

2017 CINT Publications

1. Abbott, L. J. & Frischknecht, A. L. "Nanoscale Structure and Morphology of Sulfonated Polyphenylenes via Atomistic Simulations". *Macromolecules* **50**, 1184-1192, (2017) [doi:10.1021/acs.macromol.6b02232].
2. Agarwal, D., Aspetti, C. O., Cargnello, M., Ren, M. L., Yoo, J., Murray, C. B. & Agarwal, R. "Engineering Localized Surface Plasmon Interactions in Gold by Silicon Nanowire for Enhanced Heating and Photocatalysis". *Nano Letters* **17**, 1839-1845, (2017) [doi:10.1021/acs.nanolett.6b05147].
3. Ahmed, T., Chen, A., Yarotski, D. A., Trugman, S. A., Jia, Q. & Zhu, J. X. "Magnetic, electronic, and optical properties of double perovskite Bi₂FeMnO₆". *Apl Materials* **5**, 8, (2017) [doi:10.1063/1.4964676].
4. Albo, A., Flores, Y. V., Hu, Q. & Reno, J. L. "Two-well terahertz quantum cascade lasers with suppressed carrier leakage". *Applied Physics Letters* **111**, 5, (2017) [doi:10.1063/1.4996567].
5. Alkhalaf, S., Ranaweera, C. K., Kahol, P. K., Siam, K., Adhikari, H., Mishra, S. R., Perez, F., Gupta, B. K., Ramasamy, K. & Gupta, R. K. "Electrochemical energy storage performance of electrospun CoMn₂O₄ nanofibers". *Journal of Alloys and Compounds* **692**, 59-66, (2017) [doi:10.1016/j.jallcom.2016.09.005].
6. Anderson, P. D., Koleske, D. D., Povinelli, M. L. & Subramania, G. "Improving emission uniformity and linearizing band dispersion in nanowire arrays using quasi-aperiodicity". *Optical Materials Express* **7**, 3634-3642, (2017) [doi:10.1364/ome.7.003634].
7. Anwar, F., Carlos, C. R., Saraswat, V., Mangu, V. S., Arnold, M. S. & Cavallo, F. "Nanoscale graphene/Ge wigglers as building blocks for THz sources". *Aip Advances* **7**, 6, (2017) [doi:10.1063/1.4986513].
8. Appavoo, K., Nie, W. Y., Blancon, J. C., Even, J., Mohite, A. D. & Sfeir, M. Y. "Ultrafast optical snapshots of hybrid perovskites reveal the origin of multiband electronic transitions". *Physical Review B* **96**, 9, (2017) [doi:10.1103/PhysRevB.96.195308].
9. Arefin, A., Huang, J. H., Platts, D., Hypes, V. D., Harris, J. F., Iyer, R. & Nath, P. "Fabrication of flexible thin polyurethane membrane for tissue engineering applications". *Biomedical Microdevices* **19**, 9, (2017) [doi:10.1007/s10544-017-0236-6].
10. Aryal, D., Agrawal, A., Perahia, D. & Grest, G. S. "Structure and Dynamics of Ionic Block Copolymer Melts: Computational Study". *Macromolecules* **50**, 7388-7398, (2017) [doi:10.1021/acs.macromol.7b00724].
11. Aryal, D., Agrawal, A., Perahia, D. & Grest, G. S. "Structured Ionomer Thin Films at Water Interface: Molecular Dynamics Simulation Insight". *Langmuir* **33**, 11070-11076, (2017) [doi:10.1021/acs.langmuir.7b02485].
12. Aryal, D., Grest, G. S. & Perahia, D. "Soft nanoparticles: nano ionic networks of associated ionic polymers". *Nanoscale* **9**, 2117-2122, (2017) [doi:10.1039/c6nr09206c].

13. Atha, D. H., Nagy, A., Steinbruck, A., Dennis, A. M., Hollingsworth, J. A., Dua, V., Iyer, R. & Nelson, B. C. "Quantifying engineered nanomaterial toxicity: comparison of common cytotoxicity and gene expression measurements". *Journal of Nanobiotechnology* **15**, 9, (2017) [doi:10.1186/s12951-017-0312-3].
14. Athanasopoulos, S., Hernandez, L. A., Beljonne, D., Fernandez-Alberti, S. & Tretiak, S. "Ultrafast Non-Förster Intramolecular Donor Acceptor Excitation Energy Transfer". *Journal of Physical Chemistry Letters* **8**, 1688-1694, (2017) [doi:10.1021/acs.jpcllett.7b00259].
15. Auchter, E., Marquez, J., Yarbrough, S. L. & Dervishi, E. "A facile alternative technique for large-area graphene transfer via sacrificial polymer". *Aip Advances* **7**, 6, (2017) [doi:10.1063/1.4986780].
16. Azad, A. K., Efimov, A. V., Ghosh, S., Singleton, J., Taylor, A. J. & Chen, H. T. "Ultra-thin metasurface microwave flat lens for broadband applications". *Applied Physics Letters* **110**, 5, (2017) [doi:10.1063/1.4984219].
17. Bao, L. L., Zou, Y., Kirk, A. & Heagy, M. D. "Electronic Properties and Electroluminescent OLED Performance of Panchromatic Emissive N-Aryl-2,3-naphthalimides". *Journal of Physical Chemistry A* **121**, 9708-9719, (2017) [doi:10.1021/acs.jpca.7b08110].
18. Behzadirad, M., Nami, M., Rishinaramagalam, A. K., Feezell, D. F. & Busani, T. "GaN nanowire tips for nanoscale atomic force microscopy". *Nanotechnology* **28**, 6, (2017) [doi:10.1088/1361-6528/aa6c0b].
19. Belyanchikov, M. A., Zhukova, E. S., Tretiak, S., Zhugayevych, A., Dressel, M., Uhlig, F., Smiatek, J., Fyta, M., Thomas, V. G. & Gorshunov, B. P. "Vibrational states of nanoconfined water molecules in beryl investigated by first-principles calculations and optical experiments". *Physical Chemistry Chemical Physics* **19**, 30740-30748, (2017) [doi:10.1039/c7cp06472a].
20. Berg, M., Keyshar, K., Bilgin, I., Liu, F. Z., Yamaguchi, H., Vajtai, R., Chan, C., Gupta, G., Kar, S., Ajayan, P., Ohta, T. & Mohite, A. D. "Layer dependence of the electronic band alignment of few-layer MoS₂ on SiO₂ measured using photoemission electron microscopy". *Physical Review B* **95**, 9, (2017) [doi:10.1103/PhysRevB.95.235406].
21. Blancon, J. C., Tsai, H., Nie, W., Stoumpos, C. C., Pedesseau, L., Katan, C., Kepenekian, M., Soe, C. M. M., Appavoo, K., Sfeir, M. Y., Tretiak, S., Ajayan, P. M., Kanatzidis, M. G., Even, J., Crochet, J. J. & Mohite, A. D. "PEROVSKITE PHYSICS Extremely efficient internal exciton dissociation through edge states in layered 2D perovskites". *Science* **355**, 1288-1291, (2017) [doi:10.1126/science.aal4211].
22. Bogan, A., Studenikin, S. A., Korkusinski, M., Aers, G. C., Gaudreau, L., Zawadzki, P., Sachrajda, S., Tracy, L. A., Reno, J. L. & Hargett, T. W. "Consequences of Spin-Orbit Coupling at the Single Hole Level: Spin-Flip Tunneling and the Anisotropic g Factor". *Physical Review Letters* **118**, 5, (2017) [doi:10.1103/PhysRevLett.118.167701].
23. Bowlan, P., Bowlan, J., Trugman, S. A., Aguilar, R. V., Qi, J., Liu, X., Furdyna, J.,

- Dobrowolska, M., Taylor, A. J., Yarotski, D. A. & Prasankumar, R. P. "Probing and controlling terahertz-driven structural dynamics with surface sensitivity". *Optica* **4**, 383-387, (2017) [doi:10.1364/optica.4.000383].
24. Brown, S. L., Hobbie, E. K., Tretiak, S. & Kilin, D. S. "First-Principles Study of Fluorescence in Silver Nanoclusters". *Journal of Physical Chemistry C* **121**, 23875-23885, (2017) [doi:10.1021/acs.jpcc.7b04870].
 25. Bufford, D. C., Snow, C. S. & Hattar, K. "Cavity Formation in Molybdenum Studied In Situ in TEM". *Fusion Science and Technology* **71**, 268-274, (2017) [doi:10.1080/15361055.2016.1273700].
 26. Burek, M. J., Meuwly, C., Evans, R. E., Bhaskar, M. K., Sipahigil, A., Meesala, S., Machielse, B., Sukachev, D. D., Nguyen, C. T., Pacheco, J. L., Bielejec, E., Lukin, M. D. & Loncar, M. "Fiber- Coupled Diamond Quantum Nanophotonic Interface". *Physical Review Applied* **8**, 10, (2017) [doi:10.1103/PhysRevApplied.8.024026].
 27. Cai, H., Long, C. M., DeRose, C. T., Boynton, N., Urayama, J., Camacho, R., Pomerene, A., Starbuck, A. L., Trotter, D. C., Davids, P. S. & Lentine, A. L. "Silicon photonic transceiver circuit for high-speed polarization-based discrete variable quantum key distribution". *Optics Express* **25**, 12282-12294, (2017) [doi:10.1364/oe.25.012282].
 28. Campione, S., Wood, M. G., Serkland, D. K., Parameswaran, S., Ihlefeld, J., Luk, T. S., Wendt, J. R., Geib, K. M. & Keeler, G. A. "Submicrometer Epsilon-Near-Zero Electroabsorption Modulators Enabled by High-Mobility Cadmium Oxide". *IEEE Photonics Journal* **9**, 6601307, (2017) [doi:10.1109/JPHOT.2017.2723299].
 29. Chang, C. C., Headland, D., Abbott, D., Withayachumnankul, W. & Chen, H. T. "Demonstration of a highly efficient terahertz flat lens employing tri-layer metasurfaces". *Optics Letters* **42**, 1867-1870, (2017) [doi:10.1364/ol.42.001867].
 30. Chaudhari, M. I., Rempe, S. B. & Pratt, L. R. "Quasi-chemical theory of F-(aq): The "no split occupancies rule" revisited". *Journal of Chemical Physics* **147**, 4, (2017) [doi:10.1063/1.4986244].
 31. Chen, A. P., Wang, Q. A., Fitzsimmons, M. R., Enriquez, E., Weigand, M., Harrell, Z., McFarland, B., Lu, X. J., Dowden, P., MacManus-Driscoll, J. L., Yarotski, D. & Jia, Q. X. "Hidden Interface Driven Exchange Coupling in Oxide Heterostructures". *Advanced Materials* **29**, 7, (2017) [doi:10.1002/adma.201700672].
 32. Chen, D., Li, N., Yuryev, D., Baldwin, J. K., Wang, Y. Q. & Demkowicz, M. J. "Self-organization of helium precipitates into elongated channels within metal nanolayers". *Science Advances* **3**, 6, (2017) [doi:10.1126/sciadv.aao2710].
 33. Chen, D., Li, N., Yuryev, D., Wen, J., Baldwin, K., Demkowicz, M. J. & Wang, Y. Q. "Imaging the in-plane distribution of helium precipitates at a Cu/V interface". *Materials Research Letters* **5**, 335-342, (2017) [doi:10.1080/21663831.2017.1287132].
 34. Chen, R. & Dayeh, S. A. "Recordings and Analysis of Atomic Ledge and Dislocation Movements in InGaAs to Nickelide Nanowire Phase Transformation". *Small* **13**, 10,

- (2017) [doi:10.1002/sml.201604117].
35. Chen, R. J., Jungjohann, K. L., Mook, W. M., Nogan, J. & Dayeh, S. A. "Atomic Scale Dynamics of Contact Formation in the Cross-Section of InGaAs Nanowire Channels". *Nano Letters* **17**, 2189- 2196, (2017) [doi:10.1021/acs.nanolett.6b04713].
 36. Chen, R. J., Nguyen, B. M., Tang, W., Liu, Y., Yoo, J. & Dayeh, S. A. "In situ control of synchronous germanide/silicide reactions with Ge/Si core/shell nanowires to monitor formation and strain evolution in abrupt 2.7 nm channel length". *Applied Physics Letters* **110**, 5, (2017) [doi:10.1063/1.4983835].
 37. Chen, Y., Shao, S., Liu, X. Y., Yadav, S. K., Li, N., Mara, N. & Wang, J. "Misfit dislocation patterns of Mg-Nb interfaces". *Acta Materialia* **126**, 552-563, (2017) [doi:10.1016/j.actamat.2016.12.041].
 38. Chen, Y., Wang, H., Kirk, M. A., Li, M., Wang, J. & Zhang, X. "Radiation induced detwinning in nanotwinned Cu". *Scripta Materialia* **130**, 37-41, (2017) [doi:10.1016/j.scriptamat.2016.10.033].
 39. Cheng, S. F., Stevens, M. J. & Grest, G. S. "Ordering nanoparticles with polymer brushes". *Journal of Chemical Physics* **147**, 7, (2017) [doi:10.1063/1.5006048].
 40. Cheung, J., Frischknecht, A. L., Perego, M. & Bochev, P. "A hybrid, coupled approach for modeling charged fluids from the nano to the mesoscale". *Journal of Computational Physics* **348**, 364-384, (2017) [doi:10.1016/j.jcp.2017.07.030].
 41. Choi, H., Neupane, M., Sasagawa, T., Chia, E. E. M. & Zhu, J. X. "Low-energy surface states in the normal state of alpha-PdBi₂ superconductor". *Physical Review Materials* **1**, 5, (2017) [doi:10.1103/PhysRevMaterials.1.034201].
 42. Chong, K. E., Orton, H., Staude, I., Decker, M., Miroshnichenko, A. E., Brener, I., Kivshar, Y. S. & Neshev, D. N. "Refractive index sensing with Fano resonances in silicon oligomers". *Philosophical Transactions of the Royal Society a-Mathematical Physical and Engineering Sciences* **375**, 9, (2017) [doi:10.1098/rsta.2016.0070].
 43. Coughlin, J. E., Zhugayevych, A., Wang, M., Bazan, G. C. & Tretiak, S. "Charge delocalization characteristics of regioregular high mobility polymers". *Chemical Science* **8**, 1146-1151, (2017) [doi:10.1039/c6sc01599a].
 44. Dayeh, S. A., Chen, R., Ro, Y. G. & Sim, J. "Progress in doping semiconductor nanowires during growth". *Materials Science in Semiconductor Processing* **62**, 135-155, (2017) [doi:10.1016/j.mssp.2016.10.016].
 45. Delker, C. J., Yoo, J. Y., Bussmann, E., Swartzentruber, B. S. & Harris, C. T. "Dual-gate operation and carrier transport in SiGe p-n junction nanowires". *Nanotechnology* **28**, 4, (2017) [doi:10.1088/1361-6528/aa9173].
 46. Dillon, S. J., Bufford, D. C., Jawaharram, G. S., Liu, X. Y., Lear, C., Hattar, K. & Averback, R. S. "Irradiation-induced creep in metallic nanolaminates characterized by In situ TEM pillar nanocompression". *Journal of Nuclear Materials* **490**, 59-65, (2017) [doi:10.1016/j.jnucmat.2017.04.008].

47. Du, J. L., Zhang, L. Y., Fu, E. G., Ding, X., Yu, K. Y., Wang, Y. G., Wang, Y. Q., Baldwin, J. K., Wang, X. J. & Xu, P. "Comparison of interface structure of BCC metallic (Fe, V and Nb) films on MgO (100) substrate". *Applied Surface Science* **410**, 585-592, (2017) [doi:10.1016/j.apsusc.2016.10.117].
48. Dub, P. A., Scott, B. L. & Gordon, J. C. "Why Does Alkylation of the N-H Functionality within M/NH Bifunctional Noyori-Type Catalysts Lead to Turnover?". *Journal of the American Chemical Society* **139**, 1245-1260, (2017) [doi:10.1021/jacs.6b11666].
49. Dutta, M., Natarajan, K., Betal, S., Prasankumar, R. P., Bhalla, A. S. & Guo, R. "Magnetoelastoelectric coupling in core-shell nanoparticles enabling directional and mode-selective magnetic control of THz beam propagation". *Nanoscale* **9**, 13052-13059, (2017) [doi:10.1039/c7nr03504g].
50. Eftink, B. P., Li, A., Szlufarska, I., Mara, N. A. & Robertson, I. M. "Deformation response of AgCu interfaces investigated by in situ and ex situ TEM straining and MD simulations". *Acta Materialia* **138**, 212-223, (2017) [doi:10.1016/j.actamat.2017.07.051].
51. El-Atwani, O., Nathaniel, J. E., Leff, A. C., Baldwin, J. K., Hattar, K. & Taheri, M. L. "Evidence of a temperature transition for denuded zone formation in nanocrystalline Fe under He irradiation". *Materials Research Letters* **5**, 195-200, (2017) [doi:10.1080/21663831.2016.1243591].
52. El-Atwani, O., Nathaniel, J. E., Leff, A. C., Hattar, K. & Taheri, M. L. "Direct Observation of Sink-Dependent Defect Evolution in Nanocrystalline Iron under Irradiation". *Scientific Reports* **7**, 12, (2017) [doi:10.1038/s41598-017-01744-x].
53. El-Atwani, O., Nathaniel, J. E., Leff, A. C., Muntifer, B. R., Baldwin, J. K., Hattar, K. & Taheri, M. L. "The role of grain size in He bubble formation: Implications for swelling resistance". *Journal of Nuclear Materials* **484**, 236-244, (2017) [doi:10.1016/j.jnucmat.2016.12.003].
54. Enriquez, E., Chen, A. P., Harrell, Z., Dowden, P., Koskelo, N., Roback, J., Janoschek, M., Chen, C. L. & Jia, Q. X. "Oxygen Vacancy-Tuned Physical Properties in Perovskite Thin Films with Multiple B-site Valance States". *Scientific Reports* **7**, 8, (2017) [doi:10.1038/srep46184].
55. Fabry-Wood, A., Fetrow, M. E., Brown, C. W., Baker, N. A., Oropeza, N. F., Shreve, A. P., Montano, G. A., Stefanovic, D., Lakin, M. R. & Graves, S. W. "A Microsphere-Supported Lipid Bilayer Platform for DNA Reactions on a Fluid Surface". *Acs Applied Materials & Interfaces* **9**, 30185-30195, (2017) [doi:10.1021/acsami.7b11046].
56. Fan, C., Chen, Y., Li, J., Ding, J., Wang, H. & Zhang, X. "Defect evolution in heavy ion irradiated nanotwinned Cu with nanovoids". *Journal of Nuclear Materials* **496**, 293-300, (2017) [doi:10.1016/j.jnucmat.2017.09.031].
57. Fan, Z., Li, J., Yang, Y. C., Wang, J., Li, Q., Xue, S. C., Wang, H. Y., Lou, J. & Zhang, X. H. "'Ductile' Fracture of Metallic Glass Nanolaminates". *Advanced Materials Interfaces* **4**,

- 9, (2017) [doi:10.1002/admi.201700510].
58. Fan, Z., Li, Q., Li, J., Xue, S. C., Wang, H. Y. & Zhang, X. H. "Tailoring plasticity of metallic glasses via interfaces in Cu/amorphous CuNb laminates". *Journal of Materials Research* **32**, 2680-2689, (2017) [doi:10.1557/jmr.2017.249].
59. Fan, Z., Liu, Y., Xue, S., Rahimi, R. M., Bahr, D. F., Wang, H. & Zhang, X. "Layer thickness dependent strain rate sensitivity of Cu/amorphous CuNb multilayer". *Applied Physics Letters* **110**, 5, (2017) [doi:10.1063/1.4980850].
60. Fazelinia, H., Balog, E. R. M., Desireddy, A., Chakraborty, S., Sheehan, C. J., Strauss, C. E. M. & Martinez, J. S. "Genetically Engineered Elastomeric Polymer Network through Protein Zipper Assembly". *Chemistryselect* **2**, 5008-5012, (2017) [doi:10.1002/slct.201700456].
61. Fischer, A. J., Anderson, P. D., Koleske, D. D. & Subramania, G. "Deterministic Placement of Quantum-Size Controlled Quantum Dots for Seamless Top-Down Integration". *ACS Photonics* **4**, 2165-2170, (2017) [doi:10.1021/acsp Photonics.7b00774].
62. Forde, A. & Kilin, D. "Hole Transfer in Dye-Sensitized Cesium Lead Halide Perovskite Photovoltaics: Effect of Interfacial Bonding". *Journal of Physical Chemistry C* **121**, 20113-20125, (2017) [doi:10.1021/acs.jpcc.7b04961].
63. Franklin-Mergarejo, R., Nelson, T., Tretiak, S. & Fernandez-Alberti, S. "Phonon bottleneck and long-lived excited states in pi-conjugated pyrene hoop". *Physical Chemistry Chemical Physics* **19**, 9478-9484, (2017) [doi:10.1039/c7cp00094d].
64. Furnish, T. A., Mehta, A., Van Campen, D., Bufford, D. C., Hattar, K. & Boyce, B. L. "The onset and evolution of fatigue-induced abnormal grain growth in nanocrystalline Ni-Fe". *Journal of Materials Science* **52**, 46-59, (2017) [doi:10.1007/s10853-016-0437-z].
65. Garwood, T., Modine, N. A. & Krishna, S. "Electronic structure modeling of InAs/GaSb superlattices with hybrid density functional theory". *Infrared Physics & Technology* **81**, 27-31, (2017) [doi:10.1016/j.infrared.2016.12.007].
66. Ge, T., Kalathi, J. T., Halverson, J. D., Grest, G. S. & Rubinstein, M. "Nanoparticle Motion in Entangled Melts of Linear and Nonconcatenated Ring Polymers". *Macromolecules* **50**, 1749-1754, (2017) [doi:10.1021/acs.macromol.6b02632].
67. Gong, S. S., Zhu, W., Zhu, J. X., Sheng, D. N. & Yang, K. "Global phase diagram and quantum spin liquids in a spin-1/2 triangular antiferromagnet". *Physical Review B* **96**, 10, (2017) [doi:10.1103/PhysRevB.96.075116].
68. Greene, A. C., Bachand, M., Gomez, A., Stevens, M. J. & Bachand, G. D. "Interactions regulating the head-to-tail directed assembly of biological Janus rods". *Chemical Communications* **53**, 4493-4496, (2017) [doi:10.1039/c7cc01566f].
69. Guo, T. L., Sampat, S., Rupich, S. M., Hollingsworth, J. A., Buck, M., Htoon, H., Chabal, Y. J., Gartstein, Y. N. & Malko, A. V. "Biexciton and trion energy transfer from CdSe/CdS giant nanocrystals to Si substrates". *Nanoscale* **9**, 19398-19407, (2017) [doi:10.1039/c7nr06272a].

70. Gustavsen, R. L., Dattelbaum, D. M., Watkins, E. B., Firestone, M. A., Podlesak, D. W., Jensen, B. J., Ringstrand, B. S., Huber, R. C., Mang, J. T., Johnson, C. E., Velizhanin, K. A., Willey, T. M., Hansen, D. W., May, C. M., Hodgins, R. L., Bagge-Hansen, M., van Buuren, A. W., Lauderbach, L. M., Jones, A. C., Graber, T. J., Sinclair, N., Seifert, S. & Gog, T. "Time resolved small angle X-ray scattering experiments performed on detonating explosives at the advanced photon source: Calculation of the time and distance between the detonation front and the x-ray beam". *Journal of Applied Physics* **121**, 10, (2017) [doi:10.1063/1.4978036].
71. Hagmann, M. J., Coombs, D. G. & Yarotski, D. A. "Periodically pulsed laser-assisted tunneling may generate terahertz radiation". *Journal of Vacuum Science & Technology B* **35**, 6, (2017) [doi:10.1116/1.4979549].
72. Hagmann, M. J., Yarotski, D. A. & Mousa, M. S. "Microwave Frequency Comb from a Semiconductor in a Scanning Tunneling Microscope". *Microscopy and Microanalysis* **23**, 443-448, (2017) [doi:10.1017/s1431927616012563].
73. Hammar, H. & Fransson, J. "Transient spin dynamics in a single-molecule magnet". *Physical Review B* **96**, 7, (2017) [doi:10.1103/PhysRevB.96.214401].
74. Hanson, C. J., Hartmann, N. F., Singh, A., Ma, X. D., DeBenedetti, W. J. I., Casson, J. L., Grey, J. K., Chabal, Y. J., Malko, A. V., Sykora, M., Piryatinski, A., Htoon, H. & Hollingsworth, J. A. "Giant PbSe/CdSe/CdSe Quantum Dots: Crystal-Structure-Defined Ultrastable Near-Infrared Photoluminescence from Single Nanocrystals". *Journal of the American Chemical Society* **139**, 11081-11088, (2017) [doi:10.1021/jacs.7b03705].
75. Harrell, Z., Enriquez, E., Chen, A. P., Dowden, P., Mace, B., Lu, X. J., Jia, Q. X. & Chen, C. L. "Oxygen content tailored magnetic and electronic properties in cobaltite double perovskite thin films". *Applied Physics Letters* **110**, 5, (2017) [doi:10.1063/1.4977026].
76. Harrison, K. L., Zavadil, K. R., Hahn, N. T., Meng, X. B., Elam, J. W., Leenheer, A., Zhang, J. G. & Jungjohann, K. L. "Lithium Self-Discharge and Its Prevention: Direct Visualization through In Situ Electrochemical Scanning Transmission Electron Microscopy". *Acs Nano* **11**, 11194-11205, (2017) [doi:10.1021/acsnano.7b05513].
77. Harvey-Collard, P., Jacobson, N. T., Rudolph, M., Dominguez, J., Ten Eyck, G. A., Wendt, J. R., Pluym, T., Gamble, J. K., Lilly, M. P., Pioro-Ladriere, M. & Carroll, M. S. "Coherent coupling between a quantum dot and a donor in silicon". *Nature Communications* **8**, 6, (2017) [doi:10.1038/s41467-017-01113-2].
78. Hayden, S. C., Junghans, A., Majewski, J. & Firestone, M. A. "Reversible Lifting of Surface Supported Lipid Bilayers with a Membrane-Spanning Nonionic Triblock Copolymer". *Biomacromolecules* **18**, 1097-1107, (2017) [doi:10.1021/acs.biomac.6b01461].
79. He, X. W., Gifford, B. J., Hartmann, N. F., Ihly, R., Ma, X. D., Kilina, S. V., Luo, Y., Shayan, K., Strauf, S., Blackburn, J. L., Tretiak, S., Doorn, S. K. & Htoon, H. "Low-Temperature Single Carbon Nanotube Spectroscopy of sp(3) Quantum Defects". *Acs Nano* **11**,

- 10785-10796, (2017) [doi:10.1021/acsnano.7b03022].
80. He, X. W., Hartmann, N. F., Ma, X. D., Kim, Y., Ihly, R., Blackburn, J. L., Gao, W. L., Kono, J., Yomogida, Y., Hirano, A., Tanaka, T., Kataura, H., Htoon, H. & Doorn, S. K. "Tunable room- temperature single-photon emission at telecom wavelengths from sp(3) defects in carbon nanotubes". *Nature Photonics* **11**, 577+, (2017) [doi:10.1038/nphoton.2017.119].
 81. Hirth, J. P., Barnett, D. M. & Hoagland, R. G. "Solute atmospheres at dislocations". *Acta Materialia* **131**, 574-593, (2017) [doi:10.1016/j.actamat.2017.03.014].
 82. Houchins, G., Crook, C. B., Zhu, J. X., Balatsky, A. V. & Haraldsen, J. T. "Voltage-dependent spin flip in magnetically substituted graphene nanoribbons: Towards the realization of graphene- based spintronic devices". *Physical Review B* **95**, 6, (2017) [doi:10.1103/PhysRevB.95.155450].
 83. Huang, L., Chang, C. C., Zeng, B. B., Nogan, J., Luo, S. N., Taylor, A. J., Azad, A. K. & Chen, H. T. "Bilayer Metasurfaces for Dual- and Broadband Optical Antireflection". *ACS Photonics* **4**, 2111- 2116, (2017) [doi:10.1021/acsp Photonics.7b00471].
 84. Ibru, T., Kalaitzidou, K., Baldwin, J. K. & Antoniou, A. "Stress-induced surface instabilities and defects in thin films sputter deposited on compliant substrates". *Soft Matter* **13**, 4035-4046, (2017) [doi:10.1039/c7sm00340d].
 85. Ilgen, A. G., Kukkadapu, R. K., Dunphy, D. R., Artyushkova, K., Cerrato, J. M., Krulichak, J. N., Janish, M. T., Sun, C. J., Argo, J. M. & Washington, R. E. "Synthesis and characterization of redox-active ferric nontronite". *Chemical Geology* **470**, 1-12, (2017) [doi:10.1016/j.chemgeo.2017.07.010].
 86. Jacobson, D. R., McIntosh, D. B., Stevens, M. J., Rubinstein, M. & Saleh, O. A. "Single-stranded nucleic acid elasticity arises from internal electrostatic tension". *Proceedings of the National Academy of Sciences of the United States of America* **114**, 5095-5100, (2017) [doi:10.1073/pnas.1701132114].
 87. Jensen, S. J., Inerbaev, T. M., Abuova, A. U. & Kilin, D. S. "Spin Unrestricted Nonradiative Relaxation Dynamics of Cobalt Doped Anatase Nanowire". *Journal of Physical Chemistry C* **121**, 16110-16125, (2017) [doi:10.1021/acs.jpcc.7b04263].
 88. Jian, J., Chen, A. P., Chen, Y. X., Zhang, X. H. & Wang, H. Y. "Roles of strain and domain boundaries on the phase transition stability of VO₂ thin films". *Applied Physics Letters* **111**, 5, (2017) [doi:10.1063/1.4991882].
 89. Julien, J. P., Kress, J. D. & Zhu, J. X. "Explicit inclusion of electronic correlation effects in molecular dynamics". *Physical Review B* **96**, 11, (2017) [doi:10.1103/PhysRevB.96.035111].
 90. Kalugin, N. G., Jing, L., Morell, E. S., Dyer, G. C., Wickey, L., Ovezmyradov, M., Grine, A. D., Wanke, M. C., Shaner, E. A., Lau, C. N., Torres, L., Fistul, M. V. & Efetov, K. B. "Photoelectric polarization-sensitive broadband photoresponse from interface junction states in graphene".

2d Materials **4**, 12, (2017) [doi:10.1088/2053-1583/4/1/015002].

91. Kamandi, M., Guclu, C., Luk, T. S., Wang, G. T. & Capolino, F. "Giant field enhancement in longitudinal epsilon-near-zero films". *Physical Review B* **95**, 5, (2017) [doi:10.1103/PhysRevB.95.161105].
92. Kao, T. Y., Reno, J. L. & Hu, Q. "Amplifiers of free-space terahertz radiation". *Optica* **4**, 713-716, (2017) [doi:10.1364/optica.4.000713].
93. Kaplar, R. J., Neely, J. C., Huber, D. L. & Rashkin, L. J. "Generation-After-Next Power Electronics: Ultrawide-bandgap devices, high-temperature packaging, and magnetic nanocomposite materials". *IEEE Power Electronics Magazine* **4**, 36-42, (2017) [doi:10.1109/MPEL.2016.2643098].
94. Karl, N., Heimbeck, M. S., Everitt, H. O., Chen, H. T., Taylor, A. J., Brener, I., Benz, A., Reno, J. L., Mendis, R. & Mittleman, D. M. "Characterization of an active metasurface using terahertz ellipsometry". *Applied Physics Letters* **111**, 5, (2017) [doi:10.1063/1.5004194].
95. Kehayias, P., Jarmola, A., Mosavian, N., Fescenko, I., Benito, F. M., Laraoui, A., Smits, J., Bougas, L., Budker, D., Neumann, A., Brueck, S. R. J. & Acosta, V. M. "Solution nuclear magnetic resonance spectroscopy on a nanostructured diamond chip". *Nature Communications* **8**, 8, (2017) [doi:10.1038/s41467-017-00266-4].
96. Keiser, G. R., Karl, N., Liu, P. Q., Tulloss, C., Chen, H. T., Taylor, A. J., Brener, I., Reno, J. L. & Mittleman, D. M. "Nonlinear terahertz metamaterials with active electrical control". *Applied Physics Letters* **111**, 5, (2017) [doi:10.1063/1.4990671].
97. Keyshar, K., Berg, M., Zhang, X., Vajtai, R., Gupta, G., Chan, C. K., Beechem, T. E., Ajayan, P. M., Mohite, A. D. & Ohta, T. "Experimental Determination of the Ionization Energies of MoSe₂, WS₂, and MoS₂ on SiO₂ Using Photoemission Electron Microscopy". *Acs Nano* **11**, 8223-8230, (2017) [doi:10.1021/acsnano.7b03242].
98. Khalatpour, A., Reno, J. L., Kherani, N. P. & Hu, Q. "Unidirectional photonic wire laser". *Nature Photonics* **11**, 555+, (2017) [doi:10.1038/nphoton.2017.129].
99. Komar, A., Fang, Z., Bohn, J., Sautter, J., Decker, M., Miroshnichenko, A., Pertsch, T., Brener, I., Kivshar, Y. S., Staude, I. & Neshev, D. N. "Electrically tunable all-dielectric optical metasurfaces based on liquid crystals". *Applied Physics Letters* **110**, 4, (2017) [doi:10.1063/1.4976504].
100. Kosiba, G. D., Wixom, R. R. & Oehlschlaeger, M. A. "High-Fidelity Microstructural Characterization and Performance Modeling of Aluminized Composite Propellant". *Propellants Explosives Pyrotechnics* **42**, 1387-1395, (2017) [doi:10.1002/prop.201700124].
101. Koski, J. P., Ferrier, R. C., Krook, N. M., Chao, H., Composto, R. J., Frischknecht, A. L. & Riggelman, R. A. "Comparison of Field-Theoretic Approaches. in Predicting Polymer Nanocomposite Phase Behavior". *Macromolecules* **50**, 8797-8809, (2017) [doi:10.1021/acs.macromol.7b01731].

102. Koski, J. P., Moore, S. G., Grest, G. S. & Stevens, M. J. "Effect of an external field on capillary waves in a dipolar fluid". *Physical Review E* **96**, 6, (2017) [doi:10.1103/PhysRevE.96.063106].
103. Kotekar-Patil, D., Nguyen, B. M., Yoo, J., Dayeh, S. A. & Frolov, S. M. "Quasiballistic quantum transport through Ge/Si core/shell nanowires". *Nanotechnology* **28**, 5, (2017) [doi:10.1088/1361-6528/aa7f82].
104. Kutes, Y., Luria, J., Sun, Y., Moore, A., Aguirre, B. A., Cruz-Campa, J. L., Aindow, M., Zubia, D. & Huey, B. D. "Ion-damage-free planarization or shallow angle sectioning of solar cells for mapping grain orientation and nanoscale photovoltaic properties". *Nanotechnology* **28**, 11, (2017) [doi:10.1088/1361-6528/aa67c2].
105. La, R., Liu, R., Yao, W. C., Chen, R. J., Jansson, M., Pan, J. L., Buyanova, I. A., Xiang, J., Dayeh, S. & Tu, C. W. "Self-catalyzed core-shell GaAs/GaNAs nanowires grown on patterned Si (111) by gas-source molecular beam epitaxy". *Applied Physics Letters* **111**, 5, (2017) [doi:10.1063/1.4990821].
106. Lambert, T. N., Vigil, J. A., White, S. E., Delker, C. J., Davis, D. J., Kelly, M., Brumbach, M. T., Rodriguez, M. A. & Swartzentruber, B. S. "Understanding the Effects of Cationic Dopants on alpha-MnO₂ Oxygen Reduction Reaction Electrocatalysis". *Journal of Physical Chemistry C* **121**, 2789-2797, (2017) [doi:10.1021/acs.jpcc.6b11252].
107. Lemut, G., Mierzejewski, M. & Bonca, J. "Complete Many-Body Localization in the t-J Model Caused by a Random Magnetic Field". *Physical Review Letters* **119**, 6, (2017) [doi:10.1103/PhysRevLett.119.246601].
108. Leonard, F., Yu, W. L., Collins, K. C., Medlin, D. L., Sugar, J. D., Talin, A. A. & Pan, W. "Strong Photothermoelectric Response and Contact Reactivity of the Dirac Semimetal ZrTe₅". *Acs Applied Materials & Interfaces* **9**, 37041-37047, (2017) [doi:10.1021/acsmi.7b11056].
109. Leung, K. & Jungjohann, K. L. "Spatial Heterogeneities and Onset of Passivation Breakdown at Lithium Anode Interfaces". *Journal of Physical Chemistry C* **121**, 20188-20196, (2017) [doi:10.1021/acs.jpcc.7b06983].
110. Li, B. S., Bian, K. F., Lane, J. M. D., Salerno, K. M., Grest, G. S., Ao, T., Hickman, R., Wise, J., Wang, Z. W. & Fan, H. Y. "Superfast assembly and synthesis of gold nanostructures using nanosecond low-temperature compression via magnetic pulsed power". *Nature Communications* **8**, 7, (2017) [doi:10.1038/ncomms14778].
111. Li, B. S., Bian, K. F., Zhou, X. W., Lu, P., Liu, S., Brener, I., Sinclair, M., Luk, T., Schunk, H., Alarid, L., Clem, P. G., Wang, Z. W. & Fan, H. Y. "Pressure compression of CdSe nanoparticles into luminescent nanowires". *Science Advances* **3**, 7, (2017) [doi:10.1126/sciadv.1602916].
112. Li, C. Y., Chang, C. C., Zhou, Q. L., Zhang, C. L. & Chen, H. T. "Resonance coupling and polarization conversion in terahertz metasurfaces with twisted split-ring resonator pairs". *Optics Express* **25**, 25842-25852, (2017) [doi:10.1364/oe.25.025842].

113. Li, C. Y., Wright, J. B., Liu, S., Lu, P., Figiel, J. J., Leung, B., Chow, W. W., Brener, I., Koleske, D. D., Luk, T. S., Feezell, D. F., Brueck, S. R. J. & Wang, G. T. "Nonpolar InGaN/GaN Core-Shell Single Nanowire Lasers". *Nano Letters* **17**, 1049-1055, (2017) [doi:10.1021/acs.nanolett.6b04483].
114. Li, J., Chen, Y., Wang, H. & Zhang, X. "In Situ Studies on Twin-Thickness-Dependent Distribution of Defect Clusters in Heavy Ion-Irradiated Nanotwinned Ag". *Metallurgical and Materials Transactions a-Physical Metallurgy and Materials Science* **48A**, 1466-1473, (2017) [doi:10.1007/s11661-016-3895-7].
115. Li, J., Fan, C., Ding, J., Xue, S., Chen, Y., Li, Q., Wang, H. & Zhang, X. "In situ heavy ion irradiation studies of nanopore shrinkage and enhanced radiation tolerance of nanoporous Au". *Scientific Reports* **7**, 10, (2017) [doi:10.1038/srep39484].
116. Li, L., Wang, W., Luk, T. S., Yang, X. D. & Gao, J. "Enhanced Quantum Dot Spontaneous Emission with Multilayer Metamaterial Nanostructures". *ACS Photonics* **4**, 501-508, (2017) [doi:10.1021/acsphotonics.6b01039].
117. Li, L. G., Boullay, P., Lu, P., Wang, X. J., Jian, J., Huang, J. J., Gao, X. Y., Misra, S., Zhang, W. R., Perez, O., Steciuk, G., Chen, A. P., Zhang, X. H. & Wang, H. Y. "Novel Layered Supercell Structure from Bi₂AlMnO₆ for Multifunctionalities". *Nano Letters* **17**, 6575-6582, (2017) [doi:10.1021/acs.nanolett.7b02284].
118. Li, N., Demkowicz, M. J. & Mara, N. A. "Microstructure Evolution and Mechanical Response of Nanolaminate Composites Irradiated with Helium at Elevated Temperatures". *Jom* **69**, 2206- 2213, (2017) [doi:10.1007/s11837-017-2580-7].
119. Li, N., Yadav, S. K., Xu, Y., Aguiar, J. A., Baldwin, J. K., Wang, Y. Q., Luo, H. M., Misra, A. & Uberuaga, B. P. "Cr incorporated phase transformation in Y₂O₃ under ion irradiation". *Scientific Reports* **7**, 9, (2017) [doi:10.1038/srep40148].
120. Li, W. W., He, Q., Wang, L., Zeng, H. Z., Bowlan, J., Ling, L. S., Yarotski, D. A., Zhang, W. R., Zhao, R., Dai, J. H., Gu, J. X., Shen, S. P., Guo, H. Z., Pi, L., Wang, H. Y., Wang, Y. Q., Velasco-Davalos, I. A., Wu, Y. J., Hu, Z. J., Chen, B., Li, R. W., Sun, Y., Jin, K. J., Zhang, Y. H., Chen, H. T., Ju, S., Ruediger, A., Shi, D. N., Borisevich, A. Y. & Yang, H. "Manipulating multiple order parameters via oxygen vacancies: The case of Eu_{0.5}Ba_{0.5}TiO₃-delta". *Physical Review B* **96**, 7, (2017) [doi:10.1103/PhysRevB.96.115105].
121. Li, Z., Xu, E. Z., Losovyj, Y., Li, N., Chen, A. P., Swartzentruber, B., Sinitsyn, N., Yoo, J., Jia, Q. X. & Zhang, S. X. "Surface oxidation and thermoelectric properties of indium-doped tin telluride nanowires". *Nanoscale* **9**, 13014-13024, (2017) [doi:10.1039/c7nr04934j].
122. Li, Z., Yadav, S., Chen, Y. X., Li, N., Liu, X. Y., Wang, J., Zhang, S. X., Baldwin, J. K., Misra, A. & Mara, N. "Mechanically controlling the reversible phase transformation from zinc blende to wurtzite in AlN". *Materials Research Letters* **5**, 426-432, (2017) [doi:10.1080/21663831.2017.1303793].
123. Lin, S. Z. & Chen, H. T. "Intrinsic left-handed electromagnetic properties in anisotropic superconductors". *Applied Physics Letters* **110**, 5, (2017) [doi:10.1063/1.4982877].

124. Lin, S. Z. & Zhu, J. X. "Impurity-induced magnetic droplet in unconventional superconductors near a magnetic instability: Application to Nd-doped CeCoIn5". *Physical Review B* **96**, 7, (2017) [doi:10.1103/PhysRevB.96.224502].
125. Lin, Y. C., Kim, D., Li, Z., Nguyen, B. M., Li, N., Zhang, S. X. & Yoo, J. "Strain-induced structural defects and their effects on the electrochemical performances of silicon core/germanium shell nanowire heterostructures". *Nanoscale* **9**, 1213-1220, (2017) [doi:10.1039/c6nr07681e].
126. Liu, F. Z., Moody, N. A., Jensen, K. L., Pavlenko, V., Villarrubia, C. W. N., Mohite, A. D. & Gupta, G. "Single layer graphene protective gas barrier for copper photocathodes". *Applied Physics Letters* **110**, 4, (2017) [doi:10.1063/1.4974738].
127. Liu, P. F., Zhou, L. J., Tretiak, S. & Wu, L. M. "Two-dimensional hexagonal M3C2 (M = Zn, Cd and Hg) monolayers: novel quantum spin Hall insulators and Dirac cone materials". *Journal of Materials Chemistry C* **5**, 9181-9187, (2017) [doi:10.1039/c7tc02739g].
128. Liu, R., Chen, R. J., Elthakeb, A. T., Lee, S. H., Hinckley, S., Khraiche, M. L., Scott, J., Pre, D., Hwang, Y., Tanaka, A., Ro, Y. G., Matsushita, A. K., Dai, X., Soci, C., Biesmans, S., James, A., Nogan, J., Jungjohann, K. L., Pete, D. V., Webb, D. B., Zou, Y. M., Bang, A. G. & Dayeh, S. A. "High Density Individually Addressable Nanowire Arrays Record Intracellular Activity from Primary Rodent and Human Stem Cell Derived Neurons". *Nano Letters* **17**, 2757-2764, (2017) [doi:10.1021/acs.nanolett.6b04752].
129. Liu, R., Pathak, S., Mook, W. M., Baldwin, J. K., Mara, N. & Antoniou, A. "In situ frustum indentation of nanoporous copper thin films". *International Journal of Plasticity* **98**, 139-155, (2017) [doi:10.1016/j.ijplas.2017.07.005].
130. Liu, S., Cai, H., DeRose, C. T., Davids, P., Pomerene, A., Starbuck, A. L., Trotter, D. C., Camacho, R., Urayama, J. & Lentine, A. "High speed ultra-broadband amplitude modulators with ultrahigh extinction > 65 dB". *Optics Express* **25**, 11254-11264, (2017) [doi:10.1364/oe.25.011254].
131. Liu, S., Vaskin, A., Campione, S., Wolf, O., Sinclair, M. B., Reno, J., Keeler, G. A., Staude, I. & Brener, I. "Huygens' Metasurfaces Enabled by Magnetic Dipole Resonance Tuning in Split Dielectric Nanoresonators". *Nano Letters* **17**, 4297-4303, (2017) [doi:10.1021/acs.nanolett.7b01301].
132. Liu, X. W., Cao, Z., Zhao, S., Gao, R., Meng, Y., Zhu, J. X., Rogers, C., Huo, C. F., Yang, Y., Li, Y. W. & Wen, X. D. "Iron Carbides in Fischer-Tropsch Synthesis: Theoretical and Experimental Understanding in Epsilon-Iron Carbide Phase Assignment". *Journal of Physical Chemistry C* **121**, 21390-21396, (2017) [doi:10.1021/acs.jpcc.7b06104].
133. Liu, Y., Li, N., Kumar, M. A., Pathak, S., Wang, J., McCabe, R. J., Mara, N. A. & Tome, C. N. "Experimentally quantifying critical stresses associated with basal slip and twinning in magnesium using micropillars". *Acta Materialia* **135**, 411-421, (2017) [doi:10.1016/j.actamat.2017.06.008].

134. Liu, Z. C., Li, Z. C., Liu, Z., Cheng, H., Liu, W. W., Tang, C. C., Gu, C. Z., Li, J. J., Chen, H. T., Chen, S. Q. & Tian, J. G. "Single-Layer Plasmonic Metasurface Half-Wave Plates with Wavelength- Independent Polarization Conversion Angle". *ACS Photonics* **4**, 2061-2069, (2017) [doi:10.1021/acsp Photonics.7b00491].
135. Lloyd-Hughes, J., Mosley, C. D. W., Jones, S. P. P., Lees, M. R., Chen, A., Jia, Q. X., Choi, E. M. & MacManus-Driscoll, J. L. "Colossal Terahertz Magnetoresistance at Room Temperature in Epitaxial La_{0.7}Sr_{0.3}MnO₃ Nanocomposites and Single-Phase Thin Films". *Nano Letters* **17**, 2506-2511, (2017) [doi:10.1021/acs.nanolett.7b00231].
136. Lu, T. M., Harris, C. T., Huang, S. H., Chuang, Y., Li, J. Y. & Liu, C. W. "Effective g factor of low-density two-dimensional holes in a Ge quantum well". *Applied Physics Letters* **111**, 4, (2017) [doi:10.1063/1.4990569].
137. Lu, T. M., Tracy, L. A., Laroche, D., Huang, S. H., Chuang, Y., Su, Y. H., Li, J. Y. & Liu, C. W. "Density-controlled quantum Hall ferromagnetic transition in a two-dimensional hole system". *Scientific Reports* **7**, 8, (2017) [doi:10.1038/s41598-017-02757-2].
138. Ma, P., Cardenas, A. E., Chaudhari, M. I., Elber, R. & Rempe, S. B. "The Impact of Protonation on Early Translocation of Anthrax Lethal Factor: Kinetics from Molecular Dynamics Simulations and Milestoning Theory". *Journal of the American Chemical Society* **139**, 14837-14840, (2017) [doi:10.1021/jacs.7b07419].
139. Ma, X., Hartmann, N. F., Velizhanin, K. A., Baldwin, J. K. S., Adamska, L., Tretiak, S., Doorn, S. K. & Htoon, H. "Multi-exciton emission from solitary dopant states of carbon nanotubes". *Nanoscale* **9**, 16143-16148, (2017) [doi:10.1039/c7nr06661a].
140. Ma, X. D., Cambre, S., Wenseleers, W., Doorn, S. K. & Htoon, H. "Quasiphase Transition in a Single File of Water Molecules Encapsulated in (6,5) Carbon Nanotubes Observed by Temperature-Dependent Photoluminescence Spectroscopy". *Physical Review Letters* **118**, 7, (2017) [doi:10.1103/PhysRevLett.118.027402].
141. Ma, X. D., James, A. R., Hartmann, N. F., Baldwin, J. K., Dominguez, J., Sinclair, M. B., Luk, T. S., Wolf, O., Liu, S., Doorn, S. K., Htoon, H. & Brener, I. "Solitary Oxygen Dopant Emission from Carbon Nanotubes Modified by Dielectric Metasurfaces". *Acs Nano* **11**, 6431-6439, (2017) [doi:10.1021/acsnano.7b02951].
142. MacLeod, B. A., Stanton, N. J., Gould, I. E., Wesenberg, D., Ihly, R., Owczarczyk, Z. R., Hurst, K. E., Fewox, C. S., Folmar, C. N., Hughes, K. H., Zink, B. L., Blackburn, J. L. & Ferguson, A. J. "Large n- and p-type thermoelectric power factors from doped semiconducting single-walled carbon nanotube thin films". *Energy & Environmental Science* **10**, 2168-2179, (2017) [doi:10.1039/c7ee01130j].
143. Makhov, D. V., Symonds, C., Fernandez-Alberti, S. & Shalashilin, D. V. "Ab initio quantum direct dynamics simulations of ultrafast photochemistry with Multiconfigurational Ehrenfest approach". *Chemical Physics* **493**, 200-218, (2017) [doi:10.1016/j.chemphys.2017.04.003].
144. Martinez, J. S. & Xie, J. P. "Preface for Special Topic: Few-atom metal nanoclusters and

- their biological applications". *Apl Materials* **5**, 1, (2017) [doi:10.1063/1.4984612].
145. Mastorakos, I. N., Schoeppner, R. L., Kowalczyk, B. & Bahr, D. F. "The effect of size and composition on the strength and hardening of Cu-Ni/Nb nanoscale metallic composites". *Journal of Materials Research* **32**, 2542-2550, (2017) [doi:10.1557/jmr.2017.213].
 146. Mathis, S. R., Golafale, S. T., Bacsa, J., Steiner, A., Ingram, C. W., Doty, F. P., Auden, E. & Hattar, K. "Mesoporous stilbene-based lanthanide metal organic frameworks: synthesis, photoluminescence and radioluminescence characteristics". *Dalton Transactions* **46**, 491-500, (2017) [doi:10.1039/c6dt03755k].
 147. Matsuzaki, K., Vassant, S., Liu, H. W., Dutschke, A., Hoffmann, B., Chen, X. W., Christiansen, S., Buck, M. R., Hollingsworth, J. A., Gotzinger, S. & Sandoghdar, V. "Strong plasmonic enhancement of biexciton emission: controlled coupling of a single quantum dot to a gold nanocone antenna". *Scientific Reports* **7**, 11, (2017) [doi:10.1038/srep42307].
 148. McCue, I. & Demkowicz, M. J. "Alloy Design Criteria for Solid Metal Dealloying of Thin Films". *Jom* **69**, 2199-2205, (2017) [doi:10.1007/s11837-017-2571-8].
 149. Melik-Gaykazyan, E. V., Shcherbakov, M. R., Shorokhov, A. S., Staude, I., Brener, I., Neshev, D. N., Kivshar, Y. S. & Fedyanin, A. A. "Third-harmonic generation from Mie-type resonances of isolated all-dielectric nanoparticles". *Philosophical Transactions of the Royal Society a- Mathematical Physical and Engineering Sciences* **375**, 9, (2017) [doi:10.1098/rsta.2016.0281].
 150. Meng, D., Kumar, S. K., Grest, G. S., Mahynski, N. A. & Panagiotopoulos, A. Z. "Reentrant equilibrium disordering in nanoparticle-polymer mixtures". *Npj Computational Materials* **3**, 7, (2017) [doi:10.1038/s41524-016-0005-8].
 151. Miller, R. A., So, H. Y., Chiamori, H. C., Dowling, K. M., Wang, Y. Q. & Senesky, D. G. "Graphene- enhanced gallium nitride ultraviolet photodetectors under 2 MeV proton irradiation". *Applied Physics Letters* **111**, 4, (2017) [doi:10.1063/1.5005797].
 152. Mirzaei, B., Silva, J. R. G., Hayton, D., Groppi, C., Kao, T. Y., Hu, Q., Reno, J. L. & Gao, J. R. "8- beam local oscillator array at 4.7 THz generated by a phase grating and a quantum cascade laser". *Optics Express* **25**, 29587-29596, (2017) [doi:10.1364/oe.25.029587].
 153. Mishra, N., Orfield, N. J., Wang, F., Hu, Z., Krishnamurthy, S., Malko, A. V., Casson, J. L., Htoon, H., Sykora, M. & Hollingsworth, J. A. "Using shape to turn off blinking for two-colour multiexciton emission in CdSe/CdS tetrapods". *Nature Communications* **8**, 9, (2017) [doi:10.1038/ncomms15083].
 154. Mitra, S., Okawa, K., Sudheesh, S. K., Sasagawa, T., Zhu, J. X. & Chia, E. E. M. "Probing the superconducting gap symmetry of alpha-PdBi2: A penetration depth study". *Physical Review B* **95**, 5, (2017) [doi:10.1103/PhysRevB.95.134519].
 155. Mitrofanov, O., Han, Z. H., Ding, F., Bozhevolnyi, S. I., Brener, I. & Reno, J. L. "Detection

- of internal fields in double-metal terahertz resonators". *Applied Physics Letters* **110**, 5, (2017) [doi:10.1063/1.4975802].
156. Monson, T. C., Stevens, T. E., Leger, J. L., Manson, J. L., Lovejoy, K. S., Newsham, A. L. & Del Sesto, R. E. "Unprecedented magnetic behaviour in lanthanide-based ionic liquids". *Chemical Communications* **53**, 11682-11685, (2017) [doi:10.1039/c7cc07060h].
157. Mozaffari, S., Li, W. H., Thompson, C., Ivanov, S., Seifert, S., Lee, B., Kovarik, L. & Karim, A. M. "Colloidal nanoparticle size control: experimental and kinetic modeling investigation of the ligand metal binding role in controlling the nucleation and growth kinetics". *Nanoscale* **9**, 13772-13785, (2017) [doi:10.1039/c7nr04101b].
158. Nami, M., Eller, R. F., Okur, S., Rishinaramangalam, A. K., Liu, S., Brener, I. & Feezell, D. F. "Tailoring the morphology and luminescence of GaN/InGaN core-shell nanowires using bottom-up selective-area epitaxy". *Nanotechnology* **28**, 11, (2017) [doi:10.1088/0957-4484/28/2/025202].
159. Naranjo, G. A. & Peralta, X. G. "Lattice-induced modulators at terahertz frequencies". *Optics Letters* **42**, 4780-4783, (2017) [doi:10.1364/ol.42.004780].
160. Nelson, T., Fernandez-Alberti, S., Roitberg, A. E. & Tretiak, S. "Electronic Delocalization, Vibrational Dynamics, and Energy Transfer in Organic Chromophores". *Journal of Physical Chemistry Letters* **8**, 3020-3031, (2017) [doi:10.1021/acs.jpcclett.7b00790].
161. Nizolek, T. J., Begley, M. R., McCabe, R. J., Avallone, J. T., Mara, N. A., Beyerlein, I. J. & Pollock, T. M. "Strain fields induced by kink band propagation in Cu-Nb nanolaminate composites". *Acta Materialia* **133**, 303-315, (2017)[doi:10.1016/j.actamat.2017.04.050].
162. Occena, J., Jen, T., Rizzi, E. E., Johnson, T. M., Horwath, J., Wang, Y. Q. & Goldman, R. S. "Bi-enhanced N incorporation in GaAsN_{Bi} alloys". *Applied Physics Letters* **110**, 5, (2017) [doi:10.1063/1.4984227].
163. Okur, S., Nami, M., Rishinaramangalam, A. K., Oh, S. H., DenBaars, S. P., Liu, S., Brener, I. & Feezell, D. F. "Internal quantum efficiency and carrier dynamics in semipolar (20 $\bar{2}$)over-bar(1)over-bar InGaN/GaN light-emitting diodes". *Optics Express* **25**, 2178-2186, (2017) [doi:10.1364/oe.25.002178].
164. Oldani, N., Doorn, S. K., Tretiak, S. & Fernandez-Alberti, S. "Photoinduced dynamics in cycloparaphenylenes: planarization, electron-phonon coupling, localization and intraring migration of the electronic excitation". *Physical Chemistry Chemical Physics* **19**, 30914-30924, (2017) [doi:10.1039/c7cp06426h].
165. Orf, G. S., Collins, A. M., Niedzwiedzki, D. M., Tank, M., Thiel, V., Kell, A., Bryant, D. A., Montano, G. A. & Blankenship, R. E. "Polymer-Chlorosome Nanocomposites Consisting of Non-Native Combinations of Self-Assembling Bacteriochlorophylls". *Langmuir* **33**, 6427-6438, (2017) [doi:10.1021/acs.langmuir.7b01761].
166. Pacheco, J. L., Singh, M., Perry, D. L., Wendt, J. R., Ten Eyck, G., Manginell, R. P., Pluym, T., Luhman, D. R., Lilly, M. P., Carroll, M. S. & Bielejec, E. "Ion implantation for deterministic single atom devices". *Review of Scientific Instruments* **88**, 6, (2017)

[doi:10.1063/1.5001520].

167. Parry, M., Komar, A., Hopkins, B., Campione, S., Liu, S., Miroshnichenko, A. E., Nogan, J., Sinclair, M. B., Brener, I. & Neshev, D. N. "Active tuning of high-Q dielectric metasurfaces". *Applied Physics Letters* **111**, 4, (2017) [doi:10.1063/1.4997301].
168. Pathak, S., Kalidindi, S. R., Weaver, J. S., Wang, Y. Q., Doerner, R. P. & Mara, N. A. "Probing nanoscale damage gradients in ion-irradiated metals using spherical nanoindentation". *Scientific Reports* **7**, 12, (2017) [doi:10.1038/s41598-017-12071-6].
169. Pathak, S., Velisavljevic, N., Baldwin, J. K., Jain, M., Zheng, S. J., Mara, N. A. & Beyerlein, I. J. "Strong, Ductile, and Thermally Stable bcc-Mg Nanolaminates". *Scientific Reports* **7**, 9, (2017) [doi:10.1038/s41598-017-08302-5].
170. Paul, J., Stevens, C. E., Zhang, H., Dey, P., McGinty, D., McGill, S. A., Smith, R. P., Reno, J. L., Turkowski, V., Perakis, I. E., Hilton, D. J. & Karaickaj, D. "Coulomb-interaction induced coupling of Landau levels in intrinsic and modulation-doped quantum wells". *Physical Review B* **95**, 8, (2017) [doi:10.1103/PhysRevB.95.245314].
171. Paxton, W. F., McAninch, P. T., Achyuthan, K. E., Shin, S. H. R. & Monteith, H. L. "Monitoring and modulating ion traffic in hybrid lipid/polymer vesicles". *Colloids and Surfaces B- Biointerfaces* **159**, 268-276, (2017) [doi:10.1016/j.colsurfb.2017.07.091].
172. Peer, A., Hu, Z. J., Singh, A., Hollingsworth, J. A., Biswas, R. & Htoon, H. "Photoluminescence Enhancement of CuInS₂ Quantum Dots in Solution Coupled to Plasmonic Gold Nanocup Array". *Small* **13**, 8, (2017) [doi:10.1002/sml.201700660].
173. Pelzer, K. M., Vazquez-Mayagoitia, A., Ratcliff, L. E., Tretiak, S., Bair, R. A., Gray, S. K., Van Voorhis, T., Larsen, R. E. & Darling, S. B. "Molecular dynamics and charge transport in organic semiconductors: a classical approach to modeling electron transfer". *Chemical Science* **8**, 2597-2609, (2017) [doi:10.1039/c6sc04547b].
174. Peters, B. L., Pike, D. Q., Rubinstein, M. & Grest, G. S. "Polymers at Liquid/Vapor Interface". *Acs Macro Letters* **6**, 1191-1195, (2017) [doi:10.1021/acsmacrolett.7b00466].
175. Peters, B. L., Salerno, K. M., Agrawal, A., Perahia, D. & Grest, G. S. "Coarse-Grained Modeling of Polyethylene Melts: Effect on Dynamics". *Journal of Chemical Theory and Computation* **13**, 2890-2896, (2017) [doi:10.1021/acs.jctc.7b00241].
176. Petta, J. R. "Atom-by-Atom Construction of a Quantum Device". *Acs Nano* **11**, 2382-2386, (2017) [doi:10.1021/acsnano.7b00850].
177. Pulavarthy, R., Wang, B. M., Hattar, K. & Haque, M. A. "Thermal conductivity of self-ion irradiated nanocrystalline zirconium thin films". *Thin Solid Films* **638**, 17-21, (2017) [doi:10.1016/j.tsf.2017.07.035].
178. Raichev, O. E., Hatke, A. T., Zudov, M. A. & Reno, J. L. "Bloch-Grüneisen nonlinearity of electron transport in GaAs/AlGaAs heterostructures". *Physical Review B* **96**, 5, (2017) [doi:10.1103/PhysRevB.96.081407].

179. Ramos, M., Nogan, J., Ortiz-Diaz, M., Enriquez-Carrejo, J. L., Rodriguez-Gonzalez, C. A., Mireles-Jr-Garcia, J., Ornelas, C. & Hurtado-Macias, A. "Mechanical properties of RF-sputtering MoS₂ thin films". *Surface Topography-Metrology and Properties* **5**, 6, (2017) [doi:10.1088/2051-672X/aa7421].
180. Roehling, J. D., Coughlin, D. R., Gibbs, J. W., Baldwin, J. K., Mertens, J. C. E., Campbell, G. H., Clarke, A. J. & McKeown, J. T. "Rapid solidification growth mode transitions in Al-Si alloys by dynamic transmission electron microscopy". *Acta Materialia* **131**, 22-30, (2017) [doi:10.1016/j.actamat.2017.03.061].
181. Sava Gallis, D. F., Rohwer, L. E. S., Rodriguez, M. A., Barnhart -Dailey, M. C., Butler, K. S., Luk, T. S., Timlin, J. A. & Chapman, K. W. "Multifunctional, Tunable Metal-Organic Framework Materials Platform for Bioimaging Applications". *Acs Applied Materials & Interfaces* **9**, 22268- 22277, (2017) [doi:10.1021/acsami.7b05859].
182. Schroder, T., Trusheim, M. E., Walsh, M., Li, L., Zheng, J., Schukraft, M., Sipahigil, A., Evans, R. E., Sukachev, D. D., Nguyen, C. T., Pacheco, J. L., Camacho, R. M., Bielejec, E. S., Lukin, M. D. & Englund, D. "Scalable focused ion beam creation of nearly lifetime-limited single quantum emitters in diamond nanostructures". *Nature Communications* **8**, 1-7, (2017) [doi:10.1038/ncomms15376].
183. Scrymgeour, D. A., Baca, A., Fishgrab, K., Simonson, R. J., Marshall, M., Busmann, E., Nakakura, C. Y., Anderson, M. & Misra, S. "Determining the resolution of scanning microwave impedance microscopy using atomic-precision buried donor structures". *Applied Surface Science* **423**, 1097-1102, (2017) [doi:10.1016/j.apsusc.2017.06.261].
184. Sharma, A., Gifford, B. J. & Kilina, S. "Tip Functionalization of Finite Single-Walled Carbon Nanotubes and Its Impact on the Ground and Excited State Electronic Structure". *Journal of Physical Chemistry C* **121**, 8601-8612, (2017) [doi:10.1021/acs.jpcc.7b00147].
185. Shcherbakov, M. R., Liu, S., Zubyuk, V. V., Vaskin, A., Vabishchevich, P. P., Keeler, G., Pertsch, T., Dolgova, T. V., Staude, I., Brener, I. & Fedyanin, A. A. "Ultrafast all-optical tuning of direct-gap semiconductor metasurfaces". *Nature Communications* **8**, 6, (2017) [doi:10.1038/s41467-017-00019-3].
186. Shen, L. K., Wu, L., Sheng, Q., Ma, C. R., Zhang, Y., Lu, L., Ma, J., Bian, J. H., Yang, Y. D., Chen, A. P., Lu, X. L., Liu, M., Wang, H. & Jia, C. L. "Epitaxial Lift-Off of Centimeter-Scaled Spinel Ferrite Oxide Thin Films for Flexible Electronics". *Advanced Materials* **29**, 7, (2017) [doi:10.1002/adma.201702411].
187. Shojaee, S. A., Qi, Y., Wang, Y. Q., Mehner, A. & Lucca, D. A. "Microstructural evolution of ion- irradiated sol-gel-derived thin films". *Journal of Materials Science* **52**, 12109-12120, (2017) [doi:10.1007/s10853-017-1386-x].
188. Shojaee, S. A., Qi, Y., Wang, Y. Q., Mehner, A. & Lucca, D. A. "Ion irradiation induced structural modifications and increase in elastic modulus of silica based thin films". *Scientific Reports* **7**, 13, (2017) [doi:10.1038/srep40100].

189. Sifain, A. E., Tadesse, L. F., Bjorgaard, J. A., Chavez, D. E., Prezhdo, O. V., Scharff, R. J. & Tretiak, S. "Cooperative enhancement of the nonlinear optical response in conjugated energetic materials: A TD-DFT study". *Journal of Chemical Physics* **146**, 8, (2017) [doi:10.1063/1.4978579].
190. Sinha, K., Zhang, Y. B., Jiang, X. Y., Wang, H. W., Wang, X., Zhang, X. Z., Ryan, P. J., Kim, J. W., Bowlan, J., Yarotski, D. A., Li, Y. L., DiChiara, A. D., Cheng, X. M., Wu, X. F. & Xu, X. S. "Effects of biaxial strain on the improper multiferroicity in h-LuFeO₃ films studied using the restrained thermal expansion method". *Physical Review B* **95**, 6, (2017) [doi:10.1103/PhysRevB.95.094110].
191. Smith, B. E., Zhou, X. Z., Davis, E. J. & Pauzauskie, P. J. "Photothermal heating of nanoribbons". *Optical Engineering* **56**, 7, (2017) [doi:10.1117/1.oe.56.1.011111].
192. Smith, K. A., Savva, A. I., Deng, C. J., Wharry, J. P., Hwang, S., Su, D., Wang, Y. Q., Gong, J., Xu, T., Buttf, D. P. & Xiong, H. "Effects of proton irradiation on structural and electrochemical charge storage properties of TiO₂ nanotube electrodes for lithium-ion batteries". *Journal of Materials Chemistry A* **5**, 11815-11824, (2017) [doi:10.1039/c7ta01026e].
193. Snel, J., Monclus, M. A., Castillo-Rodriguez, M., Mara, N., Beyerlein, I. J., Llorca, J. & Molina- Aldareguia, J. M. "Deformation Mechanism Map of Cu/Nb Nanoscale Metallic Multilayers as a Function of Temperature and Layer Thickness". *Jom* **69**, 2214-2226, (2017) [doi:10.1007/s11837-017-2533-1].
194. Soe, C. M. M., Stoumpos, C. C., Kepenekian, M., Traore, B., Tsai, H., Nie, W. Y., Wang, B. H., Katan, C., Seshadri, R., Mohite, A. D., Eyen, J., Marks, T. J. & Kanatzidis, M. G. "New Type of 2D Perovskites with Alternating Cations in the Interlayer Space, (C(NH₂)(₃))(CH₃NH₃)(_n)PbnI_{3n+1}: Structure, Properties, and Photovoltaic Performance". *Journal of the American Chemical Society* **139**, 16297-16309, (2017) [doi:10.1021/jacs.7b09096].
195. Stevens, M. J. "The long persistence length of model tubules". *Journal of Chemical Physics* **147**, 6, (2017) [doi:10.1063/1.4994913].
196. Stoumpos, C. C., Soe, C. M. M., Tsai, H., Nie, W. Y., Blancon, J. C., Cao, D. Y. H., Liu, F. Z., Traore, B., Katan, C., Even, J., Mohite, A. D. & Kanatzidis, M. G. "High Members of the 2D Ruddlesden- Popper Halide Perovskites: Synthesis, Optical Properties, and Solar Cells of (CH₃(CH₂)(₃)NH₃)(₂)(CH₃NH₃)(₄)Pb(₅)I₁₆". *Chem* **2**, 427-440, (2017) [doi:10.1016/j.chempr.2017.02.004].
197. Su, Q., Zhernenkov, M., Ding, H. P., Price, L., Haskel, D., Watkins, E. B., Majewski, J., Shao, L., Demkowicz, M. J. & Nastasi, M. "Reaction of amorphous/crystalline SiOC/Fe interfaces by thermal annealing". *Acta Materialia* **135**, 61-67, (2017) [doi:10.1016/j.actamat.2017.06.020].
198. Su, Y. H., Chuang, Y., Liu, C. Y., Li, J. Y. & Lu, T. M. "Effects of surface tunneling of two-dimensional hole gases in undoped Ge/GeSi heterostructures". *Physical Review*

- Materials* **1**, 6, (2017) [doi:10.1103/PhysRevMaterials.1.044601].
199. Tanaka, A., Choi, W., Chen, R. J. & Dayeh, S. A. "Si Complies with GaN to Overcome Thermal Mismatches for the Heteroepitaxy of Thick GaN on Si". *Advanced Materials* **29**, 6, (2017) [doi:10.1002/adma.201702557].
200. Tao, J., Vignale, G. & Zhu, J. "Geometric Derivation of the Stress Tensor of the Homogeneous Electron Gas". *Computation* **5**, 28, (2017) [doi:10.3390/computation5020028].
201. Tathavadekar, M., Krishnamurthy, S., Banerjee, A., Nagane, S., Gawli, Y., Suryawanshi, A., Bhat, S., Puthusseri, D., Mohite, A. D. & Ogale, S. "Low-dimensional hybrid perovskites as high performance anodes for alkali-ion batteries". *Journal of Materials Chemistry A* **5**, 18634-18642, (2017) [doi:10.1039/c7ta04529h].
202. Tay, Z. W., Hensley, D. W., Vreeland, E. C., Zheng, B. & Conolly, S. M. "The relaxation wall: experimental limits to improving MPI spatial resolution by increasing nanoparticle core size". *Biomedical Physics & Engineering Express* **3**, 035003, (2017) [doi:10.1088/2057-1976/aa6ab6].
203. Thompson, R. J., Siday, T., Glass, S., Luk, T. S., Reno, J. L., Brener, I. & Mitrofanov, O. "Optically thin hybrid cavity for terahertz photo-conductive detectors". *Applied Physics Letters* **110**, 5, (2017) [doi:10.1063/1.4974482].
204. Trigg, E. B., Stevens, M. J. & Winey, K. I. "Chain Folding Produces a Multilayered Morphology in a Precise Polymer: Simulations and Experiments". *Journal of the American Chemical Society* **139**, 3747-3755, (2017) [doi:10.1021/jacs.6b12817].
205. Tsai, H., Nie, W. Y., Lin, Y. H., Blancon, J. C., Tretiak, S., Even, J., Gupta, G., Ajayan, P. M. & Mohite, A. D. "Effect of Precursor Solution Aging on the Crystallinity and Photovoltaic Performance of Perovskite Solar Cells". *Advanced Energy Materials* **7**, 9, (2017) [doi:10.1002/aenm.201602159].
206. Tuan, Y., Kim, J. T., Liu, H. W. & Sandoghdar, V. "Levitated Plasmonic Nanoantennas in an Aqueous Environment". *Acs Nano* **11**, 7674-7678, (2017) [doi:10.1021/acsnano.7b03310].
207. Tynan, G. R., Doerner, R. P., Barton, J., Chen, R., Cui, S., Simmonds, M., Wang, Y., Weaver, J. S., Mara, N. & Pathak, S. "Deuterium retention and thermal conductivity in ion-beam displacement-damaged tungsten". *Nuclear Materials and Energy* **12**, 164-168, (2017) [doi:10.1016/j.nme.2017.03.024].
208. VanGordon, M. R., Gyawali, G., Rick, S. W. & Rempe, S. B. "Atomistic Study of Intramolecular Interactions in the Closed-State Channelrhodopsin Chimera, C1C2". *Biophysical Journal* **112**, 943-952, (2017) [doi:10.1016/j.bpj.2017.01.023].
209. Veith, G. M., Doucet, M., Sacci, R. L., Vacaliuc, B., Baldwin, J. K. & Browning, J. F. "Determination of the Solid Electrolyte Interphase Structure Grown on a Silicon Electrode Using a Fluoroethylene Carbonate Additive". *Scientific Reports* **7**, 15, (2017) [doi:10.1038/s41598-017-06555-8].

210. Vetterick, G. A., Gruber, J., Suri, P. K., Baldwin, J. K., Kirk, M. A., Baldo, P., Wang, Y. Q., Misra, A., Tucker, G. J. & Taheri, M. L. "Achieving Radiation Tolerance through Non-Equilibrium Grain Boundary Structures". *Scientific Reports* **7**, 9, (2017) [doi:10.1038/s41598-017-12407-2].
211. Vogel, D. J., Kryjevski, A., Inerbaev, T. & Kilin, D. S. "Photoinduced Single- and Multiple-Electron Dynamics Processes Enhanced by Quantum Confinement in Lead Halide Perovskite Quantum Dots". *Journal of Physical Chemistry Letters* **8**, 3032-3039, (2017) [doi:10.1021/acs.jpcclett.6b03048].
212. Wang, B. M., Haque, M. A., Tomar, V. & Hattar, K. "Self-ion irradiation effects on mechanical properties of nanocrystalline zirconium films". *Mrs Communications* **7**, 595-600, (2017) [doi:10.1557/mrc.2017.51].
213. Wang, X. B., Cheng, L., Wu, Y., Zhu, D. P., Wang, L., Zhu, J. X., Yang, H. & Chia, E. E. M. "Topological-insulator-based terahertz modulator". *Scientific Reports* **7**, 7, (2017) [doi:10.1038/s41598-017-13701-9].
214. Wang, Z. W., Xue, Z. Y., Zhang, M., Wang, Y. Q., Xie, X. M., Chu, P. K., Zhou, P., Di, Z. F. & Wang, X. "Germanium-Assisted Direct Growth of Graphene on Arbitrary Dielectric Substrates for Heating Devices". *Small* **13**, 8, (2017) [doi:10.1002/sml.201700929].
215. Ward, D. R., Marshall, M. T., Campbell, D. M., Lu, T. M., Koepke, J. C., Scrymgeour, D. A., Bussmann, E. & Misra, S. "All-optical lithography process for contacting nanometer precision donor devices". *Applied Physics Letters* **111**, 5, (2017) [doi:10.1063/1.4998639].
216. Watkins, E. B., Velizhanin, K. A., Dattelbaum, D. M., Gustavsen, R. L., Aslam, T. D., Podlesak, D. W., Huber, R. C., Firestone, M. A., Ringstrand, B. S., Willey, T. M., Bagge-Hansen, M., Hodgins, R., Lauderbach, L., van Buuren, T., Sinclair, N., Rigg, P. A., Seifert, S. & Gog, T. "Evolution of Carbon Clusters in the Detonation Products of the Triaminotrinitrobenzene (TATB)-Based Explosive PBX 9502". *Journal of Physical Chemistry C* **121**, 23129-23140, (2017) [doi:10.1021/acs.jpcc.7b05637].
217. Watt, J., Bleier, G. C., Austin, M. J., Ivanov, S. A. & Huber, D. L. "Non-volatile iron carbonyls as versatile precursors for the synthesis of iron-containing nanoparticles". *Nanoscale* **9**, 6632- 6637, (2017) [doi:10.1039/c7nr01028a].
218. Watt, J., Kotula, P. G. & Huber, D. L. "Magnetically Recoverable Pd/Fe₃O₄ Core-Shell Nanowire Clusters with Increased Hydrogenation Activity". *Chempluschem* **82**, 347-351, (2017) [doi:10.1002/cplu.201700009].
219. Weaver, J. S., Pathak, S., Reichardt, A., Vo, H. T., Maloy, S. A., Hosemann, P. & Mara, N. A. "Spherical nanoindentation of proton irradiated 304 stainless steel: A comparison of small scale mechanical test techniques for measuring irradiation hardening". *Journal of Nuclear Materials* **493**, 368-379, (2017) [doi:10.1016/j.jnucmat.2017.06.031].
220. Wesenberg, D., Liu, T., Balzar, D., Wu, M. Z. & Zink, B. L. "Long-distance spin transport in a disordered magnetic insulator". *Nature Physics* **13**, 987+, (2017)

[doi:10.1038/nphys4175].

221. Wijesinghe, S., Maskey, S., Perahia, D. & Grest, G. S. "Luminescent tunable polydots: Charge effects in confined geometry". *Journal of Chemical Physics* **146**, 6, (2017) [doi:10.1063/1.4990506].
222. Wilkinson, T. M., Wu, D., Musselman, M. A., Li, N., Mara, N. & Packard, C. E. "Mechanical behavior of rare-earth orthophosphates near the monazite/xenotime boundary characterized by nanoindentation". *Materials Science and Engineering a-Structural Materials Properties Microstructure and Processing* **691**, 203-210, (2017) [doi:10.1016/j.msea.2017.03.041].
223. Wolf, O., Campione, S., Yang, Y. M. & Brener, I. "Multipolar second harmonic generation in a symmetric nonlinear metamaterial". *Scientific Reports* **7**, 7, (2017) [doi:10.1038/s41598-017-08039-1].
224. Wu, C. Z., Jin, Y., Reno, J. L. & Kumar, S. "Large static tuning of narrow-beam terahertz plasmonic lasers operating at 78 K". *Appl Photonics* **2**, 9, (2017) [doi:10.1063/1.4972127].
225. Xiong, J., Lei, T. Y., Chu, J. W., Yang, C., Wei, J. K., Zhuo, M. J., Choi, E. M., Tao, B. W., Zhang, W. L., Wang, Y. Q. & Li, Y. R. "Ferromagnetic-Antiferromagnetic Coupling by Distortion of Fe/Mn Oxygen Octahedrons in (BiFeO₃)(m)(La_{0.7}Sr_{0.3}MnO₃)(n) Superlattices". *Small* **13**, 7, (2017) [doi:10.1002/smll.201700107].
226. Xu, B., Dai, Y. M., Zhao, L. X., Wang, K., Yang, R., Zhang, W., Liu, J. Y., Xiao, H., Chen, G. F., Trugman, S. A., Zhu, J. X., Taylor, A. J., Yarotski, D. A., Prasankumar, R. P. & Qiu, X. G. "Temperature-tunable Fano resonance induced by strong coupling between Weyl fermions and phonons in TaAs". *Nature Communications* **8**, 6, (2017) [doi:10.1038/ncomms14933].
227. Xu, L. Y., Chen, D. G., Curwen, C. A., Memarian, M., Reno, J. L., Itoh, T. & Williams, B. S. "Metasurface quantum-cascade laser with electrically switchable polarization". *Optica* **4**, 468-475, (2017) [doi:10.1364/optica.4.000468].
228. Xu, L. Y., Curwen, C. A., Chen, D. G., Reno, J. L., Itoh, T. & Williams, B. S. "Terahertz Metasurface Quantum-Cascade VECSELS: Theory and Performance". *Ieee Journal of Selected Topics in Quantum Electronics* **23**, 12, (2017) [doi:10.1109/jstqe.2017.2693024].
229. Xu, L. Y., Curwen, C. A., Reno, J. L. & Williams, B. S. "High performance terahertz metasurface quantum-cascade VECSEL with an intra-cryostat cavity". *Applied Physics Letters* **111**, 5, (2017) [doi:10.1063/1.4993600].
230. Yan, Z. B., Liu, Z. R., Xia, M., Efimov, A. & Xie, Y. H. "Broadband surface-enhanced coherent anti-Stokes Raman spectroscopy with high spectral resolution". *Journal of Raman Spectroscopy* **48**, 935-942, (2017) [doi:10.1002/jrs.5165].
231. Yang, C., Paxton, A. H., Newell, T. C., Lu, C. A. & Kaspi, R. "On-chip unstable resonator cavity GaSb-based quantum well lasers". *Journal of Applied Physics* **121**, 4, (2017)

[doi:10.1063/1.4980028].

232. Yang, D. Y., Xia, Y., Wen, J., Liang, J. J., Mu, P. C., Wang, Z. G., Li, Y. H. & Wang, Y. Q. "Role of ion species in radiation effects of Lu₂Ti₂O₇ pyrochlore". *Journal of Alloys and Compounds* **693**, 565-572, (2017) [doi:10.1016/j.jallcom.2016.09.227].
233. Yang, L. X., Zheng, S. J., Zhou, Y. T., Zhang, J., Wang, Y. Q., Jiang, C. B., Mara, N. A., Beyerlein, I. J. & Ma, X. L. "Effects of He radiation on cavity distribution and hardness of bulk nanolayered Cu-Nb composites". *Journal of Nuclear Materials* **487**, 311-316, (2017) [doi:10.1016/j.jnucmat.2017.02.022].
234. Yang, W. C., Xie, Y. T., Zhu, W. K., Park, K., Chen, A. P., Losovyj, Y., Li, Z., Liu, H. M., Starr, M., Acosta, J. A., Tao, C. G., Li, N., Jia, Q. X., Heremans, J. J. & Zhang, S. X. "Epitaxial thin films of pyrochlore iridate Bi₂+xIr₂-yO₇-delta: structure, defects and transport properties". *Scientific Reports* **7**, 11, (2017) [doi:10.1038/s41598-017-06785-w].
235. Yang, Y., Burghoff, D., Reno, J. & Hu, Q. "Achieving comb formation over the entire lasing range of quantum cascade lasers". *Optics Letters* **42**, 3888-3891, (2017) [doi:10.1364/ol.42.003888].
236. Yang, Y. M., Kamaraju, N., Campione, S., Liu, S., Reno, J. L., Sinclair, M. B., Prasankumar, R. P. & Brener, I. "Transient GaAs Plasmonic Metasurfaces at Terahertz Frequencies". *ACS Photonics* **4**, 15-21, (2017) [doi:10.1021/acsp Photonics.6b00735].
237. Yang, Y. M., Kelley, K., Sachet, E., Campione, S., Luk, T. S., Maria, J. P., Sinclair, M. B. & Brener, I. "Femtosecond optical polarization switching using a cadmium oxide-based perfect absorber". *Nature Photonics* **11**, 390-+, (2017) [doi:10.1038/nphoton.2017.64].
238. Yitamben, E. N., Butera, R. E., Swartzentruber, B. S., Simonson, R. J., Misra, S., Carroll, M. S. & Bussmann, E. "Heterogeneous nucleation of pits via step pinning during Si(100) homoepitaxy". *New Journal of Physics* **19**, 11, (2017) [doi:10.1088/1367-2630/aa9397].
239. Yoo, J., Ahmed, T., Tang, W., Kim, Y. J., Hong, Y. J., Lee, C. H. & Yi, G. C. "Single crystalline ZnO radial homojunction light-emitting diodes fabricated by metalorganic chemical vapour deposition". *Nanotechnology* **28**, 9, (2017) [doi:10.1088/1361-6528/aa7ec5].
240. Yu, I. S., Cheng, H. E., Chang, C. C., Lin, Y. W., Chen, H. T., Wang, Y. C. & Yang, Z. P. "Substrate- insensitive atomic layer deposition of plasmonic titanium nitride films". *Optical Materials Express* **7**, 777-784, (2017) [doi:10.1364/ome.7.000777].
241. Zamudio, M. E., Behzadirad, M., Christodoulou, C. & Busani, T. "Optimization of AZO films for integrating optically transparent antennas with photovoltaics". *Applied Physics Letters* **110**, 4, (2017) [doi:10.1063/1.4985296].
242. Zarassi, A., Su, Z., Danon, J., Schwenderling, J., Hocevar, M., Nguyen, B. M., Yoo, J., Dayeh, S. A. & Frolov, S. M. "Magnetic field evolution of spin blockade in Ge/Si nanowire double quantum dots". *Physical Review B* **95**, 7, (2017) [doi:10.1103/PhysRevB.95.155416].

243. Zeng, J. W., Luk, T. S., Gao, J. & Yang, X. D. "Structured light generation by magnetic metamaterial half-wave plates at visible wavelength". *Journal of Optics* **19**, 9, (2017) [doi:10.1088/2040-8986/aa95dc].
244. Zeng, J. W., Luk, T. S., Gao, J. & Yang, X. D. "Spiraling Light with Magnetic Metamaterial Quarter-Wave Turbines". *Scientific Reports* **7**, 12, (2017) [doi:10.1038/s41598-017-12143-7].
245. Zeng, T. S., Zhu, W., Zhu, J. X. & Sheng, D. N. "Nature of continuous phase transitions in interacting topological insulators". *Physical Review B* **96**, 7, (2017) [doi:10.1103/PhysRevB.96.195118].
246. Zhang, H. Y., Zhang, X. Q. Y., Cao, Y. Y., Zeng, B. B., Zhou, M. D. & Zhang, Y. P. "Tunable terahertz electromagnetically induced transparency based on a complementary graphene metamaterial". *Materials Research Express* **4**, 9, (2017) [doi:10.1088/2053-1591/aa5374].
247. Zhang, Y., Shen, L. K., Liu, M., Li, X., Lu, X. L., Lu, L., Ma, C. R., You, C. Y., Chen, A. P., Huang, C. W., Chen, L., Alexe, M. & Jia, C. L. "Flexible Quasi-Two-Dimensional CoFe₂O₄ Epitaxial Thin Films for Continuous Strain Tuning of Magnetic Properties". *Acs Nano* **11**, 8002-8009, (2017) [doi:10.1021/acsnano.7b02637].
248. Zhao, D. M., Skelton, J. M., Hu, H. W., La-o-Vorakiat, C., Zhu, J. X., Marcus, R. A., Michel-Beyerle, M. E., Lam, Y. M., Walsh, A. & Chia, E. E. M. "Low-frequency optical phonon modes and carrier mobility in the halide perovskite CH₃NH₃PbBr₃ using terahertz time-domain spectroscopy". *Applied Physics Letters* **111**, 5, (2017) [doi:10.1063/1.4993524].
249. Zheng, F. L., Fernandez-Alberti, S., Tretiak, S. & Zhao, Y. "Photoinduced Intra- and Intermolecular Energy Transfer in Chlorophyll a Dimer". *Journal of Physical Chemistry B* **121**, 5331-5339, (2017) [doi:10.1021/acs.jpcc.7b02021].
250. Zhong, L., Liu, Y., Han, W. Q., Huang, J. Y. & Mao, S. X. "In Situ Observation of Single-Phase Lithium Intercalation in Sub-25-nm Nanoparticles". *Advanced Materials* **29**, 9, (2017) [doi:10.1002/adma.201700236].
251. Zhong, L., Sansoz, F., He, Y., Wang, C. M., Zhang, Z. & Mao, S. X. "Slip-activated surface creep with room-temperature super-elongation in metallic nanocrystals". *Nature Materials* **16**, 439- +, (2017) [doi:10.1038/nmat4813].
252. Zhou, L. J., Zhuo, Z. W., Kou, L. Z., Du, A. J. & Tretiak, S. "Computational Dissection of Two-Dimensional Rectangular Titanium Mononitride TiN: Auxetics and Promises for Photocatalysis". *Nano Letters* **17**, 4466-4472, (2017) [doi:10.1021/acs.nanolett.7b01704].
253. Zhu, W., Sheng, D. N. & Zhu, J. X. "Magnetic field dependent dynamics and field-driven metal-to-insulator transition of the half-filled Hubbard model: A DMFT plus DMRG study". *Physical Review B* **96**, 15, (2017) [doi:10.1103/PhysRevB.96.085118].