

Mitsuaki Kaneko

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EDUCATION

- Sep. 2016 **Ph.D.**, Electronic Science and Engineering, Kyoto University, Japan
Thesis Advisor: Prof. Tsunenobu Kimoto and Prof. Jun Suda
Thesis title: "Strain-Controlled AlN Growth on SiC Substrates"
- Mar. 2014 **M. Engineering**, Electronic Science and Engineering, Kyoto University, Japan
Thesis title: "Optical and structural properties of AlN coherently grown on SiC"
- Mar. 2012 **B. Engineering**, Electrical and Electronic Engineering, Kyoto University, Japan
Thesis title: "Detailed characterization of defects in AlN/GaN superlattices by TEM"

PUBLICATIONS, PEER REVIEWED

- [1] **M. Kaneko**, T. Kimoto, and J. Suda, "Strain control in AlN top layer by inserting an ultrathin GaN interlayer on an AlN template coherently grown on SiC(0001) by PAMBE", *Physica Status Solidi B*, Wiley, **253**, 814, 2016.
- [2] **M. Kaneko**, T. Kimoto, and J. Suda, "Strong impact of the initial III/V ratio on the crystalline quality of an AlN layer grown by rf-plasma-assisted molecular-beam epitaxy", *Applied Physics Express*, IOP publishing, **9**, 025502, 2016.
- [3] **M. Kaneko**, H. Okumura, R. Ishii, M. Funato, Y. Kawakami, T. Kimoto, and J. Suda, "Optical Properties of Highly Strained AlN Coherently Grown on 6H-SiC(0001)", *Applied Physics Express*, IOP publishing, **6**, 062604, 2013.
- [4] **M. Kaneko**, R. Kikuchi, H. Okumura, T. Kimoto, and J. Suda, "Coherent Growth of AlN/GaN Short-Period Superlattice with Average GaN Mole Fraction of up to 20% on 6H-SiC(0001) Substrates by Plasma-Assisted Molecular Beam Epitaxy", *Japanese Journal of Applied Physics*, IOP publishing, **52**, 08JE21, 2013.
- [5] R. Kikuchi, H. Okumura, **M. Kaneko**, T. Kimoto and J. Suda; "AlN/GaN Short-Period Superlattice Coherently Grown on 6H-SiC(0001) Substrates by Molecular Beam Epitaxy", *Applied Physics Express*, IOP publishing, **5**, 051002, 2012.

PRESENTATIONS (INTERNATIONAL)

- [6] **M. Kaneko**, T. Kimoto, and J. Suda, "Strain Controls of High-Quality AlN Layers by Misfit Dislocations Introduced at Step Edges of SiC(0001) Substrates", *International Workshop on Nitride Semiconductors (IWN 2016)*, Florida, (U.S.), **oral**, 2016 Oct.
- [7] **M. Kaneko**, T. Kimoto, and J. Suda, "Periodically Aligned Misfit Dislocations at AlN/SiC Heterointerface", *11th European Conference on silicon carbide and related material (ECSCRM 2016)*, Halkidiki, (Greece), **oral**, 2016 Sep.
- [8] **M. Kaneko**, T. Kimoto, and J. Suda, "Observation of lateral satellite peaks in nitride semiconductor: HRXRD study of AlN layer grown on step-height-controlled SiC substrate", *6th International Symposium on Growth of III-Nitrides (ISGN-6)*, Hamamatsu, (Japan), **oral**, 2015 Nov.
- [9] **M. Kaneko**, T. Kimoto, and J. Suda, "Strong impact of the initial III/V ratio on the crystalline quality of an AlN layer grown by rf-plasma-assisted molecular-beam epitaxy", *6th International Symposium on Growth of III-Nitrides (ISGN-6)*, Hamamatsu, (Japan), **oral**, 2015 Nov.
- [10] **M. Kaneko**, T. Kimoto, and J. Suda, "Strain controls in AlN layer by ultra-thin GaN interlayer grown on high-quality AlN template coherently grown on SiC(0001) by PAMBE", *11th International Conference on Nitride Semiconductors (ICNS-11)*, Beijing (China), **oral**, 2015 Sep.

Mitsuaki Kaneko

- [11] **M. Kaneko**, H. Okumura, R. Ishii, M. Funato, Y. Kawakami, T. Kimoto, and J. Suda, "Large shifts of free excitonic transition energies and phonon frequency of AlN coherently-grown on 6H-SiC", 10th International Conference on Nitride Semiconductors (ICNS-10), Washington (U.S.), **poster**, 2013 Aug.
- [12] **M. Kaneko**, R. Kikuchi, H. Okumura, T. Kimoto, and J. Suda, "High-Al-content AlGa_N Digital Alloy with GaN Mole-fraction Up to 20% Coherently-Grown on 6H-SiC (0001) Substrates by Plasma-assisted Molecular-beam Epitaxy", International Workshop on Nitride Semiconductors 2012 (IWN 2012), Sapporo (Japan), **oral**, 2012, Oct.
- [13] **M. Kaneko**, R. Kikuchi, H. Okumura, T. Kimoto, and J. Suda, "TEM Observation of AlN/GaN Short-period Superlattice Coherently-grown on 6H-SiC (0001) Substrates by Plasma-assisted Molecular-beam Epitaxy", 54th Annual Electronic Materials Conference (EMC), Pennsylvania (U.S.), **oral**, 2012 Jun.

SEMINAR TALKS

- Dec. 2014 Stockholm International Youth Science Seminar (SIYSS) 2014.
M. Kaneko, "Coherent Growth of High Quality AlN/GaN Short-Period Superlattice".
SIYSS members which consist of 24 young scientists representing each of 18 countries gave presentations for about 1500 high-school students in Stockholm (and attended the Nobel Events).
- Mar. 2013 Research seminar at Dr. Eva Monroy group, CEA-CNRS (France).
M. Kaneko et al., "Coherent growth of AlN and AlN/GaN short-period superlattice on polar and nonpolar SiC substrates by MBE".

TEACHING EXPERIENCES

- Sep. 2011 - Teaching assistant of the Electronics Summer Contest in the Department of Electrical and Electronic Engineering at Kyoto University towards second-year undergraduate students - *the project of Programmable System on Chip (PSoC) (2013 and 2014 as leader).*

FUNDINGS

- Apr. 2014 - Research Fellowship for Young Scientists (DC1), JAPAN SOCIETY FOR THE PROMOTION OF SCIENCE (JSPS), Japan.
804 people out of 3400 people were selected in the division of Engineering.
- Jun. 2015 Travel and participation grants for the 65th Lindau Nobel Laureate Meeting, JAPAN SOCIETY FOR THE PROMOTION OF SCIENCE (JSPS), Japan.
15 people (13 people after the selection by the Council for the Lindau Nobel Laureate Meetings) out of 51 applicants were selected (most participants are postdocs and only one person from DC1 (804 people)).
- Dec. 2014 Travel and participation grants for Stockholm International Youth Science Seminar (SIYSS) 2014, the Japan Prize Foundation, Japan.
Two people were selected among all the students having scientific projects between 18-24 years old in Japan.
- Mar. 2013 Travel grants for research seminar at CEA-CNRS (France), GCOE, Japan.

Mitsuaki Kaneko

AWARDS

- Sep. 2015 Young Scientist Presentation Award, the Japan Society of Applied Physics.
*The awards were given to **36 people out of 3595 people (750 applications)** at the 62nd JSAP Spring Meeting. I received it as a first author and presenter (oral).*
- Jun. 2015 Electronic Materials Symposium Award, the Committee of the 34th EMS.
*The awards were given to **4 people out of 260 people** at the Electronic Materials Symposium.*
- Oct. 2012 Best Paper Award, the Workshop Committee of IWN 2012.
*The awards were given to **9 papers out of 814 papers** at the conference of International Workshop on Nitride Semiconductors 2012 (IWN 2012). I received it as a first author and presenter (oral).*
- Apr. 2012 Encouragement Award, the Japanese Association for Crystal Growth.
*The awards were given to **7 people out of 53 people** at the domestic conference of the Nanostructure Epitaxial Division in the Japanese Association for Crystal Growth. I received it as a first author and presenter (poster).*

LANGUAGES

English and Japanese