

# 2024 Index

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This index covers all technical items—papers, correspondence, reviews, etc.—that appeared in this periodical during 2024, and items from previous years that were commented upon or corrected in 2024. 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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- Aluminum gallium nitride**
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- Energy Efficient Electrolytic-Gated Synapse Transistors Using InGaZnO/HfO<sub>2</sub> Gate Stacks With Vertical Channel Configurations. Kim, D., +, *LED Sept. 2024 1673-1676*
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- High Dynamic Range Attenuator Using ScDDAs as Integrated Distributed Tunable Resistors on Silicon. Lez, C.L., +, *LED March 2024 304-307*

**Authentication**

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- True Random Number Generation in Nonlinear Internal-Resonating MEMS Resonators. Chen, T., +, *LED Jan. 2024 116-119*

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**Biosensors**

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**Broadband communication**

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A Novel 1T-DRAM Fabricated With 22 nm FD-SOI Technology. *Xie, H., +, LED April 2024 558-561*

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- Carbon Ion Implantation-Modified Hafnium Oxide to Construct a RELESIS for pH Sensing. *Cui, S., +, LED Dec. 2024 2522-2525*
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**Delays**

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Demonstration of a PECVD SiO<sub>x</sub>-Based RRAM Dendritic Device. *Roy, S.*, +, *LED March 2024 364-367*

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#### Diamond-like carbon

Record Low Contact Resistivity of 10<sup>-8</sup>  $\Omega$  cm<sup>2</sup> Ohmic Contacts on Oxygen-Terminated Intrinsic Diamond by Transition Metals Metallization. *Fan, S., +, LED Nov. 2024 2062-2065*

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- Discrete Fourier transforms**
- The Role of Carrier Injection in the Breakdown Mechanism of Amorphous Al<sub>2</sub>O<sub>3</sub> Layers. *La Torraca, P.*, +, *LED Feb. 2024 236-239*
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- Effective Interface Channel Control in IGZO/ITO Heterostructure-Channel Thin Film Transistors. *Luo, J.*, +, *LED Dec. 2024* 2419-2422

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#### Field programmable gate arrays

- The RGATE: An 8-in-1 Polymorphic Logic Gate Built From Reconfigurable Field Effect Transistors. *Galderisi, G.*, +, *LED March 2024* 496-499

#### Film factor (solar cell)

- A Novel Multi-Aperture *r*- $\theta$  Configuration-Based Pseudospark-Driven Electron Beam Source. *Unadkat, P.*, +, *LED Aug. 2024* 1520-1523

#### Filling

- On the Understanding and Modeling of Non-Negligible Subthreshold-State Degradation (SSD) in Sub-20-nm DRAM Technology. *Wang, D.*, +, *LED Sept. 2024* 1582-1585
- Research on Hybrid Bonding Process of Micro-LED Preparation Based on Asymmetric Structure. *Yin, L.*, +, *LED Dec. 2024* 2475-2478

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- A 19 GHz All-Epitaxial Al<sub>0.8</sub>Sc<sub>0.2</sub>N Cascaded FBAR for RF Filtering Applications. *Park, M.*, +, *LED July 2024* 1341-1344
- High Figure-of-Merit Film Bulk Acoustic Wave Resonator Based on Al<sub>0.87</sub>Sc<sub>0.13</sub>N Film Prepared Using a Novel Dual-Stage Method. *Zhao, L.*, +, *LED May 2024* 782-785

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- Antisolvent-Free Metal Halide Perovskite Thin-Film Photodetectors. *Yin, Z.*, +, *LED July 2024* 1209-1212
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### Filtering theory

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### FinFETs

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- Integrated Deep-Ultraviolet Micro-LED Array With Ultralow Contact Resistance and Ultrahigh Bandwidth for Intermixed Solar-Blind Optical Wireless Communication. *Wang, R., +, LED Dec. 2024 2479-2482*

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- Photon Temporal Distribution Extraction Based on Event-Refreshed TDC. *Tang, J., +, LED June 2024 1068-1071*

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Effect of Ag Nanoparticle Texturing on Al<sub>2</sub>O<sub>3</sub> Nanowires for Improved Photodetection. *Das, A.*, +, *LED Dec. 2024 2435-2438*

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High Sensitivity Ethanol Gas Sensor Based on Hollow F-Doped SnO<sub>2</sub> Nanofibers. *Huo, J.*, +, *LED April 2024 693-695*

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A Sensitive Lead-Free Perovskite Photodetector for Self-Powered Blue Light Hazard Detection Application. *An, X.*, +, *LED July 2024 1237-1240*

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A Sensitive Lead-Free Perovskite Photodetector for Self-Powered Blue Light Hazard Detection Application. *An, X.*, +, *LED July 2024 1237-1240*

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- Superconducting photodetectors**
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- An ε-Ga<sub>2</sub>O<sub>3</sub>-Based Surface Acoustic Wave Resonator for Deep Ultraviolet Detection. *Luo, J., +, LED Dec. 2024 2510-2513*
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A Novel Low-Warpage Hyper RDL (HRDL) Interposer Enabled by Low Temperature Hybrid Bonding for Advanced Packaging Applications. *Huang, Y.*, +, *LED March 2024 452-455*

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545-mA/mm E-Mode Recessed-Gate GaN MOSHEMT ( $V_{th} > 4$  V) by Ion Beam Etching. *Gao, H.*, +, *LED June 2024 968-971*

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**Surges**

0.58 mΩ·cm<sup>2</sup>/523 V GaN Vertical Schottky Barrier Diode With 15.6 kA/cm<sup>2</sup> Surge Current Enabled by Laser Lift-Off/ Annealing and N-Ion Implantation. *Qi, W.*, +, *LED June 2024 964-967*

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"M"-Shaped Threshold Voltage Shift Induced by Competitive Positive/Negative Gate Switching Stress in Schottky-Type p-GaN Gate HEMTs. *Hu, Y.*, +, *LED Dec. 2024 2299-2302*

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A 1T1M Programmable Artificial Spiking Neuron via the Integration of FeFET and NbO<sub>x</sub> Mott Memristor. *Zhao, S.*, +, *LED July 2024 1169-1172*

A Fully Printed ZnO Memristor Synaptic Array for Neuromorphic Computing Application. *Chen, J.*, +, *LED June 2024 1076-1079*

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Oxygen-Atom Incorporated Ferroelectric AlScN Capacitors for Multi-Level Operation. *Chen, S.*, +, *LED Nov. 2024 2090-2093*

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- Achieving High Yield of Perpendicular SOT-MTJ Manufactured on 300 mm Wafers. *Yang, W.*, +, *LED Nov. 2024 2094-2097*
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- An Artificial Spiking Afferent Nerve Based on Synaptic Transistor for Thermal Perception. *Li, S.*, +, *LED Jan. 2024 64-67*
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- Large Non-Volatile Frequency Tuning of Spin Hall Nano-Oscillators Using Circular Memristive Nano-Gates. *Khademi, M.*, +, *LED Feb. 2024 268-271*

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- A Second-Order Bandpass Filter With 1.6-dB Insertion Loss and 47-dB Upper-Stopband Suppression in 45-nm SOI CMOS Technology. *Yang, X.*, +, *LED Oct. 2024 1710-1713*
- Fully Integrated Memristive Hodgkin-Huxley Neurons With Homeostatic Plasticity. *Yang, Y.*, +, *LED Nov. 2024 2225-2228*
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- NOR-Type Flash Array Based on Four-Terminal TFT Synaptic Devices Capable of Selective Program/Erase Exploiting Fowler-Nordheim Tunneling. *Hwang, J.*, +, *LED June 2024 1000-1003*
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- Wideband On-Chip Filter With High Selectivity and Reduced Size by Single TV Inductive Coupling. *Liu, B.*, +, *LED March 2024 336-339*

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- Novel Wafer-Level Ta-Ta Direct Thermocompression Bonding for 3D Integration of Superconducting Interconnects for Scalable Quantum Computing System. *Mishra, H.*, +, *LED Nov. 2024 2221-2224*

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- Multi-Color Detection of Single Sensor Based on Tellurium Relaxation Characteristics. *Li, L.*, +, *LED April 2024 629-632*

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- Superior High-Temperature Electrical Characteristics of ALD Ultrathin In<sub>2</sub>O<sub>3</sub> Transistors. *Gao, T.*, +, *LED Dec. 2024 2407-2410*

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- A 4H-SiC CMOS SPICE Level 3 Model for Circuit Simulations. *Rinaldi, N.*, +, *LED Aug. 2024 1409-1412*
- A 4H-SiC NMOSFET-Based Temperature Sensor Operating Between 14K and 481 K. *Rinaldi, N.*, +, *LED Nov. 2024 2181-2184*
- Designing the Turnover Temperature in Lamb-Wave Lithium Tantalate Resonators. *Majd, Y.*, +, *LED Aug. 2024 1508-1511*
- Improvement of Polarization Retention at Low and High Temperatures for Hf<sub>0.5</sub>Zr<sub>0.5</sub>O<sub>2</sub> Thin-Film Capacitors. *Zhang, W.D.*, +, *LED July 2024 1181-1184*
- Temperature Dependence of Betavoltaic Cell Performance of Diamond pn Junction Diode. *Shimaoka, T.*, +, *LED Jan. 2024 96-99*
- The Operation of Lithium Niobate Ferroelectric Domain Wall Memory at 673 K. *Fan, H.*, +, *LED June 2024 1012-1015*

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- A Novel Neural Network-Based Transistor Compact Model Including Self-Heating. *Tung, C.*, +, *LED Aug. 2024 1512-1515*
- Design and Fabrication of Novel Darlington Transistor Using Light-Emitting Transistors for Smart Thermal Sensor Technology. *Kumar, M.*, +, *LED July 2024 1365-1368*
- Neurons With Captive Synaptic Devices for Temperature Robust Spiking Neural Networks. *Park, K.*, +, *LED March 2024 492-495*
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- Wider SOA SGT MOSFET With Self-Adjusting Negative Feedback by Patterning the Varied Resistance of Source. *Ye, J.*, +, *LED Oct. 2024 1933-1936*

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- A Bent-TBTF Resonant MEMS Accelerometer Using Auxiliary Supporting Beams. *Tu, C.*, +, *LED Nov. 2024 2177-2180*
- A Co-Planarized Common Cathode Micro-LED Display That Is Produced Using Planarization and a Copper Process. *Chen, Y.*, +, *LED Oct. 2024 1875-1878*
- A Novel 1T-DRAM Fabricated With 22 nm FD-SOI Technology. *Xie, H.*, +, *LED April 2024 558-561*
- A Novel Neural Network-Based Transistor Compact Model Including Self-Heating. *Tung, C.*, +, *LED Aug. 2024 1512-1515*
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- Bilayer Y-Type Transverse Thermoelectric Generator With Non-Contact Vertical Thermal Coupling Using LTCC Technology. *Wang, N.*, +, *LED April 2024 712-715*
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- Current Temperature Stress Induced Threshold Degradation on Corbino a-InGaZnO Transistors. *Shang, K.*, +, *LED July 2024 1205-1208*
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- Designing the Turnover Temperature in Lamb-Wave Lithium Tantalate Resonators. *Majd, Y.*, +, *LED Aug. 2024 1508-1511*
- Dual-Parameter and High-Density Sensor Array Based on a-IGZO Thin Film Transistors. *Zhang, J.*, +, *LED July 2024 1301-1304*
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- Enhancing Selector-Only Memory Reliability Through Multi-Step Write Pulse. *Seo, Y.*, +, *LED Dec. 2024 2383-2386*
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- Improved Performance of FET-Type Humidity Sensor With Low-Power Embedded Micro-Heater. *Hong, Y.*, +, *LED March 2024 468-471*
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- Localized Thermal Effect Enhanced NBTI in Multifin pFinFETs Under Low Drain Bias. *Tang, C.*, +, *LED Feb. 2024 148-151*
- Low-Temperature Area-Selective Metal Passivation Bonding Platform for Heterogeneous Integration. *Hsu, M.*, +, *LED July 2024 1273-1276*

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#### Thermoelectric devices

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## W

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