Diffraction</i> |
| 14:25 - 14:50 | Y. Tsujikawa (Keio Univ.)
<i>Structural Identification Using Positron Diffraction and Insights into Electronic Properties of Cu Boride Surfaces</i> |
| 14:50 - 15:00 | Break |

Chair: Y. Yamada-Takamura

15:00 - 15:25 **F. Matsui** (IMS)

Comprehensive Valence Band Characterization by Multi-Beam Photoelectron Momentum Microscopy

15:25 - 15:50 **K. Wada** (KEK)

Development of a LINAC-Based LEPD System and Current Status of its SATLEED-Based Analysis Code

15:50 - 16:15 **I. Mochizuki** (KEK)

Detection of Hydrogen Atoms Adsorbed on a Ceria Surface Using Total-Reflection High-Energy Positron Diffraction (TRHEPD)

16:15 - 16:25 Break

Chair: F. Matsui

16:25 - 16:50 **R. Ahmed** (KEK)

Quantitative Surface Structure Determination Using LEPD and Multiprobe Studies at the Slow Positron Facility, KEK

16:50 - 17:15 **Y. Nagata** (TUS)

Experimental Study of Positronium Diffraction Using Graphene

17:15 - 17:20 Closing remarks

Organizers: Y. Yamada-Takamura (JAIST), Y. Fukaya (JAEA), F. Matsui (IMS)