Poster

17th June (Tue.)

18:00–20:00

Hybrid silicon all-optical switching devices integrated with 2D material

*Daiki Yamashita[1,2], Nan Fang[1], Shun Fujii[1,3], Yuichiro K Kato[1]
1. RIKEN (Japan), 2. AIST (Japan), 3. Keio Univ. (Japan)

Optical resolution of single-walled carbon nanotubes through wrapping with chiral metal coordination polymers followed by interlocking with metal-tethered tetragonal nanobrackets

Sicong Dai[1], Guoqin Cheng[1], Takuya Hayashi[2], Xinyi Fu[1], *Naoki Komatsu[1]
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Perpendicular electronic transport in twisted 3D graphite and twisted 3D superconductors

*Tenta Tani[1], Takuto Kawakami[1], Mikito Koshino[1]
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Correlation between Flow-induced Electricity Generation on Graphene and Flow Dynamics

*Takeru Okada[1], Mitsuhiro Honda[2], Masaki Tanemura[2], Ichiro Yamashita[3], Atsuki Komiya[4]
1. Graduate School of Engineering, Tohoku University (Japan), 2. Naogya Institute of Technology (Japan), 3. Osaka University (Japan), 4. Institute of Fluid Science, Tohoku University (Japan)

Surface-Dependent Graphene Growth Kinetics on Cu Foil in Low-Pressure Chemical Vapor Deposition

*Jiyun Kim[1], Ji-Yong Park[1]
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Automated evaluation and counting of nanofibers in SEM micrographs

*Torben Peters[1], John Schumann[1], Asmus Meyer-Plath[1]
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Suspended SWCNT arrays by transfer with sublimable materials

*Yuuki Kanai[1], Kaito Sakakibara[1], Riku Fujiwara[1], Ryotaro Kaneda[1], Waka Miyata[1], Keigo Otsuka[1], Shigeo Maruyama[1], Chiashi Shohei[1]
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Hydrogenolysis of Graphene Oxide

*Moe Kitamura[1], Akiho Horibe[1], Koji Nakabayashi[2], Toshihira Irisawa[3], Yoshiyuki Nonoguchi[1]
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Chemical Vapor Deposition of Large Area Single-Walled Carbon Nanotubes Films Using Ethanol as the Carbon Precursor

*Afzal Khan[1], Abid.[1], Lingfeng Wang[1], Yongjia Zheng[1], Nduwarugira Bill Herve[1], Salman Ullah[1], Hafiz Bilal Naveed[1], Rong Xiang[1]
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Viral detection platform: portable graphene-derived biosensor
*Ana Champi[1]
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Optimizing CVD Growth of Monolayer MoS_2 through Relative Configurations of Substrate and Gas flows
*Hoyeon Jung[1], Jiyong Park[1]
1. Ajou University (Korea)

Energetics and electronic property of Janus WSSe nanoscroll
*Yanlin Gao[1], Susumu Okada[1]
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Electrical and thermal transport properties of individual carbon nanotubes by in situ TEM
*Daiming Tang[1,2], Hai-Bo Zhao[3,4], Ovidiu Cretu[1], Chang Liu[3,4]
1. National Institute for Materials Science (NIMS) (Japan), 2. Faculty of Pure and Applied Sciences, University of Tsukuba (Japan), 3. Institute of Metal Research (IMR), Chinese Academy of Sciences (CAS) (China), 4. School of Materials Science and Engineering, University of Science and Technology of China (China)

Investigation and Mitigation of the Electron-Hole Conduction Asymmetry in Graphene Field-Effect Transistors
*MINSANG KIM[1], Ji-Yong Park[1]
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Signle-step SH group termination of epitaxial graphene and graphene oxide
*Yuya Miyake[1], Jun Ishii[1], Taisei Suzuoka[1], Yoshiaki Matsuo[2], Kazuyuki Takai[1]
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Aggregation effect on exciton binding energies of single-chirality single-walled carbon nanotubes
*Zhirui Liu[1], Taishi Nishihara[1], Vasili Perebeinos[2], Yuhei Miyauchi[1]
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Solvent acoustic coupling governs non-covalent bonding at the interface of ultra-long carbon nanotubes
*Yuxuan Tian[1]
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Fabrication of Near-Infrared Perfect Absorber Using Chirality-Sorted Carbon Nanotubes
*Mioko Kawakami[1], Sota Takasu[1], Taishi Nishihara[1], Yuhei Miyauchi[1]
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One-pot Electrochemical Exfoliation/Functionalization of graphite or N-Functionalized Graphene
Yuta Konno[1], Sota Ishizu[1], Ryo Watanabe[1], *Haruya Okimoto[1]
1. Yamagata University (Japan)

Self-winding ultra-long carbon nanotube rings and their potential functional applications
*Sibo Chen[1], Fei Wei[1]
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A High-Performance High-Temperature Accelerometer Based on the Improved Graphene Aerogel
*Yanchun Wang[1], Zibo Wang[1], Weiya Zhou[1]
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Early-Stage Au Deposition Morphology on Graphene and Its Effect on Graphene Field Effect Transistors
*SungYeon Kim[1], Ji-Yong Park[1]
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A statistical assessment of the semiconducting proportion in single-wall carbon nanotubes based on electrostatic force microscopy
Yuki Kuwahara[1], Indra M Khoris[1], Fahmida Nasrin[1], *Ryota Yuge[2,1], Takeshi Saito[1]
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Diameter Dependence of Phase Transition and Phases Coexistence of Water Confined Inside Carbon Nanotubes
*Wenjie Liu[1], Ikuma Kohata[1], Yuki Maekawa[2], Takihiro Yamamoto[2], Yoshikazu Homma[2], Shohei Chiashi[1]
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Carbon Nanotube-based Spectrally Selective Solar Absorber: Design and Fabrication
*Hengkai Wu[1], Taishi Nishihara[1], Takeshi Tanaka[2], Hiromichi Kataura[2], Yuhei Miyauchi[1]
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Achieving High Thermal Conductivity with Lower Filler Loading: Direct CNT Growth on AlN in Silicone Rubber Composites
*Naoyuki Matsumoto[1], Don N. Futaba[1], Takeo Yamada[1], Ken Kokubo[1]
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Oxidation Mechanism on Single-Walled Carbon Nanotubes Analyzed by Photo-Induced Force Microscopy
*Kaori Fujii[1], Kazufumi Kobashi[1], Yasuhiko Fujita[1], Takahiro Morimoto[1], Hideaki Nakajima[1], Toshiya Okazaki[1]
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Large-scale separation of micrometer-long single-chirality single-wall carbon nanotubes in aqueous surfactant systems
*Zimeng An[1], Sayuki Oka[1], Kazuki Nagashima[1], Yohei Yomogida[1]
1. Hokkaido University (Japan)

Automatic Transfer of Carbon Nanotubes: from Growth to Device Performance
*Luca Ornago[1], Frederik H. van Veen[2,3], Jorien van der Meulen[4,1], Seoho Jung[1], Natanael Lanz[1], Andre Butzerin[1], Marko Nikolic[1], Mikael L. Perrin[2,3], Maria El Abbassi[1]
1. Chiral Nano AG (Switzerland), 2. Empa (Switzerland), 3. ETH Zürich (Switzerland), 4. TU Delft (Netherlands)

Ultraclean carbon nanotube transistors via robotic assembly
*Seoho Jung[1], Frederik van Veen[2,3], Jorien van der Meulen[1,4], Luca Ornago[1], Marko Nikolic[1], Andre Butzerin[1], Natanael Lanz[1], Mickael Perrin[2,3], Maria El Abbassi[1]
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NIR photoluminescence of single-wall carbon nanotubes by the biochemical reaction of luciferin/luciferase
*Takeshi Tanaka[1], Mahoko Higuchi[1], Mayumi Tsuzuki[1], Atsunori Hiratsuka[1], Hiromichi Kataura[1]
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Reconfigurable physical unclonable functions from carbon nanotube transistors for secure vehicle communications
*Yang Liu[1], Jingfang Pei[1], Yingyi Wen[1], Lekai Song[1], Songwei Liu[1], Pengyu Liu[1], Teng Ma[2], Guohua Hu[1]
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MXene Quantum Dots/ Metal Organic Framework Hybrid for Photocatalytic Applications
*MUHAMMAD ANNAS SYHUKRI BIN MOHD ARIFFIN[1], ANIR SYAHMI BIN SHARBIRIN[1], AFRIZAL LATHIFUL FADLI[1], JEONGYONG KIM[1]
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Theoretical study on photo thermoacoustic phenomena in carbon nanotubes based on Tyndall model
*Akari Sudo[1], Takahiro Yamamoto[1]
1. Tokyo University of Science (Japan)

Semiconducting Transport Characteristics and Performance of Large-Bundle SWCNT FETs
*Md Abu Taher Khan[1], Nan Wei[2], Esko I. Kauppinen[1]
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Armchair-Oriented Synthesis of Tin Disulfide Nanotubes (SnS_2 NT)
*Abid.[1], Yongjia Zheng[1], Luneng Zhao[2], Ju Huang[3,4], Yuta Sato[5], Qingyun Lin[6], Zheng Han[7], Chunxia.[1], Tianyu Wang[1], Kazu Suenaga[10], Yige Zheng[1], Hang Wang[1], Salman Ullah[1], Mohd Taazeem Ansari[8], Feng Ding[9], Afzal Khan[1], Wenbin Li[3,4], Junfeng Gao[2], Shigeo Maruyama[11], Rong Xiang[1]
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Overcoming Van der Waals Bundling: Molecular Wedges Enable Sonication-Free Dispersion of Single-Walled Carbon Nanotubes
*Seungyeop Lee Lee[1], Ziyi Wang[1], Ebenezer Afriyie[1], Jiajun Wang[2], Ayman Alibrahim[1], Anand Jagota[2], YuHuang Wang[1]
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Hydrogen storage by carbon nanohorns enhanced by dispersion with metallic nanoparticles
*Noriaki Sano[1]
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Synthesis of H_2-rich syngas and CNTs from CH_4/CO_2 using Ni-Mo_2C/MgO catalyst: Impact of biogas impurities and catalyst regeneration
*Supanida Saconsint[1], Noriaki Sano[1], Sakhon Ratchahat[2]
1. Kyoto Univerisity (Japan), 2. Mahidol University (Thailand)

Geometric structure and electronic properties of bilayer graphene with a Moire superlattice by interlayer asymmetric tensile strain
Mina Maruyama[1], Nadia Sultana[1], Yanlin Gao[1], *Susumu Okada[1]
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Structural and Electrical Properties of 3D CNT Networks in CNT-Oxide Ceramic Composites
*Akinobu Shibuya[1,2], Tomo Tanaka[1,2], Noriyuki Tonouchi[1,2], Toshie Miyamoto[1,2], Ryota Yuge[1,2]
1. NEC Corporation (Japan), 2. National Institute of Advanced Industrial Science and Technology (Japan)

Composite of Carbon Nanotubes and Activated Carbon as Air Electrode in Zn-air Battery
*Munsuree Kalong[1], Noriaki Sano[1], Tetsuo Suzuki[1]
1. Kyoto Univerisity (Japan)

Quantitative insights into the correlation between sp^3 defects and functional groups in oxidized single-walled carbon nanotubes
*Hideaki Nakajima[1], Kazufumi Kobashi[1], Ying Zhou[1], Minfang Zhang[1], Toshiya Okazaki[1]
1. National Institute of Advanced Industrial Science and Technology (Japan)

Preferential growth of (7,5) SWCNTs by enhanced direct-injection pyrolytic synthesis method
Yuki Kuwahara[1], Yuta Nishiwaki[2], Kei Takano[2], *Takeshi Hashimoto[2], Ryota Yuge[1,3], Takeshi Saito[1]
1. AIST (Japan), 2. Meijo Nano Carbon Co. Ltd. (Japan), 3. NEC (Japan)

Vacuum electronics of carbon nanotubes and its applications in aerospace
*Peng Liu[1], Lian Liu[1], Kaili Jiang[1], Shoushan Fan[1]
1. Tsinghua University (China)

Machine learning force field driven exploration of 992 binary alloy metal clusters for carbon nanotube growth
*Daniel Hedman[1], Daisuke Asa[2], Ryo Yoshikawa[2], Ikuma Kohata[2], Kaoru Hisama[3], Christophe Bichara[4], Keigo Otsuka[2], Shigeo Maruyama[2]
1. Center for Multidimensional Carbon Materials (CMCM), Institute for Basic Science (IBS) (Korea), 2. Department of Mechanical Engineering, The University of Tokyo (Japan), 3. Center for Research Initiative for Supra-Materials, Shinshu University (Japan), 4. Aix-Marseille Univ, CNRS, CINaM (France)

Impact of Twisted angle on Thermal Transport Property of Graphene/h-BN Moiré Superlattice
*SHINICHIRO MOURI[1], Yusuke Kodama[1], Abdul Kuddus[2]
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Structure and Fabrication Process Optimization of Microbolometer Array using Semi-conducting Single-walled Carbon Nanotube Networks
*Tomo Tanaka[1,2], Masahiko Sano[1], Masataka Noguchi[1,2], Megumi Kanaori[2], Toshie Miyamoto[1,2], Ryota Yuge[1,2]
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Gate Voltage Dependence of Low-Frequency Noise in Carbon Nanotube Networks
*Noriyuki Tonouchi[1,2], Norika Fukuda[2], Tomo Tanaka[1,2], Ryota Yuge[1,2]
1. NEC (Japan), 2. AIST (Japan)

Terahertz wave detection using P/N carbon nanotube fiber at room temperature
*Koki Shiba[1], Shigeki Saito[1], Satoshi Kusaba[1,2], Ryo Tamaki[2], Shizuka Tsuduki[3], Tsukasa Matsuura[3], Jun Takeda[2], Ikufumi Katayama[2], Kazuhiro Yanagi[1]
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Growth of Isolated Carbon Nanotubes Wrapped by Homogeneous Amorphous Carbon
Zeyu Liu[1], Xinrui Zhang[1], Yanzhao Liu[1], Zilong Qiu[1], Jian Sheng[1], Zeyao Zhang[1], *Yan Li[1]
1. Peking University (China)

DIRECT GRAPHENE GROWTH BETWEEN ELECTRODES BY JOULE HEATING
*Koki Nakane[1], Agus Subagyo[1], Kazuhisa Sueoka[1]
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Fabrication of High-Density Arrays of Single-Chirality and Enantiomer-Pure Single-Walled Carbon Nanotubes
*Yanzhao Liu[1], Zilong Qiu[1], Yiran Ma[1], Min Lyu[1], Zeyao Zhang[1,2], Yan Li[1,2]
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Photovoltaic devices with wide operating temperature ranges based on large-area, freestanding, transparent and conductive G-SWCNT films
*Weiya Zhou[1,2], Ying Yue[1,2], Mingming Li[1,2]
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Multi-level organization of carbon nanotubes for advanced THz optics
*Dmitry V. Krasnikov[1], Nikita I. Raginov[1], Arina V. Radivon[2], Alexey S. Ezersky[3], Gleb M. Katyba[4,5], Sergey A. Kuznetsov[6], Maria G. Burdanova[2], Albert G. Nasibulin[1]
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Coupling TiO_2 with Low-Dimensional Materials for Efficient Photocatalytic Oxidation of NOx
Morgen L Smith[1], Brian M Everhart[1], Ahmed Al Mayyahi[1], *Placidus B Amama[1]
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Continuous Synthesis and Fiber Spinning of Nitrogen-Doped SWCNTs
*Zhikai Li[1], Toshihiko Fujimori[1,2], Samuel Jeong[1], Jun-ichi Fujita[1]
1. University of Tsukuba (Japan), 2. Sumitomo Electric Industries, Ltd (Japan)

Dielectric-assisted transfer using single-crystal antimony oxide for two-dimensional material devices
*Junhao Liao[1]
1. Peking University (China)

Graphene Tamed Supercooling in Plastic Crystals
*Xinyu Zhang[1], Yuanlong Shao[1,2], Jin Zhang[1,2]
1. Peking University (China), 2. Beijing Graphene Institute (China)

Nano-seeding method for preparing arrays of horizontally aligned carbon nanotube wafers
*Ying Xie[1], Yue Li[1], Zhisheng Peng[1], Liu Qian[1], Ziqiang Zhao[1], Jin Zhang[1]
1. Peking University (China)

Direct Crystallization of one-dimensional Van der Waals Semiconductor WTe_2 Nanowires via Chemical Vapor Transport
*Hang Wang[1], Tianyu Wang[1], Yongjia Zheng[1], Shanhe Xue[2], Abid .[1], Yige Zheng[1], Qingyun Lin[1], Afzal Khan[1], Qi Zhang[2], Rong Xiang[1]
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Janus MoSSe nanotubes on one-dimensional SWCNT-BNNT van der Waals heterostructures
*Chunxia Yang[1,2], Qingyun Lin[2], Yuta Sato[3], Yanlin Gao[4], Yongjia Zheng[2], Tianyu Wang[2], Yicheng Ma[2], Wanyu Dai[1], Wenbin Li[5], Mina Maruyama[4], Susumu Okada[4], Kazu Suenaga[6], Shigeo Maruyama[1,2], Rong Xiang[2]
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A Simple Equipment-Free Method for Length Sorting of Carbon Nanotubes
*Xiaojun Wei[1,2], Shuang Ling[1,3], Xin Luo[1], Xiao Li[1,2], Feibing Xiong[3], Weiya Zhou[1,2], Sishen Xie[1,2], Huaping Liu[1,2]
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In-Situ Observation of Vapor-Liquid-Solid Growth of WS_2 in a Substrate-Stacked Microreactor for Mechanistic Investigation
*Hiroo Suzuki[1], Yutaro Senda[1], Yuta Takahashi[2], Shun Fujii[2], Yasuhiko Hayashi[1]
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Tailoring Oxidation States for Selective CVD Growth of Boron Nitride Nanotubes on Supported Catalysts
*Chunghun Kim[1], Myung Jong Kim[1]
1. Gachon university (Korea)

Interlocking of SWNTs with Metal-Tethered Tetragonal Nanobrackets to Enrich a Few Hundredths of Nanometer Range in Their Diameters
*Guoqing Cheng[1], Takuya Hayashi[2], Hiroshi Tabata[3], Mitsuhiro Katayama[3], Naoki Komatsu[4]
1. SINANO, CAS (China), 2. Shinshu Univ. (Japan), 3. Osaka Univ. (Japan), 4. Kyoto Univ. (Japan)

Novel BNNT-Tungsten Oxide Hybrid Structures for Enhanced Energy Storage Applications
*Honggu Kim[1], Chandan Kumar Maity[1], Myung Jong Kim[1]
1. Gachon University (Korea)

Reductive functionalization and purification of single-walled carbon nanotubes for controlling near-infrared photoluminescence properties
*Yutaka Maeda[1], Kentaro Kawada[1], Atsushi Suwa[1], Yui Iguchi[1], Yasuhiro Suzuki[1], Yui Konno[1], Michio Yamada[1], Pei Zhao[2], Masahiro Ehara[2]
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Divide and Functionalize: Sorting and Brightening of Single-Walled Carbon Nanotubes
Dominik Just[1], Patrycja Taborowska[1], Andrzej Dzienia[1], *Dawid Janas[1]
1. Silesian University of Technology (Poland)

Ultra clean (6,5) SWCNT film with perfect vdW spacing and its 1D heterostructures
*Lingfeng Wang[1], Yicheng Ma[1], Zhirui Liu[2], Yongjia Zheng[1], Tianyu Wang[1], Yuhei Miyauchi[2], Rong Xiang[1]
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Metal chloride-intercalated pnictogens. Unexplored field full of possibilities
*Cristina Madrona[1], Gonzalo Abellán[1]
1. ICMol - Universidad de Valencia (Spain)

TERPYRIDINE-FUNCTIONALIZED SINGLE-WALLED CARBON NANOTUBES AS SELECTIVE ELECTROCATALYST
*Ioanna Sideri[1], Nikos Tagmatarchis[1]
1. National Hellenic Research Foundation, Theoretical and Physical Chemistry Institute (Greece)

FUNCTIONALIZED MoS_2 ELECTROSTATICALLY ASSOCIATED WITH PHOTOACTIVE CHROMOPHORES
*Eleni Nikoli[1], Marina Tsigkou[1], Ioanna Sideri[1], Michalis Kardaras[1], Hiram Joazet Ojeda Galvan[2], Mildred Quintana[2], Nikos Tagmatarchis[1]
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Transition Metal Dichalcogenide Nanotubes with Diameters Below 3 nm
*Runze Lai[1], Zhen Han[1], Xinrui Zhang[1], Yan Li[1]
1. College of Chemistry and Molecular Engineering, Peking University (China)

Large-scale complementary carbon nanotube integrated circuits for harsh radiation environments
Ke Zhang[1], *Daming Zhou[1], Ningfei Gao[2,3], Zhongzhen Tong[1], Xiaoyang Lin[1], Haitao Xu[2,3,4], Lianmao Peng[2], Weisheng Zhao[1]
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Architecting Host−Guest Synergistic Solid-State Electrolytes Enables Unobstructed Li-Ion Interphase Migration for Lithium Metal Batteries
*Lixiang Li[1]
1. University of Science & Technology Liaoning (China)

Optimizing Metal Contacts for Low Contact Resistance in Graphene Field Effect Transistors
*Duc Chung Nguyen[1], Yi Yong Park[1]
1. Ajou University (Korea)

Diameter Adjustment of Single-Walled Carbon Nanotubes by Ni-Based Bimetallic Catalysts in Laser Ablation
Shaochuang Chen[1], *Zeyao Zhang[1,2], Yan Li[1,2]
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Marangoni-Flow-Induced Self-Assembly of Single Walled Carbon Nanotubes into High Density Arrays
Zilong Qiu[1], Yuguang Chen[1], *Yanzhao Liu[1], Zeyao Zhang[1,2], Yan Li[1,2]
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Intrinsic High-Semiconducting-Purity Carbon Nanotube Array Films for High-Performance Electronics
*Lan Bai[1],[2]
1. Peking University (China), 2. Shanxi Institute of Carbon-Based Thin Film Electronics, Peking University (China)

h-BN/Graphene Heterostructure-Decorated Copper Current Collector for Long-Cycle Anode-Free Lithium Metal Batteries
*Lingchen Kong[1], Chaofan Zhou[1], Xuanguang Ren[1], Li Lin[1,2], Xin Gao[1,2]
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Research on Semiconducting SWCNTs with clean surfaces in Dispersions and Thin-Films
*Song Qiu[1]
1. Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences (China)

Gas Phase Chemistry of Salt Assisted MoS_2 Growth
*Daniel Stormer Vadseth[1], Shigeo Maruyama[2], Alister Page[1]
1. University of Newcastle (UoN) (Australia), 2. University of Tokyo (UTokyo) (Japan)

On the use of seeding for chirality-controlled growth of carbon nanotubes
*Kim-Jonas Mikael Ylivainio[1], Daniel Hedman[2], Andreas Larsson[1]
1. Luleå university of technology (Sweden), 2. Institute for basic science (Korea)

Super graphene-skinned material: From epitaxial growth to property calculations
*Sun Xiu cai[1], Liu Zhong fan[2,1]
1. Beijing Graphene Institute (BGI) (China), 2. Peking University (China)

Graphene Layers Folded Many Times
*Kazuyuki Uchida[1]
1. Kyoto Sangyo University (Japan)

Anomalous Electrostatic Properties of Double-walled BN Nanotubes
*Nadia Sultana[1], Yanlin Gao[1], Mina Maruyama[1], Susumu Okada[1]
1. University of Tsukuba (Japan)

Machine Learning-Assisted Computational Exploration of the Electronic Structures of MoS_2 Nanotubes
*Wenbin Li[1], Ju Huang[1]
1. Westlake University (China)

Observation of Topological Nodal-Ring Phonons in Monolayer Hexagonal Boron Nitride
*Zhiyu Tao[1]
1. Institute of Physics, Chinese Academy of Sciences (China)

On-Chip Metasurface-Mediated $MoTe_2$ Photodetector with Electrically Tunable Polarization-Sensitivity
*Ruizhi Li[1], Xinlei Zhang[1], Fan Zhong[1], Zhenhua Ni[1]
1. Southeast University (China)

Synthesis of Rhenium Doped WS_2 Nanotubes and their electrical properties
*Abdul Ahad[1,2], M. A. Afzal[1], R. Higashinaka[1], M. Kikuchi[1], S. Saito[1], S. Kusaba[1], Z. Liu[4], Y. Miyata[1], Y. Hirose[3], K. Yanagi[1]
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Interband Scattering via Effective-Diameter Modulation in Single-Wall Carbon Nanotubes
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Thermal characterization of highly thermally conductive SWCNT films employing two-laser Raman thermometry
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ANISOTROPIC OPTICAL PROPERTIES OF MONOLAYER ALIGNED SINGLE-WALLED CARBON NANOTUBES

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