

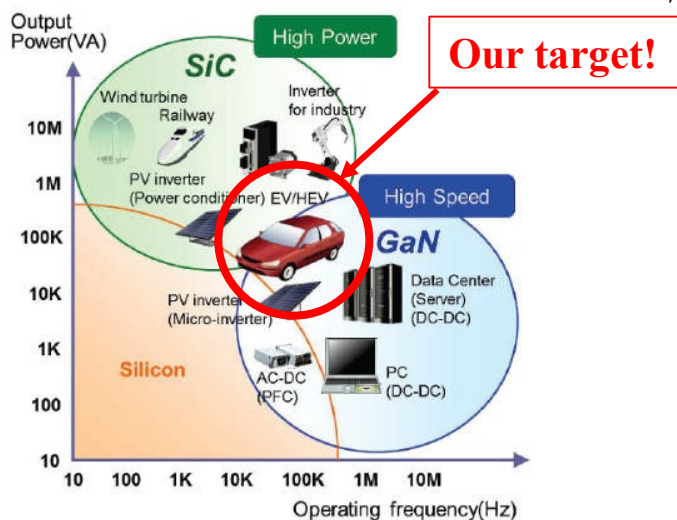
Green electronics – from Crystal growth to devices-

Associate Professor Yuzuru Narita

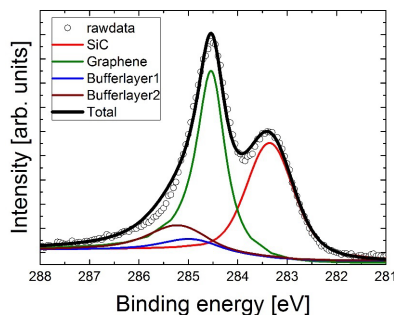
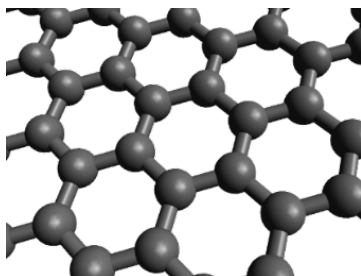
Illustration

High-efficiency: wide-band gap semiconductors of SiC, GaN

Panasonic Technical Journal **61**, 67 (2015).



Energy saving: Graphene



Content:

Our laboratory is researching on materials, especially semiconductors, that contribute to green electronics. What is green electronics?

[Electronics field to consume finite energy without waste (high efficiency) or operate with low power (energy saving)]

At Narita Lab., we are aiming to develop a device that is kind to the global environment in terms of materials, with the keywords "crystal growth" and "surface science". As specific materials, we are studying silicon carbide (SiC) and gallium nitride (GaN), which have a wider bandgap than Si from the viewpoint of high efficiency, and graphene, which has a higher mobility than Si, from the viewpoint of energy saving. We are also conducting research on hydrogen adsorption, desorption, and extraction reactions on the Si surface, which is a key in Si solar cell fabrication.

Appealing point:

We will contribute to the development of the electronics industry by utilizing the research results.

Yamagata University Graduate School of Science and Engineering
Research Interest : Electrical and electronic materials

E-mail : narita@yz.yamagata-u.ac.jp

Tel : +81-238-26-3304

Fax : +81-238-26-3304

