

目 次

1. Ion Implantation Doping and Gate Insulators of GaN	1
2. 本研究に関連した発表・論文.....	141
[1] Correlation between Electrical and Surface Properties of n-GaN on Sapphire Grown by Metal-Organic Chemical Vapor Deposition	141
[2] Valence-Band Discontinuity at the AlN/Si Interface	146
[3] Anomalous compositional pulling effect in InGaN/GaN multiple quantum wells	148
[4] Growth and characterization of high-quality quaternary AlInGaN epilayers on sapphire	151
[5] High-quality quaternary AlInGaN epilayers on sapphire	158
[6] High-temperature-grown quaternary AlInGaN epilayers and multiple quantum wells for ultraviolet emission	162
[7] InGaN multiple-quantum-well light-emitting diodes on an AlN/sapphire template by metalorganic chemical vapor deposition	168
[8] Thermal stability of InGaN multiple-quantum-well light-emitting diodes on an AlN/sapphire template	172
[9] InGaN LEDs on Si grown by MOCVD	177
[10] Temperature dependence of gate-leakage current in AlGaN/GaN high-electron-mobility transistors	181
[11] Surface passivation effects on AlGaN/GaN high-electron-mobility transistors with SiO ₂ , Si ₃ N ₄ and Silicon oxynitride	184
[12] Highly resistive GaN layers formed by ion implantation of Zn along the c axis	187
[13] Electrical Characteristics of AlGaN/GaN HEMTs on 4-in Diameter Sapphire Substrate	192
[14] Effects of Interfacial Thin Metal Layer for High-Performance Pt-Au-Based Schottky Contacts to AlGaN-GaN	195
[15] Thermal annealing effects on Ni/Au based Schottky contacts on n-GaN and AlGaN/GaN with insertion of high work function metal	202
[16] High-Quality AlGaN/GaN HEMTs on Epitaxial AlN/Sapphire Templates	209
[17] Growth of 100-mm-Diameter AlGaN/GaN Heterostructures on Sapphire Substrates by MOVPE ..	215
[18] Low Noise and Low Distortion Performances of an AlGaN/GaN HFET	220
[19] Growth of 100-mm-diameter AlGaN/GaN heterostructures on sapphire substrates by MOVPE ..	227
[20] Reduction of the bowing in MOVPE AlGaN/GaN HEMT structures by using an interlayer insertion method	231
[21] Improvement of DC and RF characteristics of AlGaN/GaN HEMTs by thermally annealed Ni/Pt/Au Schottky gate	235
[22] Uniformity studies of MOCVD grown AlGaN/GaN HEMTs on 100-mm diameter sapphire	237
[23] Metal-Semiconductor-Metal UV Photodetector Based on AlGaN/GaN Heterostructure	239

[24] Growth Temperature Dependence of Nitrogen Incorporation in GaNAs Grown by Chemical Beam Epitaxy	241
[25] Low noise and low distortion performances of an AlGaN/GaN HFET - Application of the nitride-based devices for front-ends -	244
[26] High Performance AlGaN/GaN HEMTs with Recessed Gate	248
[27] 100-mm-diameter AlGaN/GaN Epitaxial Wafers for HEMTs Grown on Sapphire Substrates	252
[28] Effects of device passivation on AlGaN/GaN HEMTs using electron beam evaporated SiO ₂ and Si ₃ N ₄	256
[29] High-quality Quaternary AlInGaN Epilayers on Sapphire	262
[30] Nitride-based high-power LEDs on Si substrates grown by MOCVD	263
[31] High Trans-conductance AlGaN/GaN-HEMT with Recessed Gate on Sapphire Substrate	264
[32] Effects of temperature on leakage current in AlGaN/GaN HEMTs	265
[33] Composition pulling effect in the InGaN/GaN multiple quantum well and its effect on photoluminescence	266
[34] Growth of GaN on 4-inch Si substrate with a thin AlGaN/AlN intermediate layer	267
[35] Growth of 100-mm-diameter AlGaN/GaN Heterostructures on Sapphire Substrates by MOVPE ...	268
[36] Reduction of the bowing in MOVPE AlGaN/GaN HEMT structures by using an interlayer insertion method.....	269
[37] InGaN multiple-quantum-well light-emitting diodes on an AlN/sapphire template by metalorganic chemical vapor deposition	270
[38] 高い相互コンダクタンスを有するリセスゲート窒化物半導体 FET	271
[39] 100mm 径サファイア基板上に成長した高 Al 組成 AlGaN/GaN HEMT の DC 特性評価	276
[40] AlGaN/GaN HEMT を用いた高出力 SPDT スイッチ IC	281
[41] 段差上成長による高 Al 組成比 AlGaN の低転位化	286
[42] MOCVD 法による 4 インチ Si 基板上 GaN 及び AlGaN/GaN ヘテロ構造の結晶成長	291
[43] MOVPE 法による 100mm 径サファイア基板上への高 Al 組成 Al _x Ga _{1-x} N/GaN HEMT 構造の成長とその特性評価	296
[44] n-(Al)GaN 上ショットキー電極の金属膜構成と熱処理依存性	301
[45] 高相互コンダクタンスを有する SiC 基板上のリセスゲート AlGaN/GaN -HEMT	307
[46] Comparative Study on the Properties of GaNAs/GaAs Triple Quantum Wells Annealed by Different Methods	313
[47] Novel method to directly prepare high-surface-area anatase titania nanoparticles with trapped electrons on oxygen vacancies	316
[48] 高次 Chained form で記述された非ホロノミック系に対するオブザーバと安定化補償器の設計	320
[49] State and output feedback stabilization for second-order nonholonomic chained systems based on sampled data control approach	326
[50] Parameterization of all multivariable ripple-free deadbeat tracking controllers	332
[51] 複数の未知の周期信号に対する繰返し制御	345
[52] 飛行船の安定化制御	347