# The Japan Society of Applied Physics (JSAP)
# Advanced Power Semiconductors Division
# The 29th Research Meeting (ADPS)

先進パワー半導体分科会
Advanced Power Semiconductors

## "Point Defects and Extended Defects that Dictate Power Device Characteristics"

Tuesday, March 11, 2025, 13:00 - 17:45
Kyoto Terrsa, East Building 3F, Large Conference Room
https://www.kyoto-terrsa.or.jp/

Understanding crystal defects inside semiconductors is crucial for achieving high performance in power devices responsible for power conversion. In many cases, crystal defects cause deterioration of device characteristics and a decline in reliability. However, by deeply understanding defect physical properties and their origins of introduction, it is conversely possible to utilize defects to control material properties, ultimately leading to performance improvements. In this research meeting, experts on defects in various materials currently used in power devices, or expected to be commercialized in the future, will give lectures to deepen our understanding through cross-material discussions.

[Program]
13:00 - 13:05 Opening Remarks

13:05 - 13:55 Impact of Trace Carbon Impurities in Silicon on Power Devices and Standardization of their Quantitative Methods

Michio Tajima (Institute of Space and Astronautical Science)

13:55 - 14:45 Overview of Extended Defects in Silicon Carbide

Noboru Ohtani (Kwansei Gakuin University)

14:45 - 15:35 Evaluation of Point Defects and Deep Levels in Gallium Nitride

Masahiro Horita (Nagoya University)

15:35 - 16:00 Break

16:00 - 16:50 Observation of Dislocations in $\beta$-Gallium Oxide

Yongzhao Yao (Mie University)

16:50 - 17:40 Relationship Between Defects in Diamond and Device Characteristics

Shinichi Shikata (Kwansei Gakuin University)

17:40 - 17:45 Closing Remarks

[Registration and Information]
■ Registration: Please register and pay the registration fee online via the WEB Registration System ([click here*]). Since seats are limited, registration may close early. The materials for the day will be in PDF format.

*If this notice is printed, please access: https://annex.jsap.or.jp/adps/pdf/kenkyuukai29.pdf

■ Participation Fee (Tax included):

Advanced Power Semiconductors Division Members*: 4,000 yen

Division Student Members: Free

General: 6,000 yen

General Students: 1,000 yen

*Employees of Supporting Members of the Advanced Power Semiconductors Division will be treated as Division Members.

■ COVID-19/Health Notice for On-site Attendance: Please refrain from attending on the day if you have a fever. Wearing a mask at the venue is optional.

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