



## "Extreme environment electronics using wide bandgap semiconductors"

☿ Date and time: Tuesday, April 27, 2021 13:00-17:55

☿ Location: Online

In addition to ultra-low-loss power electronics applications, wide bandgap semiconductors can be used in extreme environments such as high temperatures and radiation. It is expected to be applied to sensors and electronics used in It's becoming more active. This study group aims to understand the specifications expected and required in aerospace, planetary exploration, nuclear power and accelerator facilities. The purpose is to deepen the understanding of the current state of research and development in extreme environment electronics, and accelerate research.

.....program.....●●●●●●●●●●

Opening greetings, instructions on how to proceed, etc.	13:00-13:10
How to create products that can withstand the space environment	13:10-13:40
	Haruka Ueno (Japan Aerospace Exploration Agency)
Required specifications under extreme environments ~ Fusion reactor: Measuring equipment under radiation environment (tentative) ~	13:40-14:10
	Yoji Someya (National Institute for Quantum Science and Technology)
Semiconductor detectors and high radiation resistance requirements in accelerator experiments	14:10-14:40
	Manabu Togawa (High Energy Accelerator Research Organization)
Break 14:40-15:00	
Research and development of <b>SiC</b> radiation-resistant image sensor	15:00-15:30
	Shinichiro Kuroki (Hiroshima University)
Research and development of radiation-resistant integrated devices using <b>SiC-CMOS</b>	15:30-16:00
	Masahiro Masunaga (Hitachi, Ltd.)
Radiation resistance evaluation of hydrogen-terminated diamond <b>MOSFET</b>	16:00-16:30
	Junichi Kaneko (Hokkaido University)
Break 16:30-16:50	
Radiation resistance evaluation of <b>AlGaIn/GaN HEMT</b>	16:50-17:20
	Hajime Sasaki (Mitsubishi Electric)
Potential of gallium oxide <b>FET</b> as a radiation-resistant device	17:20-17:50
	Masataka Higashiwaki (National Institute of Information and Communications Technology)
Closing remarks	17:50-17:55

☿Participation reception: WEB participation reception system (click here\* ) Please register by April 22nd (Thursday). at the time of registration requires written consent to prohibited matters. Please note that the materials for the day will be in PDF format.

\*If this guide is in print, please access it from <http://annex.jsap.or.jp/adps/pdf/kenkyuukai19.pdf> .

☿Participation fee: (tax included) After registering, please make the payment online.

Advanced Power Semiconductor Subcommittee members\* 2,000 yen, Subcommittee student members (including prospective members) free, General 4,000 yen, General students 1,000 yen

\*If you are a supporting member of the Advanced Power Semiconductor Subcommittee, you will be treated as a member of the Advanced Power Semiconductor Subcommittee.

☿contact information☿

Takeshi Oshima (National Institute for Quantum and Radiological Science and Technology) e-mail: oshima.takeshi@qst.go.jp

Yuji Yano (University of Tsukuba) e-mail: yano.hiroshi.fn@u.tsukuba.ac.jp

Yasuto Hijikata (Saitama University) e-mail: yasuto@opt.ees.saitama-u.ac.jp

Shu Igarashi (Secretariat of Japan Society of Applied Physics) e-mail: igarashi@jsap.or.jp