

ESI Highly Cited Papers in November 2023

1. [Highly efficient GaAs solar cells by limiting light emission angle](#)
Emily D Kosten, Jackson H Atwater, James Parsons, Albert Polman & Harry A Atwater
Light Sci Appl **2**, e45 (2013). DOI: 10.1038/lisa.2013.1
2. [Surface brightens up Si quantum dots: direct bandgap-like size-tunable emission](#)
Kateřina Dohnalová, Alexander N Poddubny, Alexei A Prokofiev, Wieteke DAM de Boer, Chinnaswamy P Umesh, Jos MJ Paulusse, Han Zuilhof & Tom Gregorkiewicz
Light Sci Appl **2**, e47 (2013). DOI: 10.1038/lisa.2013.3
3. [New yellow Ba_{0.93}Eu_{0.07}Al₂O₄ phosphor for warm-white light-emitting diodes through single-emitting-center conversion](#)
Xufan Li, John D Budai, Feng Liu, Jane Y Howe, Jiahua Zhang, Xiao-Jun Wang, Zhanjun Gu, Chengjun Sun, Richard S Meltzer & Zhengwei Pan
Light Sci Appl **2**, e50 (2013). DOI: 10.1038/lisa.2013.6
4. [Helicity dependent directional surface plasmon polariton excitation using a metasurface with interfacial phase discontinuity](#)
Lingling Huang, Xianzhong Chen, Benfeng Bai, Qiaofeng Tan, Guofan Jin, Thomas Zentgraf & Shuang Zhang
Light Sci Appl **2**, e70 (2013). DOI: 10.1038/lisa.2013.26
5. [Ultra-thin, planar, Babinet-inverted plasmonic metalenses](#)
Xingjie Ni, Satoshi Ishii, Alexander V Kildishev & Vladimir M Shalaev
Light Sci Appl **2**, e72 (2013). DOI: 10.1038/lisa.2013.28
6. [Plasmonics for solid-state lighting: enhanced excitation and directional emission of highly efficient light sources](#)
Gabriel Lozano, Davy J Louwers, Said RK Rodríguez, Shunsuke Murai, Olaf TA Jansen, Marc A Verschuuren & Jaime Gómez Rivas
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7. [A systematic study on efficiency enhancements in phosphorescent green, red and blue microcavity organic light emitting devices](#)
Chaoyu Xiang, Wonho Koo, Franky So, Hisahiro Sasabe & Junji Kido
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8. [Exceeding the limit of plasmonic light trapping in textured screen-printed solar cells using Al nanoparticles and wrinkle-like graphene sheets](#)
Xi Chen, Baohua Jia, Yinan Zhang & Min Gu
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9. [Functionalized polymer nanofibers: a versatile platform for manipulating light at the nanoscale](#)
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10. [Handheld high-throughput plasmonic biosensor using computational on-chip imaging](#)
Arif E Cetin, Ahmet F Coskun, Betty C Galarreta, Min Huang, David Herman, Aydogan Ozcan & Hatice Altug
Light Sci Appl **3**, e122 (2014). DOI: 10.1038/lisa.2014.3
11. [A visible light-driven plasmonic photocatalyst](#)
Francesca Pincella, Katsuhiko Isozaki & Kazushi Miki
Light Sci Appl **3**, e133 (2014). DOI: 10.1038/lisa.2014.14
12. [Healthy, natural, efficient and tunable lighting: four-package white LEDs for optimizing the circadian effect, color quality and vision performance](#)
Ji Hye Oh, Su Ji Yang & Young Rag Do
Light Sci Appl **3**, e141 (2014). DOI: 10.1038/lisa.2014.22
13. [Ultrafast lasers-reliable tools for advanced materials processing](#)
Koji Sugioka & Ya Cheng
Light Sci Appl **3**, e149 (2014). DOI: 10.1038/lisa.2014.30
14. [Metallic nanostructures for light trapping in energy-harvesting devices](#)
Chuan Fei Guo, Tianyi Sun, Feng Cao, Qian Liu & Zhifeng Ren
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15. [Adaptive optical microscopy: the ongoing quest for a perfect image](#)
Martin J Booth
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16. [Generating optical orbital angular momentum at visible wavelengths using a plasmonic metasurface](#)
Ebrahim Karimi, Sebastian A Schulz, Israel De Leon, Hammam Qassim, Jeremy Upham & Robert W Boyd
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17. [Optical storage arrays: a perspective for future big data storage](#)
Min Gu, Xiangping Li & Yaoyu Cao
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18. [Light scattering and surface plasmons on small spherical particles](#)
Xiaofeng Fan, Weitao Zheng & David J Singh
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19. [Design and fabrication of broadband ultralow reflectivity black Si surfaces by laser micro/nanoprocessing](#)
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20. [Fundamentals of phase-only liquid crystal on silicon \(LCOS\) devices](#)
Zichen Zhang, Zheng You & Daping Chu
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21. [Coding metamaterials, digital metamaterials and programmable metamaterials](#)
Tie Jun Cui, Mei Qing Qi, Xiang Wan, Jie Zhao & Qiang Cheng
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22. [Observation of efficient population of the red-emitting state from the green state by non-multiphonon relaxation in the Er³⁺-Yb³⁺ system](#)
Jiahua Zhang, Zhendong Hao, Jing Li, Xia Zhang, Yongshi Luo & Guohui Pan
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23. [Massive individual orbital angular momentum channels for multiplexing enabled by Dammann gratings](#)
Ting Lei, Meng Zhang, Yuru Li, Ping Jia, Gordon Ning Liu, Xiaogeng Xu, Zhaohui Li, Changjun Min, Jiao Lin, Changyuan Yu, Hanben Niu & Xiaocong Yuan
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24. [Advances in InGaAs/InP single-photon detector systems for quantum communication](#)
Jun Zhang, Mark A Itzler, Hugo Zbinden & Jian-Wei Pan
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25. [Giant photonic spin Hall effect in momentum space in a structured metamaterial with spatially varying birefringence](#)
Xiaohui Ling, Xinxing Zhou, Xunong Yi, Weixing Shu, Yachao Liu, Shizhen Chen, Hailu Luo, Shuangchun Wen & Dianyuan Fan
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26. [Nanoplasmonic waveguides: towards applications in integrated nanophotonic circuits](#)
Yurui Fang & Mengtao Sun
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27. [Optical tuning of exciton and trion emissions in monolayer phosphorene](#)
Jiong Yang, Renjing Xu, Jiajie Pei, Ye Win Myint, Fan Wang, Zhu Wang, Shuang Zhang, Zongfu Yu & Yuerui Lu
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28. [Broadband diffusion of terahertz waves by multi-bit coding metasurfaces](#)
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Dan Qu, Min Zheng, Jing Li, Zhigang Xie & Zaicheng Sun
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31. [Photoexcitation dynamics in solution-processed formamidinium lead iodide perovskite thin films for solar cell applications](#)
Hong-Hua Fang, Feng Wang, Sampson Adjokatse, Ni Zhao, Jacky Even & Maria Antonietta Loi
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32. [High-efficiency surface plasmon meta-couplers: concept and microwave-regime realizations](#)
Wujiong Sun, Qiong He, Shulin Sun & Lei Zhou
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33. [Anisotropic coding metamaterials and their powerful manipulation of differently polarized terahertz waves](#)
Shuo Liu, Tie Jun Cui, Quan Xu, Di Bao, Liangliang Du, Xiang Wan, Wen Xuan Tang, Chunmei Ouyang, Xiao Yang Zhou, Hao Yuan, Hui Feng Ma, Wei Xiang Jiang, Jiaguang Han, Weili Zhang & Qiang Cheng
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34. [Energy transfer in plasmonic photocatalytic composites](#)
Xiang-Chao Ma, Ying Dai, Lin Yu & Bai-Biao Huang
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35. [A single Eu²⁺-activated high-color-rendering oxychloride white-light phosphor for white-light-emitting diodes](#)
Peng-Peng Dai, Cong Li, Xin-Tong Zhang, Jun Xu, Xi Chen, Xiu-Li Wang, Yan Jia, Xiaojun Wang & Yi-Chun Liu
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37. [Ultrafast laser processing of materials: from science to industry](#)
Mangirdas Malinauskas, Albertas Žukauskas, Satoshi Hasegawa, Yoshio Hayasaki, Vyngantas Mizeikis, Ričardas Buividas & Saulius Juodkazis
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Le Wang, Rong-Jun Xie, Yuanqiang Li, Xiaojun Wang, Chong-Geng Ma, Dong Luo, Takashi Takeda, Yi-Ting Tsai, Ru-Shi Liu & Naoto Hirosaki
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40. [Information entropy of coding metasurface](#)
Tie-Jun Cui, Shuo Liu & Lian-Lin Li
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41. [Control over emissivity of zero-static-power thermal emitters based on phase-changing material GST](#)
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42. [Tomographic flow cytometry by digital holography](#)
Francesco Merola, Pasquale Memmolo, Lisa Miccio, Roberto Savoia, Martina Mugnano, Angelo Fontana, Giuliana D'Ippolito, Angela Sardo, Achille Iolascon, Antonella Gambale & Pietro Ferraro
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Yi-Cheng Zhao, Wen-Ke Zhou, Xu Zhou, Kai-Hui Liu, Da-Peng Yu & Qing Zhao
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44. [Parametric down-conversion photon-pair source on a nanophotonic chip](#)
Xiang Guo, Chang-ling Zou, Carsten Schuck, Hojoong Jung, Risheng Cheng & Hong X Tang
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45. [Generation of wavelength-independent subwavelength Bessel beams using metasurfaces](#)
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46. [Three-dimensional chiral microstructures fabricated by structured optical vortices in isotropic material](#)
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Elhanan Maguid, Igor Yulevich, Michael Yannai, Vladimir Kleiner, Mark L Brongersma & Erez Hasman
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49. [Optical manipulation from the microscale to the nanoscale: fundamentals, advances and prospects](#)
Dongliang Gao, Weiqiang Ding, Manuel Nieto-Vesperinas, Xumin Ding, Mahdy Rahman, Tianhang Zhang, ChweeTeck Lim & Cheng-Wei Qiu
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50. [Going beyond the limit of an LCD's color gamut](#)
Hai-Wei Chen, Rui-Dong Zhu, Juan He, Wei Duan, Wei Hu, Yan-Qing Lu, Ming-Chun Li, Seok-Lyul Lee, Ya-Jie Dong & Shin-Tson Wu
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51. [Beam switching and bifocal zoom lensing using active plasmonic metasurfaces](#)
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52. [Plasmonic nano-printing: large-area nanoscale energy deposition for efficient surface texturing](#)
Lei Wang, Qi-Dai Chen, Xiao-Wen Cao, Ričardas Buividas, Xuwen Wang, Saulius Juodkakis & Hong-Bo Sun
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53. [Electrons dynamics control by shaping femtosecond laser pulses in micro/nanofabrication: modeling, method, measurement and application](#)
Lan Jiang, An-Dong Wang, Bo Li, Tian-Hong Cui & Yong-Feng Lu
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Yair Rivenson, Yibo Zhang, Harun Günaydın, Da Teng & Aydogan Ozcan
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55. [Twisted photons: new quantum perspectives in high dimensions](#)
Manuel Erhard, Robert Fickler, Mario Krenn & Anton Zeilinger
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56. [Giant intrinsic chiro-optical activity in planar dielectric nanostructures](#)
Alexander Y Zhu, Wei Ting Chen, Aun Zaidi, Yao-Wei Huang, Mohammadreza Khorasaninejad, Vyshakh Sanjeev, Cheng-Wei Qiu & Federico Capasso
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58. [Boron nitride nanoresonators for phonon-enhanced molecular vibrational spectroscopy at the strong coupling limit](#)
Marta Autore, Peining Li, Irene Dolado, Francisco J Alfaro-Mozaz, Ruben Esteban, Ainhoa Atxabal, Fèlix Casanova, Luis E Hueso, Pablo Alonso-González, Javier Aizpurua, Alexey Y Nikitin, Saül Vélez & Rainer Hillenbrand
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61. [Reflective chiral meta-holography: multiplexing holograms for circularly polarized waves](#)
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65. [A hybrid invisibility cloak based on integration of transparent metasurfaces and zero-index materials](#)
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Sajan Shrestha, Adam C. Overvig, Ming Lu, Aaron Stein & Nanfang Yu
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Yan-Min Yang, Zhi-Yong Li, Jun-Ying Zhang, Yue Lu, Shao-Qiang Guo, Qing Zhao, Xin Wang, Zi-Jun Yong, Hong Li, Ju-Ping Ma, Yoshihiro Kuroiwa, Chikako Moriyoshi, Li-Li Hu, Li-Yan Zhang, Li-Rong Zheng & Hong-Tao Sun
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Xin Bao, Ye Yuan, Jingqin Chen, Bohan Zhang, Di Li, Ding Zhou, Pengtao Jing, Guiying Xu, Yingli Wang, Kateřina Holá, Dezhen Shen, Changfeng Wu, Liang Song, Chengbo Liu, Radek Zbořil & Songnan Qu
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74. [Multichannel vectorial holographic display and encryption](#)
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82. [Emerging ultra-narrow-band cyan-emitting phosphor for white LEDs with enhanced color rendition](#)
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