

Poster Session (I): 17:20 - 18:20, June 1, 2006

PTh1 : GaAsSbN grown on GaAs by gas source molecular beam epitaxy

Ta-Chun Ma, Tsung-Yi Chen, Shiu-Kai Chang, Yan-Ting Lin, Hao-Hsiung Lin
Graduate Institute of Electronics Engineering, National Taiwan University

PTh2 : A Novel Template Approach by MBE for ALD Growth of High κ Dielectrics

K. Y. Lee, W. C. Lee, C. H. Chung, Y. K. Chiou, M.L. Hung, Y.J. Lee, M. Hong and J. Kwo

Department of Materials Science and Engineering, National Tsing Hua University

Department of Physics, National Tsing Hua University

PTh3 : Structural and Magnetic Characteristics of Epitaxial Fe₃Si/GaAs Heterostructures

Y. L. Hsu^{1,*}, M. L. Huang², W. Chang², C. H. Hsu³, M. Hong² and J. Kwo¹

¹*Department of Physics, National Tsing Hua University*

²*Department of Materials Science and Engineering, National Tsing Hua University*

³*Synchrotron Radiation Research Center*

PTh4 : InAs/GaAs Quantum Dot Infrared Photodetectors with Thick Active Regions

S. W. Chou^a, S. Y. Wang^b, M. C. Lo^a, H. S. Lin^a, S. D. Lin^a, and C. P. Lee^a

^a*Department of Electronics Engineering, National Chiao Tung University*

^b*Institute of Astronomy and Astrophysics, Academia Sinica*

PTh5 : Mid-infrared InAsPSb/InAsSb quantum-well light emitter

Chia-En Wu, Gene Tsai, and Hao-Hsiung Lin

Graduate Institute of Electronics Engineering and Department of Electrical Engineering, National Taiwan University

PTh6 : Optical properties of unintentionally doped InN grown by PA-MBE

W. C. Chou^a, C. L. Hsiao^{ac}, K. R. Wang^b, M. Chen^a, Z. W. Jiang^a, B. L. Tseng^a, J. S. Tsai^a, L. K. Wang^a and L. W. Tu^a

^a*Department of Physics and Center for Nanoscience & Nanotechnology, National Sun Yat-Sen University*

^b*Department of Materials Science and Engineering, National Tsing Hua University*

^c*Center for Condensed Matter Sciences, National Taiwan University*

PTh7 : Growth condition investigation for AlN heteroepitaxial layers grown on Si (111) substrate by plasma-assisted MBE

T. H. Lu^a, Y. T. Lin^a, C. B. Huang^a, M. F. Huang^{a*}, W. Chen^b and L. Leung^c

^a*Institute of Photonics, National Changhua University of Education*

^b*Department of Electronics, National Changhua University of Education*

^c*Oxford Instruments, Bristol, United Kingdom*

PTh8 : Effect of substrate temperature on InN/Si(100) grown by plasma-assisted chemical beam epitaxy

Wei-Chun Chen, Shou-Yi Kuo*, and Chien-Nan Hsiao

Instrument Technology Research Center, National Applied Research Laboratories

PTh9 : The Simulation and Analysis of 150nm Double-Gate P-HEMT with In_{0.53}Ga_{0.47}As/InAs/ In_{0.53}Ga_{0.47}As Composite Channel

P. Y. Yang

Department of Photonics & Display Institute, National Chiao-Tung University

PTh10 : Investigation of Growth Rate of Carbon-Doped GaAs Grown by MOCVD using CBr₄

Xin-Zhang Lee^{*1}, Chong-Yi Lee¹ and Juh-Yuh Su²

1. Department of Electronic Engineering, I-Shou University

2. Department of Research and Development, Epitech Technology Company

PTTh11 : Metal contacts on GaN

C. H. Tsai, Y. J. Tu, Z. W. Jiang, B. L. Tseng, W. C. Chou, L. K. Wang and L. W. Tu

Department of Physics and Center for Nanoscience and Nanotechnology, National Sun Yat-Sen University

PTTh12 : InAsPSb quaternary for mid-infrared application grown by gas source molecular beam epitaxy

Gene Tsai, D. L. Wang, C. E. Wu, C. R. Wu, Y. T. Lin and Hao-Hsiung Lin

Graduate Institute of Electronics Engineering and Department of Electrical Engineering, National Taiwan University

PTTh13 : Valence band offset of wurtzite InN/AlN heterojunction determined by photoelectron spectroscopy

C. -L. Wu, C. -T. Kuo, C. -H. Shen, and S. Gwo

Department of Physics, National Tsing-Hua University

PTTh14 : Ultrafast Carrier-Phonon Interactions in InN

Yu-Chieh Wen, Cheng-Ying Chen, Chang-Hong Shen and Shangjr Gwo, Chi-Kuang Sun

Graduate Institute of Electro-Optical Engineering, National Taiwan University

Department of Physics, National Tsing-Hua University

Department of Electrical Engineering and Graduate Institute of Electro-Optical Engineering, National Taiwan University

PTTh15 : SiO₂/InN Metal-Oxide-Semiconductor Structure

P. L. Tseng^a, Z. W. Jiang^a, K. R. Wang^b, M. Chen^a, W. C. Chou^a, C. H. Tsai^a, L. K. Wang^a and L. W. Tu^a

^a Department of Physics and Center for Nanoscience and Nanotechnology, National Sun Yat-Sen University

^b Department of Materials Science and Engineering, National Tsing Hua University

PTTh16 : Raman spectra of InN films with different carrier concentrations

L. K. Wang, Z. W. Jiang, M. Chen, P. L. Tseng, W. C. Chou, C. H. Tsai, and L. W. Tu

Department of Physics and Center for Nanoscience and Nanotechnology, National Sun Yat-Sen University

PTTh17 : Material Properties of the InN Grown on Si(111) with Intermediate AlN Single Crystal Layer Using Plasma-assisted Molecular Beam Epitaxy

K. R. Wang^a, S. J. Lin^a, Z. W. Jiang^b, M. Chen^b, L. K. Wang^b, W. C. Chou^b, P. L. Tseng^b, C. H. Tsai^b, Y. L. Chen^a, K. H. Cheng^a, P. K. Huang^a, M. H. Tsai^a, C. L. Hsiao^c, J. W. Yeh^a, S. K. Chen^a, C. K. Wang^b and L. W. Tu^b

^a Department of Materials Science and Engineering, National Tsing Hua University^b

Department of Physics and Center for Nanoscience and Nanotechnology, National Sun Yat-Sen University^c

Center for Condensed Matter Sciences, National Taiwan University

PTTh18 : Near-Infrared Photoluminescence of Vertically Aligned InN Nanorods Grown on Si(111) by Plasma-Assisted Molecular-Beam Epitaxy

H.-Y. Chen, C.-H. Shen, H.-W. Lin, C.-H. Chen, C.-Y. Wu, and S. Gwo, V. Yu. Davydov and A. A. Klochiklin

Department of Physics, National Tsing-Hua University

Ioffe Physico-Technical Institute, Russia

PTTh19 : Self-assembled Vertical Aligned GaN Nanorods on Si(111) by PA-MBE

C.-H. Shen, H.-Y. Chen, H.-W. Lin, C.-H. Wu, and S. Gwo*
Department of Physics, National Tsing-Hua University

PTTh20 : Nitride based nanorods grown on Si(111) substrate

Y. J. Tu, C.H. Tsai, M. Chen, C. L. Hsiao, and L. W. Tu
Department of Physics and Center for Nanoscience and Nanotechnology, National Sun Yat-Sen University

PTTh21 : Enhanced thermal stability and emission intensity on InAs quantum dots covered by InGaAsSb strain-reducing layer

W. S. Liu¹, J. I. Chyi¹, W. Y. Chen², H. S. Chang², and T. M. Hsu²
¹ *Optical Sciences of Center and Department of Electrical Engineering, National Central University, University System of Taiwan*
² *Department of Physics and Center for Nano Science and Technology, National Central University, University System of Taiwan*

PTTh22 : Enhanced light emission from InAs quantum dots in photonic crystal nanocavities at room temperature

H.-S. Chang¹, W.-Y. Chen¹, W.-H. Chang¹, T.-P. Hsieh², J.-I. Chyi², and T. M. Hsu^{1*}
1. Department of Physics and Center for Nano Science and Technology, National Central University
2. Department of Electrical Engineering, National Central University

PTTh23 : Selective excitation photoluminescence of InAs self-assembled quantum dots

H. S. Ling^a, S. D. Lin^a, S. Y. Wang^b, M. C. Luo^a, C. P. Lee^a
a Department of Electronic Engineering, National Chiao Tung University
b Institute of Astronomy and Astrophysics, Academia Sinica

PTTh24 : Capping layer effect on InGaAs/GaAs Quantum Dots grown by molecular beam epitaxy

T. E. Tzeng, David J. Feng, C. Y. Chen, T. S. Lay* and T. Y. Chang
Institute of Electro-Optical Engineering, National Sun Yat-Sen University

PTTh25 : $\lambda = 1.31 \mu\text{m}$ In_xGa_{1-x}As/GaAs quantum dots capped with low In-content In_yGa_{1-y}As grown by molecular beam epitaxy

David J. Feng, T. E. Tzeng, C. Y. Chen, T. S. Lay* and T. Y. Chang
Institute of Electro-Optical Engineering, National Sun Yat-Sen University

PTTh26 : Effects of composite matrix on the emission wavelengths of quantum dots

Pei-Lun Hsu, Rei-Bin Chou, Meng-Jie Shiao, Wei-Sheng Liu, David Ming-Ting Kuo, and Jen-Inn Chyi
Department of Electrical Engineering, National Central University

PTTh27 : Single Mode InGaAs Sub-Monolayer Quantum-Dot Photonic-Crystal VCSELs

H. P. D. Yang¹, I. C. Hsu², F. I. Lai², G. Lin¹, R. S. Hsiao¹, N. A. Maleev³, S. A. Blokhin³, A. R. Kovsh³, H C Kuo², S C Wang², J Y Chi¹
¹ *Nanophotonic Center, Industrial Technology Research Institute*
² *Institute of Electro-Optical Engineering, National Chiao Tung University*
³ *Ioffe Physico-Technical Institute, Russia*

PTTh28 : Cross-Shaped Polarization-Switching VCSELs for Dual-Channel Communications

H. P. D. Yang¹, I. C. Hsu², F. I. Lai², H C Kuo², J Y Chi¹
¹ *Nanophotonic Center, Industrial Technology Research Institute*
² *Institute of Electro-Optical Engineering, National Chiao Tung University*

PTh29 : The Comparison of MBE- and MOCVD-Prepared GaAs/AlGaAs Quantum Well Infrared Photodetector

Shang-Fu Chen^a, Shu-Ting Chou^a, Shih-Yen Lin^b, Jing-Mei Wang^b and Meng-Chyi Wu^a

^a *Department of Electrical Engineering, National Tsing Hua University*

^b *Electronics & Optoelectronics Research Laboratories, Industrial Technology Research Institute*

PTh30 : Modulation-Doped InGaAs/InGaAlAs Asymmetric Multiple Quantum-Well Structures Grown by MBE

C.Y. Chen, C. F. Liang, David J. Feng, T. S. Lay, and T. Y. Chang

Institute of Electro-Optical Engineering, National Sun Yat-Sen University

PTh31 : DC characteristics of InGaAsSb/InP hbt's grown by solid-source molecular beam epitaxy

S. H. Chen, R. J. Hsieh, S. Y. Wang, G. P. Chi, and J. I. Chyi

Department of Electrical Engineering, National Central University

PFr1 : Defects-Related Optical Spectra of Cadmium Telluride Films Prepared by Molecular Beam Epitaxy

Zhe Chuan Feng,* Shang-Yu Hung and Ting Wei Kuo, Ian T. Ferguson
Graduate Institute of Electro-Optical Engineering & Department of Electrical Engineering, National Taiwan University
School of Electrical Engineering, Georgia Institute of Technology, Atlanta, USA

PFr2 : The enhancement of ripening effect in CdSe quantum dots using ZnSe partial capped by molecular beam epitaxy

Y.J. Lai^a, C.S. Yang^a, W.J. Huang^b, J.S. Wang^b, and Y.T. Shin^c
^a*Department of Electrophysics, National Chiao Tung University*
^b*Department of Physics, Chung Yuan Christian University*
^c*Department of Physics, National Changhua University of Education*

PFr3 : Structural and optical properties of ZnO epilayers grown by plasma-assisted molecular beam epitaxy on GaN/sapphire (0001) under different O/Zn flux ratios

C. J. Pan¹, C. J. Tun², C. C. Lee¹, B. J. Pong¹, G. C. Chi¹, and C. W. Tu³
¹*Optical Sciences Center and Department of Physics, National Central University*
²*National Synchrotron Radiation Research Center*
³*Department of Electrical and Computer Engineering, University of California, USA*

PFr4 : Modified Molecular Beam Epitaxy Growth of GaN on LiGaO₂ substrates

Sa Huang^a, April Brown^b, Alan Doolittle^c, Zhen Sheng Lee^d, Zhe Chuan Feng^{d*}
^a*5000 Chandler Blvd, C5-157, Chandler, AZ 85226, USA*
^b*Pratt School of Engineering, Duke University, Durham, USA*
^c*Microelectronics Research Center, School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, USA*
^d*Graduate Institute of Electro-Optical Engineering & Department of Electrical Engineering, National Taiwan University*

PFr5 : Analysis of Yttrium-doped and Pure Hafnium Oxide High κ Dielectric Thin Films on GaAs

W. C. Lee¹, Y. J. Lee¹, Z. K. Yang¹, P. Chang¹, M. L. Huang¹, S. C. Liou², C. H. Chsu³, M. Hong¹, and J. Kwo⁴
¹*Dept. of Materials Science and Eng., National Tsing Hua University*
²*Center for Condensed Matter Sciences, National Taiwan University*
³*National Synchrotron Radiation Research Center*
⁴*Department of Physics, National Tsing Hua University*

PFr6 : Grown Ga₂O₃(Gd₂O₃) thin film of cubic phase on Si(111) by molecular beam epitaxy

M. C. Hang², T. D. Lin¹, Z. K. Yang¹, H. Niu⁴, C. H. Hsu³, J. Kwo², and M. Hong¹
¹*Department of Material Science and Eng., National Tsing Hua University*
²*Department of Physics, National Tsing Hua University*
³*National Synchrotron Radiation Research Center*
⁴*Nuclear Science and Technology Development Center*

PFr7 : Structure Characteristics and Strain Relaxation Behavior of Ultrathin Y₂O₃ Films Epitaxially Grown on Si(111)

C.-W. Nieh¹, W.-C. Lee¹, Y.-J. Lee¹, Z.-K. Yang¹, J. Kwo², C. H. Hsu³ and M. Hong¹
¹*Dept. Materials Science and Eng., National Tsing Hua Univ.*
²*Dept. of Physics, National Tsing Hua Univ.*
³*National Synchrotron Radiation Research Center*

- PFr8 : Inelastic Electron Tunneling Spectroscopy Study on MBE-grown HfO₂ Metal-Oxide-Semiconductor System**
 C.C. Huang^{1*}, H. C. Ho¹, Y. D. Wu², W. C. Lee², M. Hong², and J. Kwo¹
¹*Department of Physics, National Tsing Hua University*
²*Department of Materials Science and Engineering, National Tsing Hua University*
- PFr9 : The Improvement of Interfacial and Electrical Properties for Sputtered Ti-HfO₂ Dielectrics by Using a MBE-Grown Template**
 Y. D. Wu^{1*}, Y. J. Lee¹, W. C. Lee¹, M. L. Huang¹, H. C. Chiu¹, M. Hong¹, J. Kwo²
¹*Department of Materials Science and Engineering, National Tsing Hua University*
²*Department of Physics, National Tsing Hua University*
- PFr10 : Electrical characteristics of High-K MOSCAP and MOSFET devices with MBE-grown HfO₂ gate oxide and TiN metal gate**
 C. H. Pan¹, W. C. Lee², C. S. Chiou¹, C. P. Chen², K. Y. Lee², Y. J. Lee², Z. K. Yang², Y. N. Chiou³, M. Hong², and J. Kwo³
¹*Department of Electrical Engineering, National Tsing Hua University*
²*Department of Materials Science and Engineering, National Tsing Hua University*
³*Department of Physics, National Tsing Hua University*
- PFr11 : Characteristics of initial growth of Ga₂O₃(Gd₂O₃) on GaAs**
 M. L. Huang¹, T. D. Lin¹, W. C. Lee¹, T. H. Chiang¹, J. Kwo², and M. Hong¹
¹*Department of Materials Science and Engineering, National Tsing Hua University*
²*Department of Physics, National Tsing Hua University*
- PFr12 : Interfacial characteristics of high-quality single-crystal Sc₂O₃ grown on Si(111)**
 H. Y. Chou¹, P. Chang¹, Z. K. Yang¹, M. L. Huang¹, J. Kwo², and M. Hong¹
¹*Dept. of Materials Science and Eng., National Tsing Hua University*
²*Dept. of Physics, National Tsing Hua University*
- PFr13 : Electric spin injection in GaAs/AlGaAs Quantum well LEDs**
 Y. N. Chiu¹, C. C. Ho¹, P. Chang², H. P. Yang³, M. Hong², and J. Kwo¹
¹*Department of Physics, National Tsing Hua University*
²*Department of Material Science and Engineering, National Tsing Hua University*
³*Industrial Technology Research Institute*
- PFr14 : Exchange biasing in IrMn/(Ga, Mn)As bilayers**
 Y. F. Chen, H. D. Lin, J. H. Huang,* W. N. Lee, C. H. Lai, and T. S. Chin
Department of Materials Science & Engineering, National Tsing Hua University
- PFr15 : Magnetic Properties of MBE Grown Cobalt Doped HfO₂**
 Y.H. Chang¹, W.C. Lee¹, Y.L. Soo², Y.J. Lee¹, M.C. Hang², Z.K. Yang¹, S.F. Lee³, J. Raynien Kwo², M. Hong¹
¹*Department of Materials Science and Engineering, National Tsing Hua University*
²*Department of Physics, National Tsing Hua University*
³*Academia Sinica*
- PFr16 : Transition energies of Ge/Si quantum dots grown by molecular beam epitaxy**
 K. B. Hong, M. K. Kuo and T. R. Lin
Institute of Applied Mechanics, National Taiwan University
- PFr17 : ZnO MSM Photodetectors with Ru Contact Electrodes**
 Shouou-Jinn Chang, Tien-Kun Lin, Sheng-Po Chang, Yu-Zung Chiou
¹*Institute of Microelectronics & Department of Electrical Engineering, National Cheng Kung University*
²*Department of Electronics Engineering, Southern Taiwan University of Technology*