

2nd Intensive Discussions on Growth of Nitride Semiconductors

The international workshop “2nd Intensive Discussion on Growth of Nitride Semiconductors” was held at Sakura Hall, Katahira campus in Tohoku University on October 29-31. About 70 specialists in the field of nitride semiconductors participated in the workshop including foreign researchers. By using the method of the reverse engineering, researchers in both fields of devices and crystal growth presented each current status, and discussed on technical issues each other.

The international workshop “2nd Intensive Discussion on Growth of Nitride Semiconductors (IDGN-2)” was held on October 29-31 just after blue LEDs consisted of nitride semiconductors was awarded as “the 2014 Nobel Prize in Physics”. The nitride semiconductors have been strongly expected to be applied for not only optical devices, but also electronic devices from the physical properties superior to conventional semiconductors such as Si and GaAs [1], because of energy saving and generation for realizing the sustainable society. In this meaning, this workshop aimed to clarify the requests from high-efficient optical devices including white LEDs, and electronic devices such as high-power, high-breakdown voltage, and high frequency transistors to crystal growers, from the viewpoint of the reverse engineering. This is the main concept and the feature of this workshop. The workshop also had an important aspect; i.e., the growers of bulk GaN and epitaxial films presented up-to-date technologies to device fabricators. We believed that mutual communication between crystal growers and device fabricators could bring a new era beyond the current technical limitation.

The previous workshop (IDGN-1) held in 2012 provided us the opportunity to share the most recent achievements and to discuss the technical issues on crystal growth and device applications of nitrides. In the present workshop, we newly arranged technical sessions to cover electronic devices, optical devices and their related crystal growth techniques. The selected speakers are invited as a worldwide specialist in each topic.

We had seven sessions on high power and high breakdown voltage transistors, high frequency transistors, epitaxial growth and process technology for transistors, optical devices, epitaxial growth for optical devices, and crystal growth. Domestic and foreign

key-persons presented their new results and future perspectives. Discussion made the time pass quickly.

In this workshop, we intended to have “Intensive discussion”, therefore, the number of participants were limited to 70 people.

The workshop chairs found a great deal of satisfaction in all the topics, and would like to say thank all the panelists and participants who boosted the fruitful discussions.

This workshop was supported by IMR and IMRAM.

References

- [1] Selected Topics in Applied Physics “Progress of Nitride Semiconductors and their Future Prospects” , ed. T. Matsuoka et al., Jpn. J. Appl. Phys., vol. 53, No. 10, Oct. 2014.



Fig. 1 Participants near the venue in Katahira campus