

Rafael Dalmau

List of Publications by Year in descending order

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49
papers

1,369
citations

430442

18
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360668

35
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50
all docs

50
docs citations

50
times ranked

1116
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 1 | Progress on n-type doping of AlGaIn alloys on AlN single crystal substrates for UV optoelectronic applications. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 2031-2033. | 0.8 | 153 |
| 2 | On the origin of the 265-nm absorption band in AlN bulk crystals. Applied Physics Letters, 2012, 100, . | 1.5 | 137 |
| 3 | Preparation of a Freestanding AlN Substrate from a Thick AlN Layer Grown by Hydride Vapor Phase Epitaxy on a Bulk AlN Substrate Prepared by Physical Vapor Transport. Applied Physics Express, 2012, 5, 055504. | 1.1 | 121 |
| 4 | Deep-Ultraviolet Light-Emitting Diodes Fabricated on AlN Substrates Prepared by Hydride Vapor Phase Epitaxy. Applied Physics Express, 2012, 5, 122101. | 1.1 | 114 |
| 5 | The growth and optical properties of large, high-quality AlN single crystals. Journal of Applied Physics, 2004, 96, 5870-5876. | 1.1 | 92 |
| 6 | Vacancy compensation and related donor-acceptor pair recombination in bulk AlN. Applied Physics Letters, 2013, 103, . | 1.5 | 80 |
| 7 | High-temperature electromechanical characterization of AlN single crystals. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2015, 62, 1880-1887. | 1.7 | 63 |
| 8 | The role of the carbon-silicon complex in eliminating deep ultraviolet absorption in AlN. Applied Physics Letters, 2014, 104, . | 1.5 | 59 |
| 9 | 226-nm AlGaIn/AlN UV LEDs using p-type Si for hole injection and UV reflection. Applied Physics Letters, 2018, 113, . | 1.5 | 59 |
| 10 | 229-nm UV LEDs on aluminum nitride single crystal substrates using p-type silicon for increased hole injection. Applied Physics Letters, 2018, 112, . | 1.5 | 52 |
| 11 | Characterization of dislocation arrays in AlN single crystals grown by PVT. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 1545-1547. | 0.8 | 37 |
| 12 | Ni/Au Schottky diodes on Al _x Ga _{1-x} N (0.7<x<1) grown on AlN single crystal substrates. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 2407-2409. | 0.8 | 37 |
| 13 | X-ray characterization of composition and relaxation of Al _x Ga _{1-x} N (x=0.1) layers grown on GaN/sapphire templates by low pressure organometallic vapor phase epitaxy. Journal of Applied Physics, 2010, 108, . | 1.1 | 30 |
| 14 | Characterization of Threading Dislocations in PVT-Grown AlN Substrates via x-Ray Topography and Ray Tracing Simulation. Journal of Electronic Materials, 2014, 43, 838-842. | 1.0 | 29 |
| 15 | Low Defect Density Bulk AlN Substrates for High Performance Electronics and Optoelectronics. Materials Science Forum, 0, 717-720, 1287-1290. | 0.3 | 26 |
| 16 | (Invited) Polarization-Induced Doping in Graded AlGaIn Epilayers Grown on AlN Single Crystal Substrates. ECS Transactions, 2018, 86, 31-40. | 0.3 | 26 |
| 17 | Synchrotron white beam topography characterization of physical vapor transport grown AlN and ammonothermal GaN. Journal of Crystal Growth, 2002, 246, 271-280. | 0.7 | 24 |
| 18 | Impact of gallium supersaturation on the growth of N-polar GaN. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 2078-2080. | 0.8 | 24 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 19 | Characterization of bulk grown GaN and AlN single crystal materials. Journal of Crystal Growth, 2006, 287, 349-353. | 0.7 | 20 |
| 20 | Implementation of the GaN lateral polarity junction in a MESFET utilizing polar doping selectivity. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 45-48. | 0.8 | 19 |
| 21 | High Quality AlN Single Crystal Substrates for AlGaIn-Based Devices. Materials Science Forum, 0, 924, 923-926. | 0.3 | 19 |
| 22 | AlN Bulk Crystal Growth by Physical Vapor Transport. , 2010, , 821-843. | | 19 |
| 23 | P-type silicon as hole supplier for nitride-based UVC LEDs. New Journal of Physics, 2019, 21, 023011. | 1.2 | 16 |
| 24 | Defect Generation Mechanisms in PVT-Grown AlN Single Crystal Boules. Materials Science Forum, 0, 740-742, 91-94. | 0.3 | 14 |
| 25 | Growth of AlN bulk crystals from the vapor phase. Materials Research Society Symposia Proceedings, 2001, 693, 780. | 0.1 | 12 |
| 26 | Influence of high-temperature processing on the surface properties of bulk AlN substrates. Journal of Crystal Growth, 2016, 446, 33-38. | 0.7 | 12 |
| 27 | Influences of screw dislocations on electroluminescence of AlGaIn/AlN-based UVC LEDs. AIP Advances, 2019, 9, . | 0.6 | 11 |
| 28 | Growth of highly resistive Ga-polar GaN by LP-MOVPE. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 2260-2263. | 0.8 | 8 |
| 29 | Fabrication of a GaN p/n lateral polarity junction by polar doping selectivity. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 1977-1979. | 0.8 | 8 |
| 30 | X-Ray Topography Characterization of Large Diameter AlN Single Crystal Substrates. Materials Science Forum, 0, 1004, 63-68. | 0.3 | 7 |
| 31 | Growth and Characterization of AlN and AlGaIn Epitaxial Films on AlN Single Crystal Substrates. ECS Transactions, 2010, 33, 43-54. | 0.3 | 6 |
| 32 | (Invited) Progress and Challenges of AlGaIn Schottky Diodes Grown on AlN Substrates. ECS Transactions, 2017, 80, 217-226. | 0.3 | 6 |
| 33 | Single crystal AlN substrates for AlGaIn-based UV optoelectronics. , 2017, , . | | 5 |
| 34 | Crucible Selection in AlN Bulk Crystal Growth. Materials Research Society Symposia Proceedings, 2003, 798, 361. | 0.1 | 4 |
| 35 | <i>(Invited)</i> X-Ray Metrology of AlN Single Crystal Substrates. ECS Transactions, 2019, 92, 113-121. | 0.3 | 4 |
| 36 | Structural Characterization of Bulk AlN Single Crystals Grown from Self-Seeding and Seeding by SiC Substrates. Materials Science Forum, 2006, 527-529, 1521-1524. | 0.3 | 3 |

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|----|---|-----|-----------|
| 37 | Study of Dislocations in Homoepitaxially and Heteroepitaxially Grown AlN Layers. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 2000465. | 0.8 | 3 |
| 38 | Hydride vapor phase epitaxy of Si-doped AlN layers using SiCl ₄ as a doping gas. Journal of Crystal Growth, 2020, 545, 125730. | 0.7 | 3 |
| 39 | Prismatic Slip in AlN Crystals Grown By PVT. ECS Transactions, 2021, 104, 57-64. | 0.3 | 2 |
| 40 | 265 nm Light Emitting Diodes on AlN Single Crystal Substrates: Growth and Characterization. , 2011, , . | | 1 |
| 41 | (Invited) Complex Relative Permittivity of UV-C Transparent AlN. ECS Transactions, 2021, 104, 49-56. | 0.3 | 1 |
| 42 | (Invited) Progress and Challenges of AlGa _N Schottky Diodes Grown on AlN Substrates. ECS Meeting Abstracts, 2017, MA2017-02, 1342-1342. | 0.0 | 1 |
| 43 | (Invited) X-Ray Metrology of AlN Single Crystal Substrates. ECS Meeting Abstracts, 2019, , . | 0.0 | 1 |
| 44 | (Invited) Insights into the UV-C Optical Absorption of AlN Substrates Grown by PVT. ECS Transactions, 2020, 98, 3-11. | 0.3 | 1 |
| 45 | Synchrotron white beam x-ray topography (SWBXT) and high resolution triple axis diffraction studies on AlN layers grown on 4H- and 6H-SiC seeds. Materials Research Society Symposia Proceedings, 2004, 831, 631. | 0.1 | 0 |
| 46 | (Invited) Polarization-Induced Doping in Graded AlGa _N Epilayers Grown on AlN Single Crystal Substrates. ECS Meeting Abstracts, 2018, , . | 0.0 | 0 |
| 47 | (Invited) Insights into the UV-C Optical Absorption of AlN Substrates Grown by PVT. ECS Meeting Abstracts, 2020, MA2020-02, 1802-1802. | 0.0 | 0 |
| 48 | Prismatic Slip in AlN Crystals Grown By PVT. ECS Meeting Abstracts, 2021, MA2021-02, 987-987. | 0.0 | 0 |
| 49 | (Invited) Complex Relative Permittivity of UV-C Transparent AlN. ECS Meeting Abstracts, 2021, MA2021-02, 986-986. | 0.0 | 0 |