

INVITATION TO THE GRADUATE PHYSICS SEMINAR

XPS study on SiO2/Si interfaces of advanced MOSFETs

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Abstract

XPS is a powerful technique for studying not only surface science but also semiconductor technology such as Large Scale Integrated circuit (LSI) which include Metal-Oxide-Semiconductor Field Effect Transistors (MOSFETs) with nano-scale size.

In this lecture, several types of studies utilizing XPS on ~1nm-thick-SiO2/Si interfaces are introduced. They introduces relative chemical shifts, first-principles calculations, and time-dependent measurement for revealing device parameters of MOSFETs.