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This index covers all technical items—papers, correspondence, reviews, etc.—that appeared in this periodical during 2019, and items from previous years that were commented upon or corrected in 2019. Departments and other items may also be covered if they have been judged to have archival value.

The Author Index contains the primary entry for each item, listed under the first author's name. The primary entry includes the coauthors' names, the title of the paper or other item, and its location, specified by the publication abbreviation, year, month, and inclusive pagination. The Subject Index contains entries describing the item under all appropriate subject headings, plus the first author's name, the publication abbreviation, month, and year, and inclusive pages. Note that the item title is found only under the primary entry in the Author Index.

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Top-Bottom Gate Coupling Effect on Low Frequency Noise in a Schottky Junction Gated Silicon Nanowire Field-Effect Transistor. *Chen, X.*, +, *JEDS 2019 696-700*

Narrow band gap semiconductors

Comprehensive Analysis and Optimal Design of Ge/GeSn/Ge p-n-p Infrared Heterojunction Phototransistors. *Pandey, A.K.*, +, *JEDS 2019 118-126*

Negative bias temperature instability

A Unified Degradation Model of a-InGaZnO TFTs Under Negative Gate Bias With or Without an Illumination. *Li, S.*, +, *JEDS 2019 1063-1071*

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A Hybrid Phototransistor Neuromorphic Synapse. *Liu, Y.*, +, *JEDS 2019 13-17*

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Nickel

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Highly Stable Self-Aligned Ni-InGaAs and Non-Self-Aligned Mo Contact for Monolithic 3-D Integration of InGaAs MOSFETs. *Kim, S.*, +, *JEDS 2019 869-877*

Nickel compounds

On the Ammonia Sensing Performance and Transmission Approach of a Platinum/Nickel Oxide/GaN-Based Metal-Oxide-Semiconductor Diode. *Liu, L.*, +, *JEDS 2019 476-482*

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Normal distribution

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Numerical analysis

First Demonstration of Short-Circuit Capability for a 1.2 kV SiC SWITCH-MOS. *Okawa, M.*, +, *JEDS 2019 613-620*

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Accurate Graphene-Metal Junction Characterization. *Konig, M.*, +, *JEDS 2019 219-226*

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Comprehensive Analysis and Optimal Design of Ge/GeSn/Ge p-n-p Infrared Heterojunction Phototransistors. *Pandey, A.K., +, JEDS 2019 118-126*

Silicon Photomultipliers With Area Up to 9 mm² in a 0.35- μ m CMOS Process. *Liang, X., +, JEDS 2019 239-251*

Optical logic

Ultra-Low Level Light Detection Based on the Poisson Statistics Algorithm and a Double Time Windows Technique With Silicon Photomultiplier. *Liu, J., +, JEDS 2019 722-727*

Optical testing

A Simple Analytic Modeling Method for SPAD Timing Jitter Prediction. *Sun, F., +, JEDS 2019 261-267*

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A Fully Printed Ultra-Thin Charge Amplifier for On-Skin Biosignal Measurements. *Laurila, M., +, JEDS 2019 566-574*

Rapidly Measuring Charge Carrier Mobility of Organic Semiconductor Films Upon a Point-Contact Four-Probes Method. *Li, D., +, JEDS 2019 303-308*

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A 4410-ppi Resolution Pixel Circuit for High Luminance Uniformity of OLEDs Microdisplays. *Na, J., +, JEDS 2019 1026-1032*

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Fabrication of Spray-Coated Semitransparent Organic Solar Cells. *Kang, M.H., +, JEDS 2019 1129-1132*

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Oscillators

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P**P-i-n diodes**

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Passivation

Effect of Al₂O₃ Passivation on Electrical Properties of β -Ga₂O₃ Field-Effect Transistor. *Ma, J., +, JEDS 2019 512-516*

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Phase change materials

Phase Change Memory Cell With Reconfigured Electrode for Lower RESET Voltage. *Zhou, S., +, JEDS 2019 1072-1079*

Phase change memories

Crystallization Speed in Ge-Rich PCM Cells as a Function of Process and Programming Conditions. *Gomiero, E., +, JEDS 2019 517-521*

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Contact Engineering of Trilayer Black Phosphorus With Scandium and Gold. *Tsai, Y., +, JEDS 2019 322-328*

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Graphene Nano Sheet Fabrication Using Light. *Sun, H., JEDS 2019 1094-1099*

Photodetectors

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Photon counting

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A Fully Printed Ultra-Thin Charge Amplifier for On-Skin Biosignal Measurements. *Laurila, M.*, +, *JEDS 2019 566-574*

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Flexible HfO₂/Graphene Oxide Selector With Fast Switching and High Endurance. *Zhou, Y.*, +, *JEDS 2019 1125-1128*

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The Vacancy Pool Model for Amorphous In-Ga-Zn-O Thin-Film Transistors. *Tai, Y.*, +, *JEDS 2019 33-37*

Power aware computing

Design of Power- and Variability-Aware Nonvolatile RRAM Cell Using Memristor as a Memory Element. *Pal, S.*, +, *JEDS 2019 701-709*

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Dynamic Behavior Improvement of Normally-Off p-GaN High-Electron-Mobility Transistor Through a Low-Temperature Microwave Annealing Process. *Chiu, H.*, +, *JEDS 2019 984-989*

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A Trench LDMOS Improved by Quasi Vertical Super Junction and Resistive Field Plate. *Cheng, J.*, +, *JEDS 2019 682-689*

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Power semiconductor devices

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Precise Extraction of Dynamic R_{dson} Under High Frequency and High Voltage by a Double-Diode-Isolation Method. *Lei, J.*, +, *JEDS 2019 690-695*

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Q**Quenching (thermal)**

Crystallization Speed in Ge-Rich PCM Cells as a Function of Process and Programming Conditions. *Gomiero, E.*, +, *JEDS 2019 517-521*

R**Radiation hardening (electronics)**

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Random Telegraph Noises in CMOS Image Sensors Caused by Variable Gate-Induced Sense Node Leakage Due to X-Ray Irradiation. *Chao, C.Y.*, +, *JEDS 2019 227-238*

Radiofrequency amplifiers

Flexible IGZO TFTs and Their Suitability for Space Applications. *Costa, J.C.*, +, *JEDS 2019 1182-1190*

Radiofrequency identification

Oxide TFT Rectifiers on Flexible Substrates Operating at NFC Frequency Range. *Tiwari, B.*, +, *JEDS 2019 329-334*

Random noise

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Graphene Nano Sheet Fabrication Using Light. *Sun, H.*, *JEDS 2019 1094-1099*

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A Fully Printed Ultra-Thin Charge Amplifier for On-Skin Biosignal Measurements. *Laurila, M.*, +, *JEDS 2019 566-574*

Rough surfaces

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Ruthenium compounds

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28-nm FDSOI nMOSFET RF Figures of Merits and Parasitic Elements Extraction at Cryogenic Temperature Down to 77 K. *Esfeh, B.K.*, +, *JEDS 2019 810-816*

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Schottky barriers

Barrier Inhomogeneity of Schottky Diode on Nonpolar AlN Grown by Physical Vapor Transport. *Zhou, Q.*, +, *JEDS 2019 662-667*

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