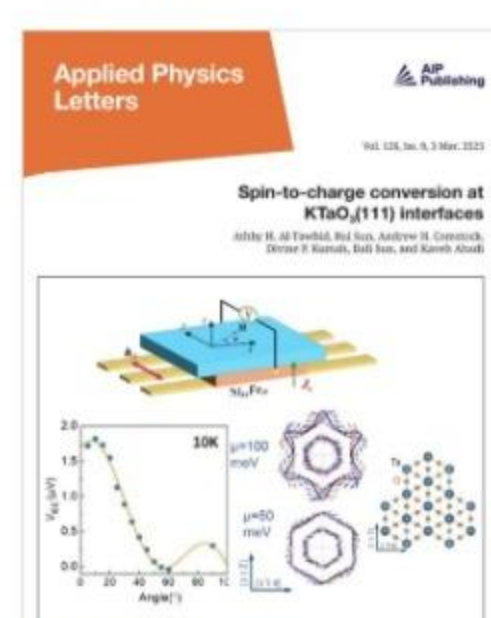




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PERSPECTIVES

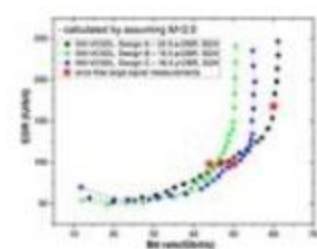


Advancements in low-density crystalline silicon allotropes

Yinan Liu; Joseph P. Briggs; Reuben T. Collins; Meenakshi Singh; P. Craig Taylor; Carolyn A. Koh
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PHOTONICS AND OPTOELECTRONICS

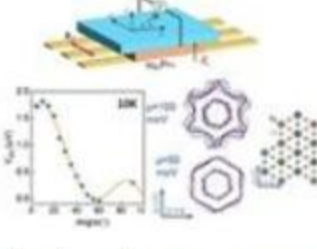


Energy efficiency of 100 fJ/bit for bit rates beyond 50 Gb/s for 940 nm single mode VCSELs

Mansoor A. Maricar; Ilya A. Derebezzov; Zi-Heng Zhou; Yu-Hao Wang; Georgiy A. Sapunov; Si-Cong Tian; Dieter Bimberg
Appl. Phys. Lett. 126, 091101 (2025) <https://doi.org/10.1063/5.0247380>

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SURFACES AND INTERFACES

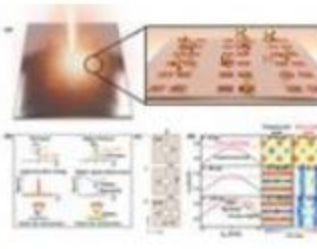


Spin-to-charge conversion at $\text{KTaO}_3(111)$ interfaces

Athby H. Al-Tawhid; Rui Sun; Andrew H. Comstock; Divine P. Kumah; Dall Sun; Kaveh Ahadi
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METASURFACES AND METAMATERIALS

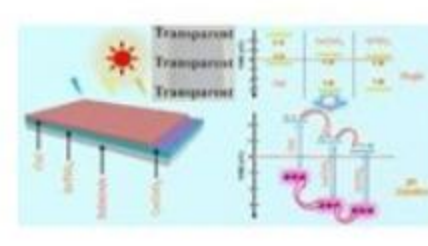


Ultra-narrowband dielectric metasurfaces for surface-enhanced infrared absorption

Haining Chong; Wenkang Zhang; Yuanhao Mu; Hui Ye; Yangjian Cai
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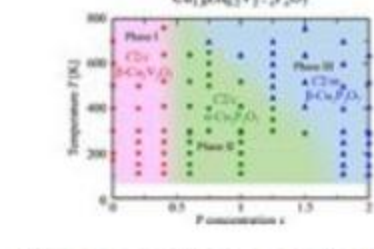
ADVANCED MATERIALS



Perovskite-based transparent pn junction in $\text{CuI}/\text{SrTiO}_3$ toward enhanced photoelectric response via interfacial homogeneous perovskite LaCoO_3 transition layer

Xinyan Lv; Wei Yang; Zefeng Cai; Jun Cao; Lei Shi; Jiaqi Pan; Zhiguo Zhao; Chaorong Li
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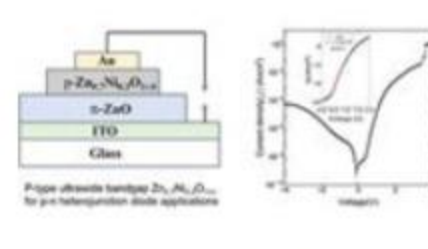


Composition evolution of crystal structure and negative thermal expansion in pyrovanadate-phosphate $\text{Cu}_{1-x}\text{Zn}_x\text{V}_{2-x}\text{P}_2\text{O}_7$

M. Kawakita; F. Ikawa; K. Yagi; M. Kano; T. Kubo; Y. Yokoyama; N. Katayama; Y. Okamoto; D. Hirai; K. Takenaka
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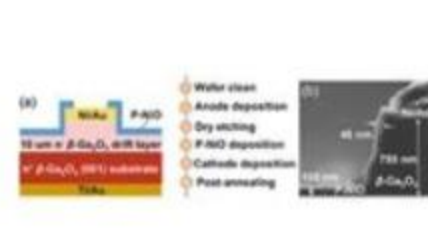
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Optoelectronic properties and application of p -type ultrawide bandgap $\text{Zn}_{0.7}\text{Ni}_{0.3}\text{O}_{1-x}$ thin films in p - n heterojunction diodes

Zhi Yue Xu; Xian Sheng Wang; Zhi Xiang Wei; Gui Shan Liu; Xiong Jing Chen; Hong-En Wang; Chun Yuen Ho; Kin Man Yu; Chao Ping Liu
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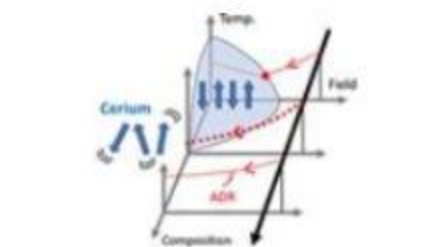


Improvement of interface quality through low-temperature annealing in β - Ga_2O_3 diode with compounded mesa and junction termination extension

Qiyuan Li; Jinyang Liu; Weibing Hao; Xinrui Xu; Zhao Han; Song He; Xiaodong Xu; Guangwei Xu; Shihong Long
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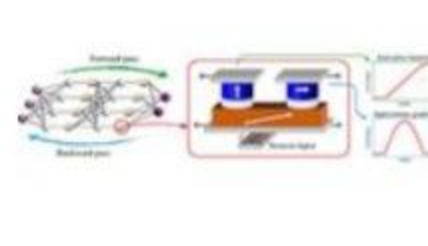
MAGNETICS AND SPINTRONICS



Minimization of temperature reached by adiabatic demagnetization refrigeration in Ce-based intermetallic $\text{Ce}_2(\text{Cu}_{1-x}\text{Ni}_x)_2\text{In}$

Kanta Watanabe; Yasuyuki Shimura; Kazunori Umeko; Takahiro Onimaru; Toshiro Takabatake
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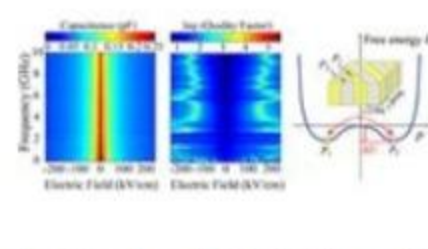


A design of magnetic tunnel junctions for the deployment of neuromorphic hardware for edge computing

Davi Rodrigues; Eleonora Raimondo; Riccardo Tomasello; Mario Carpentieri; Giovanni Finocchio
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DIELECTRICS, FERROELECTRICS, AND MULTIFERROICS

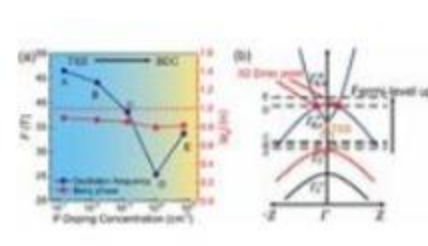


Impacts of growth oxygen pressure and laser fluence on microwave tunings of $\text{Ba}_0.9\text{Sr}_{0.1}\text{TiO}_3$ thin films

Zixiong Liu; Changdong Liu; Haotian Gao; Zongquan Gu
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LOW-DIMENSIONAL AND TOPOLOGICAL MATERIALS

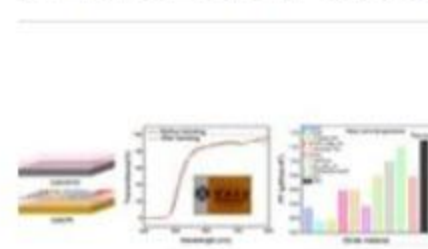


Chiral anomaly in doped α -Sn films by Fermi level tuning

Bingxin Li; Yuanfeng Ding; Jinshan Yao; Xing Fan; Guanzhang Liu; Yan-Bin Chen; Jian Zhou; Hong Lu; Yan-Feng Chen
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DEVICE PHYSICS AND NANOTECHNOLOGY

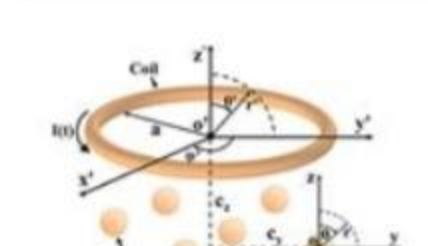


CdO: A promising flexible and transparent thermoelectric power generator

X. K. Ning; W. B. Guo; J. Y. Han; Y. M. Ran; W. X. Jian; X. Y. San; L. J. Gao; S. F. Wang
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BIOPHYSICS, BIOIMAGING, AND BIOSENSORS



Simulation study of cell permeabilization induced by pulsed magnetic field considering radial stress effects

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ENERGY CONVERSION AND STORAGE



Mo-doped Ni/NiO supported on oxygen-deficient NiMoO_4 with carbon derived from tannic acid for hydrogen evolution and hydrogen oxidation

Xuesi Chen; Lijie Zhu; Hongzhan Chen; Ya Tang; Feng Lin; Fangyan Xie; Jian Chen; Nan Wang; Yanshuo Jin; Hui Meng
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Simple and effective magnetic cilia arrays for exploring metachronal beating dynamics

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