CBRM
CENTER FOR BASIC RESEARCH ON MATERIALS

マテリアル基盤セミナー

The CBRM Seminar

2026年
4 / 7 Tue. 火
16:00 - 17:00
千現地区 8階中セミナー室

Energy discrimination of secondary electrons and backscattered electrons in SEM

Prof. Dr. Takashi Sekiguchi

Faculty of Pure and Applied Sciences, University of Tsukuba

Energy discrimination of secondary electrons (SEs) and backscattered electrons (BSEs) in scanning electron microscopy (SEM) provides information that has previously been difficult to obtain. For SEs, it is expected to enable the measurement of surface potential differences, while for BSEs, it facilitates the observation of buried structures. This energy discrimination has been made possible by the "fountain detector" and the MCP (microchannel plate) detector equipped with an energy filter. In this presentation, I will describe the characteristics of these detectors and introduce the following achievements obtained through their use:

(1) Observation of defects and impurity concentrations in polycrystalline B-doped diamond via SE spectroscopy.

(2) Observation of Bi particle distribution in Al polycrystals via BSE spectroscopy.

(3) Observation of contamination at the Al/Si Schottky interface.

世話人：小原 真司　KOHARA.Shinji@nims.go.jp　/　達 博　DA.Bo@nims.go.jp