

## Contents

Vol. 62 No. 6 June 2019

### REVIEW

DNA computing for combinational logic.....	061301(16)
Chuan ZHANG, Lulu GE, Yuchen ZHUANG, Ziyuan SHEN, Zhiwei ZHONG, Zaichen ZHANG & Xiaohu YOU	
Advances in narrow linewidth diode lasers.....	061401(13)
Xingkai LANG, Peng JIA, Yongyi CHEN, Li QIN, Lei LIANG, Chao CHEN, Yubing WANG, Xiaonan SHAN, Yongqiang NING & Lijun WANG	

### RESEARCH PAPER

Predictive analysis for race detection in software-defined networks.....	062101(20)
Gongzheng LU, Lei XU, Yibiao YANG & Baowen XU	
An ammonia coverage ratio observing and tracking controller: stability analysis and simulation evaluation.....	062201(18)
Jinghua ZHAO, Xun GONG, Yunfeng HU, Jinwu GAO & Hong CHEN	
Error correction for short-range optical interconnect using COTS transceivers .....	062401( 7 )
Ziyuan ZHENG, Chuanchuan YANG, Dan ZHAO & Ziyu WANG	
Improved turn-on behavior in a diode-triggered silicon-controlled rectifier for high-speed electrostatic discharge protection.....	062402( 8 )
Lizhong ZHANG, Yuan WANG, Yize WANG, Xing ZHANG & Yandong HE	
Simulation of a high-performance enhancement-mode HFET with back-to-back graded AlGaN layers .....	062403(11)
Fu PENG, Chao YANG, Siyu DENG, Dongya OUYANG, Bo ZHANG, Jie WEI & Xiaorong LUO	
Short-channel effects on the static noise margin of 6T SRAM composed of 2D semiconductor MOSFETs .....	062404( 8 )
Qian XIE, Chen CHEN, Mingjun LIU, Shuang XIA & Zheng WANG	
A 0.45-to-1.8 GHz synthesized injection-locked bang-bang phase locked loop with fine frequency tuning circuits .....	062405(16)
Jincheng YANG, Zhao ZHANG, Nan QI, Liyuan LIU, Jian LIU & Nanjian WU	
Systematic calibration of drift diffusion model for InGaAs MOSFETs in quasi-ballistic regime.....	062406( 8 )
Shaoyan DI, Lei SHEN, Pengying CHANG, Kai ZHAO, Tiao LU, Gang DU & Xiaoyan LIU	
64 × 64 GM-APD array-based readout integrated circuit for 3D imaging applications .....	062407(11)
Jin WU, Zhiming QIAN, Yang ZHAO, Xiangrong YU, Lixia ZHENG & Weifeng SUN	
Circuit design of RRAM-based neuromorphic hardware systems for classification and modified Hebbian learning .....	062408(19)
Yuning JIANG, Peng HUANG, Zheng ZHOU & Jinfeng KANG	

### MOOP

Energy-efficient longitudinal driving strategy for intelligent vehicles on urban roads.....	064201( 3 )
Hongqing CHU, Lulu GUO, Yongjun YAN, Bingzhao GAO, Hong CHEN & Ning BIAN	

### NEWS & VIEWS

International Solid-State Circuits Conference 2019 aims at “envisioning the future” .....	067401( 2 )
Haikun JIA & Baoyong CHI	

### LETTER

Bifurcation and chaos in digital filters: identification of periodic solutions .....	069201( 3 )
Zunshui CHENG, Xinghuo YU & Jinde CAO	
High-speed target tracking system based on multi-interconnection heterogeneous processor and multi-descriptor algorithm.....	069401( 3 )
Jiaqing WANG, Yongxing YANG, Liyuan LIU & Nanjian WU	
Dependency of well-contact density on MCUs in 65-nm bulk CMOS SRAM.....	069402( 3 )
Cheng XIE, Yueyue CHEN, Jianjun CHEN & Jizuo ZHANG	
Comparison of the dark signal degradation induced by Gamma ray, proton, and neutron radiation in pinned photodiode CMOS image sensors .....	069403( 3 )
Zujun WANG, Yuanyuan XUE, Wei CHEN, Rui XU, Hao NING, Baoping HE, Zhibin YAO, Minbo LIU, Jiangkun SHENG, Wuying MA & Guantao DONG	
Single-event upset prediction in static random access memory cell account for parameter variations .....	069404( 3 )
Mingxue HUO, Guoliang MA, Bin ZHOU, Liyi XIAO, Chunhua QI, Yanqing ZHANG, Jianning MA, Yinghun PIAO & Tianqi WANG	
A physical channel-potential and drain-current model for asymmetric dual-gate a-IGZO TFTs .....	069405( 3 )
Minxi CAI & Ruohua YAO	
A high-efficiency, high harmonic rejection E-band SiGe HBT frequency tripler for high-resolution radar application .....	069406( 3 )
Peigen ZHOU, Pingping YAN, Jixin CHEN, Debin HOU & Wei HONG	
Physical mechanism of performance adjustment in selective buried oxide n-MOSFETs.....	069407( 3 )
Qin HUANG, Renhua LIU, Yabin SUN, Xiaojin LI, Yanling SHI, Changfeng WANG, Duanduan LIAO & Ming TIAN	
Near-infrared six-band polarization-independent wide-angle absorber based on metal cavity arrays filled with GaAs.....	069408( 3 )
Dan HU, Hongyan WANG, Xiwei ZHANG, Kexin WANG & Qiaofen ZHU	
A novel compression framework using energy-sensitive QRS complex detection method for a mobile ECG.....	069409( 3 )
Sikai WANG, Bo PANG, Ming LIU, Xu ZHANG, Fang YUAN, Wentao SHEN & Hongda CHEN	

## Information for authors

*SCIENCE CHINA Information Sciences (Sci China Inf Sci)*, cosponsored by the Chinese Academy of Sciences and the National Natural Science Foundation of China, and published by Science China Press, is committed to publishing high-quality, original results of both basic and applied research in all areas of information sciences, including computer science and technology; control science and engineering; information and communication engineering; microelectronics and solid state electronics, etc. *Sci China Inf Sci* is published monthly in both print and electronic forms.

Review (20 printed pages on average) surveys representative results and important advances on well-identified topics, with analyses and insightful views on the states of the art and highlights on future research directions.

Research Paper (no more than 15 printed pages) presents new and original results and significant developments in all areas of information sciences for broad readership.

MOOP (Multimedia Open Online Paper, with multimedia material) presents novel ideas, original research results, and significant developments in all areas of information sciences for broad readership.

Letter (no more than 3 printed pages) addresses issues of general interest with opinions or technical problems of research and development with solutions.

*Sci China Inf Sci* is now published under a brand new Continuous Article Publishing (CAP) workflow. That is, articles are published directly on line, together with complete publishing information concerning page, issue, volume and DOI.

Authors are recommended to use *Science China's* online submission services. To submit a manuscript, please go to [www.scichina.com](http://www.scichina.com), create an account to log in <http://mc03.manuscriptcentral.com/scis>, and follow the instructions there to upload text and image/table files.

Authors are encouraged to submit such accompanying materials as short statements on the research background and area/subareas and significance of the work, and brief introductions to the first and corresponding authors including their mailing addresses with post codes, telephone numbers, fax numbers, and email addresses. Authors may also suggest several qualified experts (with full names, affiliations, phone numbers, fax numbers, and email addresses) as referees, and/or request the exclusion of some specific individuals from potential referees.

All submissions will be reviewed by referees selected by the editorial board. The decision of acceptance or rejection of a manuscript is made by the editorial board based on the referees' reports. The entire review process may take 90 to 120 days, and the editorial office will inform the author of the decision as soon as the process is completed. If the editorial board fails to make a decision within 90 days, please contact the editorial office.

Authors should guarantee that their submitted manuscript has not been published before and has not been submitted elsewhere for print or electronic publication consideration. Submission of a manuscript is taken to imply that all the named authors are aware that they are listed as coauthors, and they have agreed on the submitted version of the paper. No change in the order of listed authors can be made without an agreement signed by all the authors.

Ethical responsibilities of authors: Authors should refrain from misrepresenting research results which could damage the trust in the journal and ultimately the entire scientific endeavour, and follow the COPE guidelines on how to deal with potential acts of misconduct.

Disclosure of potential conflict of interests: Authors must disclose all relationships or interests that could influence or bias the work. The corresponding author will include a summary statement in the text of the manuscript in a separate section before the reference list.

Once a manuscript is accepted, the authors should send a copyright transfer form signed by all authors to Science China Press. Authors of one published paper will be presented one sample copy. If more sample copies or offprints are required, please contact the managing editor and pay the extra fee. The full text opens free to domestic readers at [www.scichina.com](http://www.scichina.com), and is available to overseas readers at [link.springer.com](http://link.springer.com).

## Abstracted/Index in

Science Citation Index Expanded (SCIE), Engineering Index (EI), Journal Citation Reports/Science Edition (JCR), Academic OneFile, Astrophysics Data System (ADS), CSA, Cabells, Current Contents/Engineering, Computing and Technology, DBLP, Digital Mathematics Registry, Earthquake Engineering Abstracts, Engineered Materials Abstracts, Gale, Google, INSPEC, Mathematical Reviews, OCLC, ProQuest, SCOPUS, Summon by Serial Solutions, VINITI.