

Title	Authors	Citations	Web Link
Dynamic observation of Joule heating-induced structural and domain transformation in smart shape-memory alloy	Karim, Abdul;Guan, Chaoshuai;Chen, Bin;Li, Yong;Zhang, Junwei;Zhu, Liu;Deng, Xia;Hu, Yang;Bi, Kaiqi;Li, Hongli;Peng, Yong;Li, Lingwei	Karim, Abdul;Guan, Chaoshuai;Chen, Bin;Li, Yong;Zhang, Junwei;Zhu, Liu;Deng, Xia;Hu, Yang;Bi, Kaiqi;Li, Hongli;Peng, Yong;Li, Lingwei , Dynamic observation of Joule heating-induced structural and domain transformation in smart shape-memory alloy, 2020, Acta Materialia, 10.1016/j.actamat.2020.01.006	http://www.sciencedirect.com/science/article/pii/S1359645420300203
Step-By-Step Atomic Insights into Structural Reordering from 2D to 3D MoS ₂	Inani, Heena;Shin, Dong Hoon;Madsen, Jacob;Jeong, HyunJeong;Kwon, Min Hee;McEvoy, Niall;Susi, Toma;Mangler, Clemens;Lee, Sang Wook;Mustonen, Kimmo;Kotakoski, Jani	Inani, Heena;Shin, Dong Hoon;Madsen, Jacob;Jeong, HyunJeong;Kwon, Min Hee;McEvoy, Niall;Susi, Toma;Mangler, Clemens;Lee, Sang Wook;Mustonen, Kimmo;Kotakoski, Jani , Step-By-Step Atomic Insights into Structural Reordering from 2D to 3D MoS ₂ , Advanced Functional Materials, https://doi.org/10.1002/adfm.202008395	https://onlinelibrary.wiley.com/doi/abs/10.1002/adfm.202008395
Nanoelectromechanical modulation of a strongly-coupled plasmonic dimer	Song, Jung-Hwan;Raza, Søren;van de Groep, Jorik;Kang, Ju-Hyung;Li, Qitong;Kik, Pieter G.;Brongersma, Mark L.	Song, Jung-Hwan;Raza, Søren;van de Groep, Jorik;Kang, Ju-Hyung;Li, Qitong;Kik, Pieter G.;Brongersma, Mark L. , Nanoelectromechanical modulation of a strongly-coupled plasmonic dimer, 2021, Nature Communications, 10.1038/s41467-020-20273-2	https://www.nature.com/articles/s41467-020-20273-2
Microstructural Evolution in Self-catalyzed GaAs Nanowires during In-situ TEM Study	Gang, Geun Won;Lee, Jong Hoon;Kim, Su Yeon;Jeong, Taehyeon;Kim, Kyung Bin;Nguyen, Men Thi Hong;Kim, Yu Ra;Ahn, Sang Jung;Kim, Chung Soo;Kim, Young Heon	Gang, Geun Won;Lee, Jong Hoon;Kim, Su Yeon;Jeong, Taehyeon;Kim, Kyung Bin;Nguyen, Men Thi Hong;Kim, Yu Ra;Ahn, Sang Jung;Kim, Chung Soo;Kim, Young Heon , Microstructural Evolution in Self-catalyzed GaAs Nanowires during In-situ TEM Study, 2020, Nanotechnology, 10.1088/1361-6528/abd437	https://iopscience.iop.org/article/10.1088/1361-6528/abd437
Direct observation of the formation and stabilization of metallic nanoparticles on carbon supports	Huang, Zhennan;Yao, Yonggang;Pang, Zhenqian;Yuan, Yifei;Li, Tangyuan;He, Kun;Hu, Xiaobing;Cheng, Jian;Yao, Wentao;Liu, Yuzi;Nie, Anmin;Sharifi-Asl, Soroosh;Cheng, Meng;Song, Boao;Amine, Khalil;Lu, Jun;Li, Teng;Hu, Liangbing;Shahbazian-Yassar, Reza	Huang, Zhennan;Yao, Yonggang;Pang, Zhenqian;Yuan, Yifei;Li, Tangyuan;He, Kun;Hu, Xiaobing;Cheng, Jian;Yao, Wentao;Liu, Yuzi;Nie, Anmin;Sharifi-Asl, Soroosh;Cheng, Meng;Song, Boao;Amine, Khalil;Lu, Jun;Li, Teng;Hu, Liangbing;Shahbazian-Yassar, Reza , Direct observation of the formation and stabilization of metallic nanoparticles on carbon supports, 2020, Nature Communications, 10.1038/s41467-020-20084-5	https://www.nature.com/articles/s41467-020-20084-5
Interferometric 4D-STEM for Lattice Distortion and Stacking Sequence Measurements of Few-layer Two-dimensional Materials	Zachman, Michael J;Madsen, Jacob;Zhang, Xiang;Ajayan, Pulickel M;Susi, Toma	Zachman, Michael J;Madsen, Jacob;Zhang, Xiang;Ajayan, Pulickel M;Susi, Toma , Interferometric 4D-STEM for Lattice Distortion and Stacking Sequence Measurements of Few-layer Two-dimensional Materials, -, -, -	
In Situ Thermal-Stage Fitted-STEM Characterization of Spherical-Shaped Co/MoS ₂ Nanoparticles for Conversion of Heavy Crude Oils	Ramos, Manuel;Galindo-Hernández, Félix;Torres, Brenda;Domínguez-Esquivel, José Manuel;Heilmaier, Martin	Ramos, Manuel;Galindo-Hernández, Félix;Torres, Brenda;Domínguez-Esquivel, José Manuel;Heilmaier, Martin , In Situ Thermal-Stage Fitted-STEM Characterization of Spherical-Shaped Co/MoS ₂ Nanoparticles for Conversion of Heavy Crude Oils, 2020, Catalysts, 10.3390/catal10111239	https://www.mdpi.com/2073-4344/10/11/1239
Imaging real-time amorphization of hybrid perovskite solar cells under electrical biasing	Kim, Min-cheol;Ahn, Namyoung;Cheng, Diyi;Xu, Mingjie;Pan, Xiaoqing;Jun, Suk;Luo, Yanqi;Fenning, David P;Tan, Darren H S;Zhang, Minghao;Ham, So-Yeon;Jeong, Kiwan;Choi, Mansoo;Meng, Ying Shirley	Kim, Min-cheol;Ahn, Namyoung;Cheng, Diyi;Xu, Mingjie;Pan, Xiaoqing;Jun, Suk;Luo, Yanqi;Fenning, David P;Tan, Darren H S;Zhang, Minghao;Ham, So-Yeon;Jeong, Kiwan;Choi, Mansoo;Meng, Ying Shirley , Imaging real-time amorphization of hybrid perovskite solar cells under electrical biasing, -, -, -	
In-situ TEM Electrical Characterization of void formation and growth along Cu interconnect Via: FIB based sample preparation method	Barda, Hagit;Geppert, Irina;Raz, Avraham;Berthier, Rémy	Barda, Hagit;Geppert, Irina;Raz, Avraham;Berthier, Rémy , In-situ TEM Electrical Characterization of void formation and growth along Cu interconnect Via: FIB based sample preparation method, -, -, -	
Deep-Injection Floating-Catalyst Chemical Vapor Deposition to Continuously Synthesize Carbon Nanotubes with High Aspect Ratio and High Crystallinity	Lee, Sung-Hyun;Park, Junbeom;Park, Ji Hong;Lee, Dong-Myeong;Lee, Anna;Moon, Sook Young;Lee, Sei Young;Jeong, Hyeon Su;Kim, Seung Min	Lee, Sung-Hyun;Park, Junbeom;Park, Ji Hong;Lee, Dong-Myeong;Lee, Anna;Moon, Sook Young;Lee, Sei Young;Jeong, Hyeon Su;Kim, Seung Min , Deep-Injection Floating-Catalyst Chemical Vapor Deposition to Continuously Synthesize Carbon Nanotubes with High Aspect Ratio and High Crystallinity, 2020, Carbon, 10.1016/j.carbon.2020.11.065	https://linkinghub.elsevier.com/retrieve/pii/S0008622320311441
Characteristics and Processing of Hydrogen-Treated Copper Powders for EB-PBF Additive Manufacturing	Ledford, Christopher;Rock, Christopher;Carriere, Paul;Frigola, Pedro;Gamzina, Diana;Horn, Timothy	Ledford, Christopher;Rock, Christopher;Carriere, Paul;Frigola, Pedro;Gamzina, Diana;Horn, Timothy , Characteristics and Processing of Hydrogen-Treated Copper Powders for EB-PBF Additive Manufacturing, 2019, Applied Sciences, 10.3390/app9193993	https://www.mdpi.com/2076-3417/9/19/3993
Unravelling the room-temperature atomic structure and growth kinetics of lithium metal	Liang, Chao;Zhang, Xun;Xia, Shuixin;Wang, Zeyu;Wu, Jiayi;Yuan, Biao;Luo, Xin;Liu, Weiyan;Liu, Wei;Yu, Yi	Liang, Chao;Zhang, Xun;Xia, Shuixin;Wang, Zeyu;Wu, Jiayi;Yuan, Biao;Luo, Xin;Liu, Weiyan;Liu, Wei;Yu, Yi , Unravelling the room-temperature atomic structure and growth kinetics of lithium metal, 2020, Nature Communications, 10.1038/s41467-020-19206-w	https://www.nature.com/articles/s41467-020-19206-w
Improved mechanical properties of V-microalloyed dual phase steel by enhancing martensite deformability	Zhang, Jingbin;Sun, Yinrui;Ji, Zhijie;Luo, Haiwen;Liu, Feng	Zhang, Jingbin;Sun, Yinrui;Ji, Zhijie;Luo, Haiwen;Liu, Feng , Improved mechanical properties of V-microalloyed dual phase steel by enhancing martensite deformability, 2021, Journal of Materials Science & Technology, 10.1016/j.jmst.2020.10.022	http://www.sciencedirect.com/science/article/pii/S1005030220308860
Atomic-scale structure and chemical sensing application of ultrasmall size-selected Pt nanoparticles supported on SnO ₂	Steinhauer, Stephan;Lackner, Eva;Sosada-Ludwikowska, Florentyna;Singh, Vidyadhar;Krainer, Johanna;Wimmer-Teubenbacher, Robert;Grammatikopoulos, Panagiotis;Köck, Anton;Sowwan, Mukhles	Steinhauer, Stephan;Lackner, Eva;Sosada-Ludwikowska, Florentyna;Singh, Vidyadhar;Krainer, Johanna;Wimmer-Teubenbacher, Robert;Grammatikopoulos, Panagiotis;Köck, Anton;Sowwan, Mukhles , Atomic-scale structure and chemical sensing application of ultrasmall size-selected Pt nanoparticles supported on SnO ₂ , 2020, Materials Advances, 10.1039/D0MA00244E	https://pubs.rsc.org/en/content/articlelanding/2020/ma/d0ma00244e
Method of Ga removal from a specimen on a microelectromechanical system-based chip for in-situ transmission electron microscopy	Kwon, Yena;An, Byeong-Seon;Shin, Yeon-Ju;Yang, Cheol-Woong	Kwon, Yena;An, Byeong-Seon;Shin, Yeon-Ju;Yang, Cheol-Woong , Method of Ga removal from a specimen on a microelectromechanical system-based chip for in-situ transmission electron microscopy, 2020, Applied Microscopy, 10.1186/s42649-020-00043-6	https://doi.org/10.1186/s42649-020-00043-6

Title	Authors	Citations	Web Link
Operando Control of Skyrmion Density in a Lorentz Transmission Electron Microscope with Current Pulses	Park, Albert M.;Chen, Zhen;Zhang, Xiyue S.;Zhu, Lijun;Muller, David A.;Fuchs, Gregory D.	Park, Albert M.;Chen, Zhen;Zhang, Xiyue S.;Zhu, Lijun;Muller, David A.;Fuchs, Gregory D. , Operando Control of Skyrmion Density in a Lorentz Transmission Electron Microscope with Current Pulses, 2020, arXiv:2006.16780 [cond-mat]. -	http://arxiv.org/abs/2006.16780
In situ TEM study of crystallization and chemical changes in an oxidized uncapped Ge ₂ Sb ₂ Te ₅ film	Singh, Manish Kumar;Ghosh, Chanchal;Miller, Benjamin;Kotula, Paul G.;Tripathi, Shalini;Watt, John;Bakan, Gokhan;Silva, Helena;Carter, C. Barry	Singh, Manish Kumar;Ghosh, Chanchal;Miller, Benjamin;Kotula, Paul G.;Tripathi, Shalini;Watt, John;Bakan, Gokhan;Silva, Helena;Carter, C. Barry, In situ TEM study of crystallization and chemical changes in an oxidized uncapped Ge ₂ Sb ₂ Te ₅ film , 2020 , Journal of Applied Physics , 10.1063/5.0023761	https://aip.scitation.org/doi/full/10.1063/5.0023761
Room-temperature application of VO ₂ microstructures on rigid and flexible substrates based on synthesis of crystalline VO ₂ solution	Taha, Mohammad;H. Mayes, Edwin L.;R. Field, Matthew;Sun, Miao;Singh, Mandeep;Zou, Wenyue	Taha, Mohammad;H. Mayes, Edwin L.;R. Field, Matthew;Sun, Miao;Singh, Mandeep;Zou, Wenyue , Room-temperature application of VO ₂ microstructures on rigid and flexible substrates based on synthesis of crystalline VO ₂ solution , 2020 , Materials Advances , 10.1039/D0MA00338G	https://pubs.rsc.org/en/content/articlelanding/2020/ma/d0ma00338g
In situ observation of the dynamics in the middle stage of spinodal decomposition of a silicate glass via scanning transmission electron microscopy	Nakazawa, K.;Amma, S.;Mizoguchi, T.	Nakazawa, K.;Amma, S.;Mizoguchi, T. , In situ observation of the dynamics in the middle stage of spinodal decomposition of a silicate glass via scanning transmission electron microscopy , 2020 , Acta Materialia , 10.1016/j.actamat.2020.09.036	http://www.sciencedirect.com/science/article/pii/S1359645420307308
Double shadow masking sample preparation method for in-situ TEM characterization	Alphonse, Carmel Mary Esther;Garlapati, Mohan Muralikrishna;Hilke, Sven;Wilde, Gerhard	Alphonse, Carmel Mary Esther;Garlapati, Mohan Muralikrishna;Hilke, Sven;Wilde, Gerhard , Double shadow masking sample preparation method for in-situ TEM characterization , 2020 , Nano Select , 10.1002/nano.202000063	https://onlinelibrary.wiley.com/doi/abs/10.1002/nano.202000063
Exsolution of Catalytically Active Iridium Nanoparticles from Strontium Titanate	Cali, Eleonora;Kerherve, Gwilherm;Naufal, Faris;Kousi, Kalliopi;Neagu, Dragos;Papaioannou, Evangelos I.;Thomas, Melonie P.;Guiton, Beth S.;Metcalf, Ian S.;Irvine, John T. S.;Payne, David J.	Cali, Eleonora;Kerherve, Gwilherm;Naufal, Faris;Kousi, Kalliopi;Neagu, Dragos;Papaioannou, Evangelos I.;Thomas, Melonie P.;Guiton, Beth S.;Metcalf, Ian S.;Irvine, John T. S.;Payne, David J. , Exsolution of Catalytically Active Iridium Nanoparticles from Strontium Titanate , 2020 , ACS Applied Materials & Interfaces , 10.1021/acsami.0c08928	https://pubs.acs.org/doi/10.1021/acsami.0c08928
Real-Space Imaging of the Ordered Small Molecule Orientations in Porous Frameworks by Electron Microscopy	Shen, Boyuan;Chen, Xiao;Cai, Dali;Xiong, Hao;Jin, Shifeng;Liu, Xin;Han, Yu;Wei, Fei	Shen, Boyuan;Chen, Xiao;Cai, Dali;Xiong, Hao;Jin, Shifeng;Liu, Xin;Han, Yu;Wei, Fei , Real-Space Imaging of the Ordered Small Molecule Orientations in Porous Frameworks by Electron Microscopy , 2020 , arXiv:2001.09588	http://arxiv.org/abs/2001.09588
A method of Ga removal from a specimen fabricated on MEMS-based chip for in-situ transmission electron microscopy	Cappillino, Patrick J.; Hattar, Khalid M.; Clark, Blythe G.; Hartnett, Ryan J.; Stavila, Vitalie; Hekmaty, Michelle A.; Jacobs, Benjamin W.; Robinson, David B.	Cappillino, Patrick J.; Hattar, Khalid M.; Clark, Blythe G.; Hartnett, Ryan J.; Stavila, Vitalie; Hekmaty, Michelle A.; Jacobs, Benjamin W.; Robinson, David B. , Synthesis of mesoporous palladium with tunable porosity and demonstration of its thermal stability by in situ heating and environmental transmission electron microscopy, 2012, Journal of Materials Chemistry A, 10.1039/C2TA00190J	https://pubs.rsc.org/en/content/articlelanding/2013/ta/c2ta00190j
Nanoscale temperature measurement during temperature controlled in situ TEM using Al plasmon nanothermometry	Chmielewski, A.; Ricolleau, C.; Alloyeau, D.; Wang, G.; Nelayah, J.	Chmielewski, A.; Ricolleau, C.; Alloyeau, D.; Wang, G.; Nelayah, J. , Nanoscale temperature measurement during temperature controlled in situ TEM using Al plasmon nanothermometry, 2020, Ultramicroscopy, 10.1016/j.ultramic.2019.112881	http://www.sciencedirect.com/science/article/pii/S0304399119300932
Synthesis of mesoporous palladium with tunable porosity and demonstration of its thermal stability by in situ heating and environmental transmission electron microscopy	Cappillino, Patrick J.; Hattar, Khalid M.; Clark, Blythe G.; Hartnett, Ryan J.; Stavila, Vitalie; Hekmaty, Michelle A.; Jacobs, Benjamin W.; Robinson, David B.	Cappillino, Patrick J.; Hattar, Khalid M.; Clark, Blythe G.; Hartnett, Ryan J.; Stavila, Vitalie; Hekmaty, Michelle A.; Jacobs, Benjamin W.; Robinson, David B. , Synthesis of mesoporous palladium with tunable porosity and demonstration of its thermal stability by in situ heating and environmental transmission electron microscopy, 2012, Journal of Materials Chemistry A, 10.1039/C2TA00190J	https://pubs.rsc.org/en/content/articlelanding/2013/ta/c2ta00190j
In situ observations of thermally induced phase transformations in iron sulfide nanoparticles	Moehring, N.K.; Fort, M.J.; McBride, J.R.; Kato, M.; Macdonald, J.E.; Kidambi, P.R.	Moehring, N.K.; Fort, M.J.; McBride, J.R.; Kato, M.; Macdonald, J.E.; Kidambi, P.R. , In situ observations of thermally induced phase transformations in iron sulfide nanoparticles, 2020, Materials Today Advances, 10.1016/j.mtadv.2020.100057	https://linkinghub.elsevier.com/retrieve/pii/S2590049820300047
Observing topotactic phase transformation and resistive switching behaviors in low power SrCoOx memristor	Lo, Hung-Yang; Yang, Chih-Yu; Huang, Guan-Ming; Huang, Chih-Yang; Chen, Jui-Yuan; Huang, Chun-Wei; Chu, Ying-Hao; Wu, Wen-Wei	Lo, Hung-Yang; Yang, Chih-Yu; Huang, Guan-Ming; Huang, Chih-Yang; Chen, Jui-Yuan; Huang, Chun-Wei; Chu, Ying-Hao; Wu, Wen-Wei , Observing topotactic phase transformation and resistive switching behaviors in low power SrCoOx memristor, 2020, Nano Energy, 10.1016/j.nanoen.2020.104683	https://linkinghub.elsevier.com/retrieve/pii/S2211285520302408
Ni ₅ Ga ₃ catalysts for CO ₂ reduction to methanol: Exploring the role of Ga surface oxidation/reduction on catalytic activity	Gallo, Alessandro; Snider, Jonathan L.; Sokaras, Dimosthenis; Nordlund, Dennis; Kroll, Thomas; Ogasawara, Hirohito; Kovarik, Libor; Duyar, Melis S.; Jaramillo, Thomas F.	Gallo, Alessandro; Snider, Jonathan L.; Sokaras, Dimosthenis; Nordlund, Dennis; Kroll, Thomas; Ogasawara, Hirohito; Kovarik, Libor; Duyar, Melis S.; Jaramillo, Thomas F. , Ni ₅ Ga ₃ catalysts for CO ₂ reduction to methanol: Exploring the role of Ga surface oxidation/reduction on catalytic activity, 2020, Applied Catalysis B: Environmental, 10.1016/j.apcatb.2019.118369	https://linkinghub.elsevier.com/retrieve/pii/S0926337319311154
In situ atomic scale investigation of Li ₇ La ₃ Zr ₂ O ₁₂ -based Li ⁺ -conducting solid electrolyte during calcination growth	Huang, Chih-Yang; Tseng, Yi-Tang; Lo, Hung-Yang; Chang, Jeng-Kuei; Wu, Wen-Wei	Huang, Chih-Yang; Tseng, Yi-Tang; Lo, Hung-Yang; Chang, Jeng-Kuei; Wu, Wen-Wei , In situ atomic scale investigation of Li ₇ La ₃ Zr ₂ O ₁₂ -based Li ⁺ -conducting solid electrolyte during calcination growth, 2020, Nano Energy, 10.1016/j.nanoen.2020.104625	https://linkinghub.elsevier.com/retrieve/pii/S2211285520301828
Coarsening- and creep resistance of precipitation-strengthened Al-Mg-Zr alloys processed by selective laser melting	Griffiths, S.; Croteau, J.R.; Rossell, M.D.; Erni, R.; De Luca, A.; Vo, N.Q.; Dunand, D.C.; Leinenbach, C.	Griffiths, S.; Croteau, J.R.; Rossell, M.D.; Erni, R.; De Luca, A.; Vo, N.Q.; Dunand, D.C.; Leinenbach, C. , Coarsening- and creep resistance of precipitation-strengthened Al-Mg-Zr alloys processed by selective laser melting, 2020, Acta Materialia, 10.1016/j.actamat.2020.02.008	https://linkinghub.elsevier.com/retrieve/pii/S1359645420301002
Phase Selection in Self-catalyzed GaAs Nanowires	Panciera, Federico; Baraissov, Zhaslan; Patriarche, Gilles; Dubrovskii, Vladimir G.; Glas, Frank; Travers, Laurent; Mirsaidov, Utkur; Harmand, Jean-Christophe	Panciera, Federico; Baraissov, Zhaslan; Patriarche, Gilles; Dubrovskii, Vladimir G.; Glas, Frank; Travers, Laurent; Mirsaidov, Utkur; Harmand, Jean-Christophe , Phase Selection in Self-catalyzed GaAs Nanowires, 2020, Nano Letters, 10.1021/acs.nanolett.9b04808	https://pubs.acs.org/doi/10.1021/acs.nanolett.9b04808

Title	Authors	Citations	Web Link
Configurable Resistive Response in BaTiO ₃ Ferroelectric Memristors via Electron Beam Radiation	Molinari, Alan; Witte, Ralf; Neelisetty, Krishna Kanth; Gorji, Saleh; Kübel, Christian; Münch, Ingo; Wöhler, Franziska; Hahn, Lothar; Hengsbach, Stefan; Hahn, Lothar; Hengsbach, Stefan; Bade, Klaus; Hahn, Horst; Kruk, Robert	Molinari, Alan; Witte, Ralf; Neelisetty, Krishna Kanth; Gorji, Saleh; Kübel, Christian; Münch, Ingo; Wöhler, Franziska; Hahn, Lothar; Hengsbach, Stefan; Bade, Klaus; Hahn, Horst; Kruk, Robert , Configurable Resistive Response in BaTiO ₃ Ferroelectric Memristors via Electron Beam Radiation, 2020, Advanced Materials, 10.1002/adma.201907541	https://onlinelibrary.wiley.com/doi/abs/10.1002/adma.201907541
Thermal Effect and Rayleigh Instability of Ultrathin 4H Hexagonal Gold Nanoribbons	Li, Peifeng; Han, Ying; Zhou, Xiao; Fan, Zhanxi; Xu, Shang; Cao, Ke; Meng, Fanling; Gao, Libo; Song, Jun; Zhang, Hua; Lu, Yang	Li, Peifeng; Han, Ying; Zhou, Xiao; Fan, Zhanxi; Xu, Shang; Cao, Ke; Meng, Fanling; Gao, Libo; Song, Jun; Zhang, Hua; Lu, Yang , Thermal Effect and Rayleigh Instability of Ultrathin 4H Hexagonal Gold Nanoribbons, 2020, Matter, 10.1016/j.matt.2019.10.003	https://linkinghub.elsevier.com/retrieve/pii/S2590238519302735
Dynamic observation on the functional metal oxide conversion behaviors in Fe ₃ O ₄ /ZnO heterostructures	Huang, Chih-Yang; Tai, Kuo-Lun; Huang, Chun-Wei; Tseng, Yi-Tang; Lo, Hung-Yang; Wu, Wen-Wei	Huang, Chih-Yang; Tai, Kuo-Lun; Huang, Chun-Wei; Tseng, Yi-Tang; Lo, Hung-Yang; Wu, Wen-Wei , Dynamic observation on the functional metal oxide conversion behaviors in Fe ₃ O ₄ /ZnO heterostructures, 2020, Scripta Materialia, 10.1016/j.scriptamat.2019.10.035	https://linkinghub.elsevier.com/retrieve/pii/S1359646219306281
Phase transformation at controlled locations in nanowires by in situ electron irradiation	Zhang, Hongtao; Wang, Wen; Xu, Tao; Xu, Feng; Sun, Litao	Zhang, Hongtao; Wang, Wen; Xu, Tao; Xu, Feng; Sun, Litao , Phase transformation at controlled locations in nanowires by in situ electron irradiation, 2020, Nano Research, 10.1007/s12274-020-2711-2	http://link.springer.com/10.1007/s12274-020-2711-2
Probing local order in multiferroics by transmission electron microscopy	Campanini, Marco; Erni, Rolf; Rossell, Marta D.	Campanini, Marco; Erni, Rolf; Rossell, Marta D. , Probing local order in multiferroics by transmission electron microscopy, 2020, Physical Sciences Reviews, 10.1515/psr-2019-0068	http://www.degruyter.com/view/j/psr.2020.5.issue-2/psr-2019-0068/psr-2019-0068.xml
The Structure of Sub-nm Platinum Clusters at Elevated Temperatures	Henninen, Trond R.; Bon, Marta; Wang, Feng; Passerone, Daniele; Erni, Rolf	Henninen, Trond R.; Bon, Marta; Wang, Feng; Passerone, Daniele; Erni, Rolf , The Structure of Sub-nm Platinum Clusters at Elevated Temperatures, 2020, Angewandte Chemie International Edition, 10.1002/anie.201911068	https://onlinelibrary.wiley.com/doi/abs/10.1002/anie.201911068
Electron force-induced dislocations annihilation and regeneration of a superalloy through electrical in-situ transmission electron microscopy observations	Zhang, Xin; Li, Hongwei; Zhan, Mei; Zheng, Zebang; Gao, Jia; Shao, Guangda	Zhang, Xin; Li, Hongwei; Zhan, Mei; Zheng, Zebang; Gao, Jia; Shao, Guangda , Electron force-induced dislocations annihilation and regeneration of a superalloy through electrical in-situ transmission electron microscopy observations, 2020, Journal of Materials Science & Technology, 10.1016/j.jmst.2019.08.008	https://linkinghub.elsevier.com/retrieve/pii/S1005030219302713
Transformation of aromatic structure of vitrinite with different coal ranks by HRTEM in situ heating	Wang, Shaoqing; Chen, Hao; Zhang, Xiaomei	Wang, Shaoqing; Chen, Hao; Zhang, Xiaomei , Transformation of aromatic structure of vitrinite with different coal ranks by HRTEM in situ heating, 2020, Fuel, 10.1016/j.fuel.2019.116309	https://linkinghub.elsevier.com/retrieve/pii/S0016236119316631
Atomic-Scale Fabrication of In-Plane Heterojunctions of Few-Layer MoS ₂ via In Situ Scanning Transmission Electron Microscopy	Tai, Kuo-Lun; Huang, Chun-Wei; Cai, Ren-Fong; Huang, Guan-Min; Tseng, Yi-Tang; Chen, Jun; Wu, Wen-Wei	Tai, Kuo-Lun; Huang, Chun-Wei; Cai, Ren-Fong; Huang, Guan-Min; Tseng, Yi-Tang; Chen, Jun; Wu, Wen-Wei , Atomic-Scale Fabrication of In-Plane Heterojunctions of Few-Layer MoS ₂ via In Situ Scanning Transmission Electron Microscopy, 2020, Small, 10.1002/smll.201905516	https://onlinelibrary.wiley.com/doi/abs/10.1002/smll.201905516
Controlling Nanoscale Thermal Expansion of Monolayer Transition Metal Dichalcogenides by Alloy Engineering	Hu, Xuan; Hemmat, Zahra; Majidi, Leily; Cavin, John; Mishra, Rohan; Salehi-Khojin, Amin; Ogut, Serdar; Klie, Robert F.	Hu, Xuan; Hemmat, Zahra; Majidi, Leily; Cavin, John; Mishra, Rohan; Salehi-Khojin, Amin; Ogut, Serdar; Klie, Robert F. , Controlling Nanoscale Thermal Expansion of Monolayer Transition Metal Dichalcogenides by Alloy Engineering, 2020, Small, 10.1002/smll.201905892	https://onlinelibrary.wiley.com/doi/abs/10.1002/smll.201905892
Pyroelectric power generation from the waste heat of automotive exhaust gas	Kim, Juyoung; Yamanaka, Satoru; Murayama, Ichiro; Katou, Takanori; Sakamoto, Tomokazu; Kawasaki, Takuro; Fukuda, Tatsuo; Sekino, Tohru; Nakayama, Tadachika; Takeda, Masatoshi; Baba, Masaaki; Tanaka, Hirohisa; Aizawa, Kazuya; Hashimoto, Hideki; Kim, Yoonho	Kim, Juyoung; Yamanaka, Satoru; Murayama, Ichiro; Katou, Takanori; Sakamoto, Tomokazu; Kawasaki, Takuro; Fukuda, Tatsuo; Sekino, Tohru; Nakayama, Tadachika; Takeda, Masatoshi; Baba, Masaaki; Tanaka, Hirohisa; Aizawa, Kazuya; Hashimoto, Hideki; Kim, Yoonho , Pyroelectric power generation from the waste heat of automotive exhaust gas, 2020, Sustainable Energy & Fuels, 10.1039/C9SE00283A	http://xlink.rsc.org/?DOI=C9SE00283A
Atomic Insight into Thermolysis-Driven Growth of 2D MoS ₂	Sang, Xiaohan; Li, Xufan; Puzos, Alexander A.; Geohegan, David B.; Xiao, Kai; Unocic, Raymond R.	Sang, Xiaohan; Li, Xufan; Puzos, Alexander A.; Geohegan, David B.; Xiao, Kai; Unocic, Raymond R. , Atomic Insight into Thermolysis-Driven Growth of 2D MoS ₂ , 2019, Advanced Functional Materials, 10.1002/adfm.201902149	https://onlinelibrary.wiley.com/doi/abs/10.1002/adfm.201902149
The ultrathin limit of improper ferroelectricity	Nordlander, J.; Campanini, M.; Rossell, M. D.; Erni, R.; Meier, Q. N.; Cano, A.; Spaldin, N. A.; Fiebig, M.; Trassin, M.	Nordlander, J.; Campanini, M.; Rossell, M. D.; Erni, R.; Meier, Q. N.; Cano, A.; Spaldin, N. A.; Fiebig, M.; Trassin, M. , The ultrathin limit of improper ferroelectricity, 2019, Nature Communications, 10.1038/s41467-019-13474-x	http://www.nature.com/articles/s41467-019-13474-x
In Situ Nanostructural Analysis of Volatile Threshold Switching and Non-Volatile Bipolar Resistive Switching in Mixed-Phase VO _x Asymmetric Crossbars	Nirantar, Shruti; Mayes, Edwin; Rahman, Md. Ataur; Ahmed, Taimur; Taha, Mohammad; Bhaskaran, Madhu; Wallia, Sumeet; Sriram, Sharath	Nirantar, Shruti; Mayes, Edwin; Rahman, Md. Ataur; Ahmed, Taimur; Taha, Mohammad; Bhaskaran, Madhu; Wallia, Sumeet; Sriram, Sharath , In Situ Nanostructural Analysis of Volatile Threshold Switching and Non-Volatile Bipolar Resistive Switching in Mixed-Phase VO _x Asymmetric Crossbars, 2019, Advanced Electronic Materials, 10.1002/aelm.201900605	https://onlinelibrary.wiley.com/doi/abs/10.1002/aelm.201900605
In Situ Observation of Crystalline Silicon Growth from SiO ₂ at Atomic Scale	Yu, Kaihao; Xu, Tao; Wu, Xing; Wang, Wen; Zhang, Hui; Zhang, Qiubo; Tang, Luping; Sun, Litao	Yu, Kaihao; Xu, Tao; Wu, Xing; Wang, Wen; Zhang, Hui; Zhang, Qiubo; Tang, Luping; Sun, Litao , In Situ Observation of Crystalline Silicon Growth from SiO ₂ at Atomic Scale, 2019, Research, 10.34133/2019/3289247	https://spj.sciencemag.org/research/2019/3289247

Title	Authors	Citations	Web Link
An Environmental Transmission Electron Microscopy Study of the Stability of the TiO ₂ (1 × 4) Reconstructed (001) Surface	Fang, Ke; Li, Guanxing; Ou, Yang; Yuan, Wentao; Yang, Hangsheng; Zhang, Ze; Wang, Yong	Fang, Ke; Li, Guanxing; Ou, Yang; Yuan, Wentao; Yang, Hangsheng; Zhang, Ze; Wang, Yong, An Environmental Transmission Electron Microscopy Study of the Stability of the TiO ₂ (1 × 4) Reconstructed (001) Surface, 2019, The Journal of Physical Chemistry C, 10.1021/acs.jpcc.9b04590	https://doi.org/10.1021/acs.jpcc.9b04590
High temperature shockwave stabilized single atoms	Yao, Yonggang; Huang, Zhennan; Xie, Pengfei; Wu, Lianping; Ma, Lu; Li, Tangyuan; Pang, Zhenqian; Jiao, Miaolun; Liang, Zhiqiang; Gao, Jinlong; He, Yang; Kline, Dylan Jacob; Zachariah, Michael R.; Wang, Chongmin; Lu, Jun; Wu, Tianpin; Li, Teng; Wang, Chao; Shahbazian-Yassar, Reza; Hu, Liangbing	Yao, Yonggang; Huang, Zhennan; Xie, Pengfei; Wu, Lianping; Ma, Lu; Li, Tangyuan; Pang, Zhenqian; Jiao, Miaolun; Liang, Zhiqiang; Gao, Jinlong; He, Yang; Kline, Dylan Jacob; Zachariah, Michael R.; Wang, Chongmin; Lu, Jun; Wu, Tianpin; Li, Teng; Wang, Chao; Shahbazian-Yassar, Reza; Hu, Liangbing, High temperature shockwave stabilized single atoms, 2019, Nature Nanotechnology, 10.1038/s41565-019-0518-7	http://www.nature.com/articles/s41565-019-0518-7
Insights into thermal annealing of highly-active PtCu ₃ /C Oxygen Reduction Reaction electrocatalyst: An in-situ heating transmission Electron microscopy study	Gatalo, Matija; Ruiz-Zepeda, Francisco; Hodnik, Nejc; Dražič, Goran; Bele, Marjan	Gatalo, Matija; Ruiz-Zepeda, Francisco; Hodnik, Nejc; Dražič, Goran; Bele, Marjan, Insights into thermal annealing of highly-active PtCu ₃ /C Oxygen Reduction Reaction electrocatalyst: An in-situ heating transmission Electron microscopy study, 2019, Nano Energy, 10.1016/j.nanoen.2019.103892	https://linkinghub.elsevier.com/retrieve/pii/S2211285519305993
Multi-scale Convolutional Neural Networks for Inverse Problems	Wang, Feng; Eljarrat, Alberto; Müller, Johannes; Henninen, Trond; Rolf, Erni; Koch, Christoph	Wang, Feng; Eljarrat, Alberto; Müller, Johannes; Henninen, Trond; Rolf, Erni; Koch, Christoph, Multi-scale Convolutional Neural Networks for Inverse Problems, 2019, arXiv:1810.12183 [cond-mat, physics:physics], -	http://arxiv.org/abs/1810.12183
Importance of point defect reactions for the atomic-scale roughness of III-V nanowire sidewalls	Díaz Álvarez, Adrian; Peric, Nemanja; Franchina Vergel, Nathali Alexandra; Nys, Jean-Philippe; Berthe, Maxime; Patriarche, Gilles; Harmand, Jean-Christophe; Caroff, Philippe; Plissard, Sébastien; Ebert, Philipp; Xu, Tao; Grandier, Bruno	Díaz Álvarez, Adrian; Peric, Nemanja; Franchina Vergel, Nathali Alexandra; Nys, Jean-Philippe; Berthe, Maxime; Patriarche, Gilles; Harmand, Jean-Christophe; Caroff, Philippe; Plissard, Sébastien; Ebert, Philipp; Xu, Tao; Grandier, Bruno, Importance of point defect reactions for the atomic-scale roughness of III-V nanowire sidewalls, 2019, Nanotechnology, 10.1088/1361-6528/ab1a4e	https://iopscience.iop.org/article/10.1088/1361-6528/ab1a4e
Nanoparticle Reshaping and Ion Migration in Nanocomposite Ultrafast Ionic Actuators: The Converse Piezo-Electro-Kinetic Effect	Chiolerio, Alessandro; Perrone, Denis; Roppolo, Ignazio; Rizza, Giancarlo; Risplendi, Francesca; Stassi, Stefano; Laurenti, Marco; Rajan, Krishna; Chiappone, Annalisa; Bocchini, Sergio; Cicero, Giancarlo; Pandolfi, Paolo; Bejtka, Katarzyna; Coulon, Pierre-Eugène; Ricciardi, Carlo; Pirri, Candido Fabrizio	Chiolerio, Alessandro; Perrone, Denis; Roppolo, Ignazio; Rizza, Giancarlo; Risplendi, Francesca; Stassi, Stefano; Laurenti, Marco; Rajan, Krishna; Chiappone, Annalisa; Bocchini, Sergio; Cicero, Giancarlo; Pandolfi, Paolo; Bejtka, Katarzyna; Coulon, Pierre-Eugène; Ricciardi, Carlo; Pirri, Candido Fabrizio, Nanoparticle Reshaping and Ion Migration in Nanocomposite Ultrafast Ionic Actuators: The Converse Piezo-Electro-Kinetic Effect, 2019, Advanced Functional Materials, 10.1002/adfm.201902941	https://onlinelibrary.wiley.com/doi/abs/10.1002/adfm.201902941
Study of Crystallization and Coalescence of Nanocrystals in Amorphous Glass at High Temperature	Wang, Ting; Lu, Wei; Xu, Xuhui; Qiu, Jianbei; Yu, Siu Fung	Wang, Ting; Lu, Wei; Xu, Xuhui; Qiu, Jianbei; Yu, Siu Fung, Study of Crystallization and Coalescence of Nanocrystals in Amorphous Glass at High Temperature, 2019, Inorganic Chemistry, 10.1021/acs.inorgchem.9b01491	https://pubs.acs.org/doi/10.1021/acs.inorgchem.9b01491
Pre-stressing aluminum nanoparticles as a strategy to enhance reactivity of nanothermite composites	Jacob, Rohit J.; Hill, Kevin J.; Yang, Yong; Pantoya, Michelle L.; Zachariah, Michael R.	Jacob, Rohit J.; Hill, Kevin J.; Yang, Yong; Pantoya, Michelle L.; Zachariah, Michael R., Pre-stressing aluminum nanoparticles as a strategy to enhance reactivity of nanothermite composites, 2019, Combustion and Flame, 10.1016/j.combustflame.2019.03.024	https://linkinghub.elsevier.com/retrieve/pii/S0010218019301269
Grain growth mechanisms in ultrafine-grained steel: an electron backscatter diffraction and in situ TEM study	Ahmels, Laura; Kashiwar, Ankush; Scherer, Torsten; Kübel, Christian; Bruder, Enrico	Ahmels, Laura; Kashiwar, Ankush; Scherer, Torsten; Kübel, Christian; Bruder, Enrico, Grain growth mechanisms in ultrafine-grained steel: an electron backscatter diffraction and in situ TEM study, 2019, Journal of Materials Science, 10.1007/s10853-019-03611-8	http://link.springer.com/10.1007/s10853-019-03611-8
Electron Beam Effects on Oxide Thin Films—Structure and Electrical Property Correlations	Neelisetty, Krishna Kanth; Mu, Xiaoke; Gutsch, Sebastian; Vahl, Alexander; Molinari, Alan; von Seggern, Falk; Hansen, Mirko; Scherer, Torsten; Zacharias, Margit; Kienle, Lorenz; Chakravadhanula, VS Kiran; Kübel, Christian	Neelisetty, Krishna Kanth; Mu, Xiaoke; Gutsch, Sebastian; Vahl, Alexander; Molinari, Alan; von Seggern, Falk; Hansen, Mirko; Scherer, Torsten; Zacharias, Margit; Kienle, Lorenz; Chakravadhanula, VS Kiran; Kübel, Christian, Electron Beam Effects on Oxide Thin Films—Structure and Electrical Property Correlations, 2019, Microscopy and Microanalysis, 10.1017/S1431927619000175	https://www.cambridge.org/core/product/identifier/S1431927619000175/type/journal_article
Ru Octahedral Nanocrystals with a Face-Centered Cubic Structure, {111} Facets, Thermal Stability up to 400 °C, and Enhanced Catalytic Activity	Zhao, Ming; Chen, Zitao; Lyu, Zhiheng; Hood, Zachary D.; Xie, Minghao; Vara, Madeline; Chi, Miaofang; Xia, Younan	Zhao, Ming; Chen, Zitao; Lyu, Zhiheng; Hood, Zachary D.; Xie, Minghao; Vara, Madeline; Chi, Miaofang; Xia, Younan, Ru Octahedral Nanocrystals with a Face-Centered Cubic Structure, {111} Facets, Thermal Stability up to 400 °C, and Enhanced Catalytic Activity, 2019, Journal of the American Chemical Society, 10.1021/jacs.9b01640	https://pubs.acs.org/doi/10.1021/jacs.9b01640
Novel Route from a Wurtzite to a Rock-Salt Structure in CoO Nanocrystals: In Situ Transmission Electron Microscopy Study	Jang, Kyu Yeon; Ahn, Sang Jung; Kwon, Ji-Hwan; Nam, Ki Min; Kim, Young Heon	Jang, Kyu Yeon; Ahn, Sang Jung; Kwon, Ji-Hwan; Nam, Ki Min; Kim, Young Heon, Novel Route from a Wurtzite to a Rock-Salt Structure in CoO Nanocrystals: In Situ Transmission Electron Microscopy Study, 2019, The Journal of Physical Chemistry C, 10.1021/acs.jpcc.9b01548	https://pubs.acs.org/doi/10.1021/acs.jpcc.9b01548
Novel Interface in CuAg Nanostructure Induced by Size Effect	Tang, Luping; Wu, Wei; He, Longbing; Yu, Kaihao; Xu, Tao; Zhang, Qiubo; Zhang, Lei; Sun, Litao	Tang, Luping; Wu, Wei; He, Longbing; Yu, Kaihao; Xu, Tao; Zhang, Qiubo; Zhang, Lei; Sun, Litao, Novel Interface in CuAg Nanostructure Induced by Size Effect, 2019, The Journal of Physical Chemistry Letters, 10.1021/acs.jpcllett.9b00484	https://pubs.acs.org/doi/10.1021/acs.jpcllett.9b00484
ZnO-Templated Synthesis and Metal-Insulator Transition of VO ₂ Nanostructures	Li, Xuefei; Schaak, Raymond E.	Li, Xuefei; Schaak, Raymond E., ZnO-Templated Synthesis and Metal-Insulator Transition of VO ₂ Nanostructures, 2019, Chemistry of Materials, 10.1021/acs.chemmater.8b05231	https://pubs.acs.org/doi/10.1021/acs.chemmater.8b05231
Current-induced restructuring in bent silver nanowires	Batra, Nitin M.; Syed, Ahad; Costa, Pedro M. F. J.	Batra, Nitin M.; Syed, Ahad; Costa, Pedro M. F. J., Current-induced restructuring in bent silver nanowires, 2019, Nanoscale, 10.1039/C8NR08551J	https://pubs.rsc.org/en/content/articlelanding/2019/nr/c8nr08551j
Revealing the atomic ordering of binary intermetallics using in situ heating techniques at multilength scales	Xiong, Yin; Yang, Yao; Jores, Howie; Padgett, Elliot; Gupta, Unmukt; Yarlagadda, Venkata; Agyeman-Budu, David N.; Huang, Xin; Moylan, Thomas E.; Zeng, Rui; Kongkanand, Anusorn; Escobedo, Fernando A.; Brock, Joel D.; DiSalvo, Francis J.; Muller, David A.; Abruña, Héctor D.	Xiong, Yin; Yang, Yao; Jores, Howie; Padgett, Elliot; Gupta, Unmukt; Yarlagadda, Venkata; Agyeman-Budu, David N.; Huang, Xin; Moylan, Thomas E.; Zeng, Rui; Kongkanand, Anusorn; Escobedo, Fernando A.; Brock, Joel D.; DiSalvo, Francis J.; Muller, David A.; Abruña, Héctor D., Revealing the atomic ordering of binary intermetallics using in situ heating techniques at multilength scales, 2019, Proceedings of the National Academy of Sciences, 10.1073/pnas.1815643116	http://www.pnas.org/lookup/doi/10.1073/pnas.1815643116

Title	Authors	Citations	Web Link
Formation of gold nanoparticles in a free-standing ionic liquid triggered by heat and electron irradiation	Keller, Debora; Henninen, Trond R.; Erni, Rolf	Keller, Debora; Henninen, Trond R.; Erni, Rolf , Formation of gold nanoparticles in a free-standing ionic liquid triggered by heat and electron irradiation, 2019, Micron, 10.1016/j.micron.2018.10.008	http://www.sciencedirect.com/science/article/pii/S0968432818302993
Influence of gas environment and heating on atomic structures of platinum nanoparticle catalysts for proton-exchange membrane fuel cells	Yoshida, Kenta; Zhang, Xudong; Shimada, Yusuke; Nagai, Yasuyoshi; Hiroshima, Tomoki; Tanaka, Nobuo; Lari, Leonardo; Ward, Michael R.; Boyes, Edward D.; Gai, Pratibha L.	Yoshida, Kenta; Zhang, Xudong; Shimada, Yusuke; Nagai, Yasuyoshi; Hiroshima, Tomoki; Tanaka, Nobuo; Lari, Leonardo; Ward, Michael R.; Boyes, Edward D.; Gai, Pratibha L. , Influence of gas environment and heating on atomic structures of platinum nanoparticle catalysts for proton-exchange membrane fuel cells, 2019, Nanotechnology, 10.1088/1361-6528/aafe1e	https://doi.org/10.1088%2F1361-6528%2Faafe1e
In Situ Study of Particle Precipitation in Metal-Doped CeO ₂ during Thermal Treatment and Ion Irradiation for Emulation of Irradiating Fuels	Jiang, Weilin; Conroy, Michele A.; Kruska, Karen; Olszta, Matthew J.; Droubay, Timothy C.; Schwantes, Jon M.; Taylor, Caitlin A.; Price, Patrick M.; Hattar, Khalid; Devanathan, Ram	Jiang, Weilin; Conroy, Michele A.; Kruska, Karen; Olszta, Matthew J.; Droubay, Timothy C.; Schwantes, Jon M.; Taylor, Caitlin A.; Price, Patrick M.; Hattar, Khalid; Devanathan, Ram , In Situ Study of Particle Precipitation in Metal-Doped CeO ₂ during Thermal Treatment and Ion Irradiation for Emulation of Irradiating Fuels, 2019, The Journal of Physical Chemistry C, 10.1021/acs.jpcc.8b11027	https://doi.org/10.1021/acs.jpcc.8b11027
Observable Two-Step Nucleation Mechanism in Solid-State Formation of Tungsten Carbide	Fei, Linfeng; Gan, Xianglai; Ng, Sheung Mei; Wang, Hui; Xu, Ming; Lu, Wei; Zhou, Yanchun; Leung, Chi Wah; Mak, Chee-Leung; Wang, Yu	Fei, Linfeng; Gan, Xianglai; Ng, Sheung Mei; Wang, Hui; Xu, Ming; Lu, Wei; Zhou, Yanchun; Leung, Chi Wah; Mak, Chee-Leung; Wang, Yu , Observable Two-Step Nucleation Mechanism in Solid-State Formation of Tungsten Carbide, 2019, ACS Nano, 10.1021/acsnano.8b07864	https://doi.org/10.1021/acsnano.8b07864
Ultra-stable 4H-gold nanowires up to 800 °C in a vacuum	Wang, Qi; Zhao, Zhi Liang; Cai, Chao; Li, Hui; Gu, Meng	Wang, Qi; Zhao, Zhi Liang; Cai, Chao; Li, Hui; Gu, Meng , Ultra-stable 4H-gold nanowires up to 800 °C in a vacuum, 2019, Journal of Materials Chemistry A, 10.1039/C9TA01306G	http://xlink.rsc.org/?DOI=C9TA01306G
Nanocrystalline graphene at high temperatures: insight into nanoscale processes	Kumar, C. N. Shyam; Konrad, Manuel; Chakravadhanula, Venkata Sai Kiran; Dehm, Simone; Wang, Di; Wenzel, Wolfgang; Krupke, Ralph; Kübel, Christian	Kumar, C. N. Shyam; Konrad, Manuel; Chakravadhanula, Venkata Sai Kiran; Dehm, Simone; Wang, Di; Wenzel, Wolfgang; Krupke, Ralph; Kübel, Christian , Nanocrystalline graphene at high temperatures: insight into nanoscale processes, 2019, Nanoscale Advances, 10.1039/C9NA00055K	http://xlink.rsc.org/?DOI=C9NA00055K
Anisotropic atomistic evolution during the sublimation of polar InAs nanowires	Choi, Suji; Lee, Jeonghwan; Pin, Minwook; Kwon, Ji-Hwan; Kim, In; Yeom, Min Sun; Kim, Chung Soo; Lee, Ho Seong; Ahn, Sang Jung; Yi, Seong-Hoon; Kim, Young Heon	Choi, Suji; Lee, Jeonghwan; Pin, Minwook; Kwon, Ji-Hwan; Kim, In; Yeom, Min Sun; Kim, Chung Soo; Lee, Ho Seong; Ahn, Sang Jung; Yi, Seong-Hoon; Kim, Young Heon , Anisotropic atomistic evolution during the sublimation of polar InAs nanowires, 2019, Nanoscale, 10.1039/C8NR10193K	http://xlink.rsc.org/?DOI=C8NR10193K
In situ observation of nanoparticle formation in nickel-based mechanical alloyed powders	Wang, Man; Han, Heung Nam; Chung, Hee-Suk; Chun, Young-Bum; Jang, Jinsung	Wang, Man; Han, Heung Nam; Chung, Hee-Suk; Chun, Young-Bum; Jang, Jinsung , In situ observation of nanoparticle formation in nickel-based mechanical alloyed powders, 2018, Journal of Materials Science, 10.1007/s10853-018-2761-y	https://doi.org/10.1007/s10853-018-2761-y
Evolution of Glassy Carbon Microstructure: In Situ Transmission Electron Microscopy of the Pyrolysis Process	Sharma, Swati; Shyam Kumar, C. N.; Korvink, Jan G.; Kübel, Christian	Sharma, Swati; Shyam Kumar, C. N.; Korvink, Jan G.; Kübel, Christian , Evolution of Glassy Carbon Microstructure: In Situ Transmission Electron Microscopy of the Pyrolysis Process, 2018, Scientific Reports, 10.1038/s41598-018-34644-9	https://www.nature.com/articles/s41598-018-34644-9
Revealing conducting filament evolution in low power and high reliability Fe ₃ O ₄ /Ta ₂ O ₅ bilayer RRAM	Chang, Chia-Fu; Chen, Jui-Yuan; Huang, Guan-Min; Lin, Ting-Yi; Tai, Kuo-Lun; Huang, Chih-Yang; Yeh, Ping-Hung; Wu, Wen-Wei	Chang, Chia-Fu; Chen, Jui-Yuan; Huang, Guan-Min; Lin, Ting-Yi; Tai, Kuo-Lun; Huang, Chih-Yang; Yeh, Ping-Hung; Wu, Wen-Wei , Revealing conducting filament evolution in low power and high reliability Fe ₃ O ₄ /Ta ₂ O ₅ bilayer RRAM, 2018, Nano Energy, 10.1016/j.nanoen.2018.09.029	https://linkinghub.elsevier.com/retrieve/pii/S2211285518306736
Predictive multiphase evolution in Al-containing high-entropy alloys	Santodonato, L. J.; Liaw, P. K.; Unocic, R. R.; Bei, H.; Morris, J. R.	Santodonato, L. J.; Liaw, P. K.; Unocic, R. R.; Bei, H.; Morris, J. R. , Predictive multiphase evolution in Al-containing high-entropy alloys, 2018, Nature Communications, 10.1038/s41467-018-06757-2	https://www.nature.com/articles/s41467-018-06757-2
Atomic Step Flow on a Nanofacet	Harmand, Jean-Christophe; Patriarche, Gilles; Glas, Frank; Panciera, Federico; Florea, Ileana; Maurice, Jean-Luc; Travers, Laurent; Ollivier, Yannick	Harmand, Jean-Christophe; Patriarche, Gilles; Glas, Frank; Panciera, Federico; Florea, Ileana; Maurice, Jean-Luc; Travers, Laurent; Ollivier, Yannick , Atomic Step Flow on a Nanofacet, 2018, Physical Review Letters, 10.1103/PhysRevLett.121.166101	https://link.aps.org/doi/10.1103/PhysRevLett.121.166101
Microstructural and thermal property evolution of reaction bonded silicon carbide (RBSC)	Zhang, Yuying; Hsu, Chun-Yen; Aubuchon, Steven; Karandikar, Prashant; Ni, Chaoying	Zhang, Yuying; Hsu, Chun-Yen; Aubuchon, Steven; Karandikar, Prashant; Ni, Chaoying , Microstructural and thermal property evolution of reaction bonded silicon carbide (RBSC), 2018, Journal of Alloys and Compounds, 10.1016/j.jallcom.2018.05.321	http://www.sciencedirect.com/science/article/pii/S0925838818320589
Turning a native or corroded Mg alloy surface into an anti-corrosion coating in excited CO ₂	Wang, Yuecun; Liu, Boyu; Zhao, Xin'ai; Zhang, Xionghu; Miao, Yucong; Yang, Nan; Yang, Bo; Zhang, Liqiang; Kuang, Wenjun; Li, Ju; Ma, Evan; Shan, Zhiwei	Wang, Yuecun; Liu, Boyu; Zhao, Xin'ai; Zhang, Xionghu; Miao, Yucong; Yang, Nan; Yang, Bo; Zhang, Liqiang; Kuang, Wenjun; Li, Ju; Ma, Evan; Shan, Zhiwei , Turning a native or corroded Mg alloy surface into an anti-corrosion coating in excited CO ₂ , 2018, Nature Communications, 10.1038/s41467-018-06433-5	https://www.nature.com/articles/s41467-018-06433-5
Shell-Induced Ostwald Ripening: Simultaneous Structure, Composition, and Morphology Transformations during the Creation of Hollow Iron Oxide Nanocapsules	Yu, Lei; Han, Ruixin; Sang, Xiahan; Liu, Jue; Thomas, Melonie P.; Hudak, Bethany M.; Patel, Amita; Page, Katharine; Guiton, Beth S.	Yu, Lei; Han, Ruixin; Sang, Xiahan; Liu, Jue; Thomas, Melonie P.; Hudak, Bethany M.; Patel, Amita; Page, Katharine; Guiton, Beth S. , Shell-Induced Ostwald Ripening: Simultaneous Structure, Composition, and Morphology Transformations during the Creation of Hollow Iron Oxide Nanocapsules, 2018, ACS Nano, 10.1021/acsnano.8b02946	https://doi.org/10.1021/acsnano.8b02946
Heating-Induced Transformations of Atmospheric Particles: Environmental Transmission Electron Microscopy Study	Veghte, Daniel P.; China, Swarup; Weis, Johannes; Lin, Peng; Hinks, Mallory L.; Kovarik, Libor; Nizkorodov, Sergey A.; Gilles, Mary K.; Laskin, Alexander	Veghte, Daniel P.; China, Swarup; Weis, Johannes; Lin, Peng; Hinks, Mallory L.; Kovarik, Libor; Nizkorodov, Sergey A.; Gilles, Mary K.; Laskin, Alexander , Heating-Induced Transformations of Atmospheric Particles: Environmental Transmission Electron Microscopy Study, 2018, Analytical Chemistry, 10.1021/acs.analchem.8b01410	https://doi.org/10.1021/acs.analchem.8b01410

Title	Authors	Citations	Web Link
Observing Solid-State Formation of Oriented Porous Functional Oxide Nanowire Heterostructures by in Situ TEM	Ho, Jo-Hsuan; Ting, Yi-Hsin; Chen, Jui-Yuan; Huang, Chun-Wei; Tsai, Tsung-Chun; Lin, Ting-Yi; Huang, Chih-Yang; Wu, Wen-Wei	Ho, Jo-Hsuan; Ting, Yi-Hsin; Chen, Jui-Yuan; Huang, Chun-Wei; Tsai, Tsung-Chun; Lin, Ting-Yi; Huang, Chih-Yang; Wu, Wen-Wei, Observing Solid-State Formation of Oriented Porous Functional Oxide Nanowire Heterostructures by in Situ TEM, 2018, Nano Letters, 10.1021/acs.nanolett.8b03021	https://pubs.acs.org/doi/pdf/10.1021/acs.nanolett.8b03021
Nanovoids in dense hydroxyapatite ceramics after electric field assisted sintering	Yun, Jondo; Qin, Wei; Benthem, Klaus van; Thron, Andrew M.; Kim, Sukyoung; Han, Young-Hwan	Yun, Jondo; Qin, Wei; Benthem, Klaus van; Thron, Andrew M.; Kim, Sukyoung; Han, Young-Hwan, Nanovoids in dense hydroxyapatite ceramics after electric field assisted sintering, 2018, Advances in Applied Ceramics, 10.1080/17436753.2018.1452662	https://doi.org/10.1080/17436753.2018.1452662
Atomic number dependence of Z contrast in scanning transmission electron microscopy	Yamashita, Shunsuke; Kikkawa, Jun; Yanagisawa, Keiichi; Nagai, Takuro; Ishizuka, Kazuo; Kimoto, Koji	Yamashita, Shunsuke; Kikkawa, Jun; Yanagisawa, Keiichi; Nagai, Takuro; Ishizuka, Kazuo; Kimoto, Koji, Atomic number dependence of Z contrast in scanning transmission electron microscopy, 2018, Scientific Reports, 10.1038/s41598-018-30941-5	https://www.nature.com/articles/s41598-018-30941-5
In Situ Atomic-Scale Observation of Surface-Tension-Induced Structural Transformation of Ag-NiPx Core-Shell Nanocrystals	Huang, Xing; Liu, Zhongqiang; Millet, Marie-Mathilde; Dong, Jichen; Plodine, Milivoj; Ding, Feng; Schlögl, Robert; Willinger, Marc-Georg	Huang, Xing; Liu, Zhongqiang; Millet, Marie-Mathilde; Dong, Jichen; Plodine, Milivoj; Ding, Feng; Schlögl, Robert; Willinger, Marc-Georg, In Situ Atomic-Scale Observation of Surface-Tension-Induced Structural Transformation of Ag-NiPx Core-Shell Nanocrystals, 2018, ACS Nano, 10.1021/acsnano.8b03106	https://doi.org/10.1021/acsnano.8b03106
Thermometry with Subnanometer Resolution in the Electron Microscope Using the Principle of Detailed Balancing	Lagos, Maureen J.; Batson, Philip E.	Lagos, Maureen J.; Batson, Philip E., Thermometry with Subnanometer Resolution in the Electron Microscope Using the Principle of Detailed Balancing, 2018, Nano Letters, 10.1021/acs.nanolett.8b01791	https://doi.org/10.1021/acs.nanolett.8b01791
Topotactic Growth of Edge-Terminated MoS2 from MoO2 Nanocrystals	Dahl-Petersen, Christian; Šarić, Manuel; Brorson, Michael; Moses, Poul Georg; Rossmeisl, Jan; Lauritsen, Jeppe Vang; Helveg, Stig	Dahl-Petersen, Christian; Šarić, Manuel; Brorson, Michael; Moses, Poul Georg; Rossmeisl, Jan; Lauritsen, Jeppe Vang; Helveg, Stig, Topotactic Growth of Edge-Terminated MoS2 from MoO2 Nanocrystals, 2018, ACS Nano, 10.1021/acsnano.8b00125	https://doi.org/10.1021/acsnano.8b00125
In situ atomistic insight into the growth mechanisms of single layer 2D transition metal carbides	Sang, Xiahan; Xie, Yu; Yilmaz, Dundar E.; Lotfi, Roghayyeh; Alhabeb, Mohamed; Ostadhossein, Alireza; Anasori, Babak; Sun, Weiwei; Li, Xufan; Babak, Sun, Weiwei; Li, Xufan; Xiao, Kai; Kent, Paul R. C.; van Duin, Adri C. T.; Gogotsi, Yury; Unocic, Raymond R.	Sang, Xiahan; Xie, Yu; Yilmaz, Dundar E.; Lotfi, Roghayyeh; Alhabeb, Mohamed; Ostadhossein, Alireza; Anasori, Babak; Sun, Weiwei; Li, Xufan; Xiao, Kai; Kent, Paul R. C.; van Duin, Adri C. T.; Gogotsi, Yury; Unocic, Raymond R., In situ atomistic insight into the growth mechanisms of single layer 2D transition metal carbides, 2018, Nature Communications, 10.1038/s41467-018-04610-0	https://www.nature.com/articles/s41467-018-04610-0
Non-volatile and volatile memory behaviour in oxygenated amorphous carbon electrochemical metallisation devices	Murdoch, B. J.; Raeber, T. J.; Barlow, A. J.; McCulloch, D. G.; Partridge, J. G.	Murdoch, B. J.; Raeber, T. J.; Barlow, A. J.; McCulloch, D. G.; Partridge, J. G., Non-volatile and volatile memory behaviour in oxygenated amorphous carbon electrochemical metallisation devices, 2018, Applied Physics Letters, 10.1063/1.5029402	https://aip.scitation.org/doi/abs/10.1063/1.5029402
Boosting hot electron flux and catalytic activity at metal-oxide interfaces of PtCo bimetallic nanoparticles	Lee, Hyosun; Lim, Juhyung; Lee, Changhwan; Back, Seoin; An, Kwangjin; Shin, Jae Won; Ryoo, Ryong; Jung, Yousung; Park, Jeong Young	Lee, Hyosun; Lim, Juhyung; Lee, Changhwan; Back, Seoin; An, Kwangjin; Shin, Jae Won; Ryoo, Ryong; Jung, Yousung; Park, Jeong Young, Boosting hot electron flux and catalytic activity at metal-oxide interfaces of PtCo bimetallic nanoparticles, 2018, Nature Communications, 10.1038/s41467-018-04713-8	https://www.nature.com/articles/s41467-018-04713-8
In situ edge engineering in two-dimensional transition metal dichalcogenides	Sang, Xiahan; Li, Xufan; Zhao, Wen; Dong, Jichen; Rouleau, Christopher M.; Geohegan, David B.; Ding, Feng; Xiao, Kai; Unocic, Raymond R.	Sang, Xiahan; Li, Xufan; Zhao, Wen; Dong, Jichen; Rouleau, Christopher M.; Geohegan, David B.; Ding, Feng; Xiao, Kai; Unocic, Raymond R., In situ edge engineering in two-dimensional transition metal dichalcogenides, 2018, Nature Communications, 10.1038/s41467-018-04435-x	https://www.nature.com/articles/s41467-018-04435-x
In situ atomic-scale observation of monolayer graphene growth from SiC	Yu, Kaihao; Zhao, Wen; Wu, Xing; Zhuang, Jianing; Hu, Xiaohui; Zhang, Qiubo; Sun, Jun; Xu, Tao; Chai, Yang; Ding, Feng; Sun, Litao	Yu, Kaihao; Zhao, Wen; Wu, Xing; Zhuang, Jianing; Hu, Xiaohui; Zhang, Qiubo; Sun, Jun; Xu, Tao; Chai, Yang; Ding, Feng; Sun, Litao, In situ atomic-scale observation of monolayer graphene growth from SiC, 2018, Nano Research, 10.1007/s12274-017-1911-x	https://doi.org/10.1007/s12274-017-1911-x
From Atoms to Functional Nanomaterials: Structural Modifications as Observed Using Aberration-Corrected STEM	Sanchez, S. I.; Allard, L. F.; Schaal, M. T.; Tonnesen, S. M.; Le, Y.; Bradley, S. A.; Bogdan, P. L.; Gajda, G. J.	Sanchez, S. I.; Allard, L. F.; Schaal, M. T.; Tonnesen, S. M.; Le, Y.; Bradley, S. A.; Bogdan, P. L.; Gajda, G. J., From Atoms to Functional Nanomaterials: Structural Modifications as Observed Using Aberration-Corrected STEM, 2018, Microscopy Today, 10.1017/S1551929518000469	https://www.cambridge.org/core/journals/microscopy-today/article/from-atoms-to-functional-nanomaterials-structural-modifications-as-observed-using-aberrationcorrected-stem/FA4B4AAAFAC8BF490C174B9D61EC73888
Investigation of the growth and in situ heating transmission electron microscopy analysis of Ag2S-catalyzed ZnS nanowires	Kim, Jung Han; Kim, Jong Gu; Song, Junghyun; Bae, Tae-Sung; Kim, Kyou-Hyun; Lee, Young-Seak; Pang, Yoonsoo; Oh, Kyu Hwan; Chung, Hee-Suk	Kim, Jung Han; Kim, Jong Gu; Song, Junghyun; Bae, Tae-Sung; Kim, Kyou-Hyun; Lee, Young-Seak; Pang, Yoonsoo; Oh, Kyu Hwan; Chung, Hee-Suk, Investigation of the growth and in situ heating transmission electron microscopy analysis of Ag2S-catalyzed ZnS nanowires, 2018, Applied Surface Science, 10.1016/j.apsusc.2017.12.045	http://www.sciencedirect.com/science/article/pii/S0169433217336322
Comparison of the observed size-dependent melting point of CdSe nanocrystals to theoretical predictions	lii, Albert Demaine Dukes; Pitts, Christopher Dylan; Kapingidza, Anyway Brenda; Gardner, David Eric; Layland, Ralph Charles	lii, Albert Demaine Dukes; Pitts, Christopher Dylan; Kapingidza, Anyway Brenda; Gardner, David Eric; Layland, Ralph Charles, Comparison of the observed size-dependent melting point of CdSe nanocrystals to theoretical predictions, 2018, European Journal of Chemistry, 10.5155/eurjchem.9.1.39-43.1676	http://www.eurjchem.com/index.php/eurjchem/article/view/1676
Temperature Measurement by a Nanoscale Electron Probe Using Energy Gain and Loss Spectroscopy	Idrobo, Juan Carlos; Lupini, Andrew R.; Feng, Tianli; Unocic, Raymond R.; Walden, Franklin S.; Gardiner, Daniel S.; Lovejoy, Tracy C.; Dellby, Niklas; Pantelides, Sokrates T.; Krivanek, Ondrej L.	Idrobo, Juan Carlos; Lupini, Andrew R.; Feng, Tianli; Unocic, Raymond R.; Walden, Franklin S.; Gardiner, Daniel S.; Lovejoy, Tracy C.; Dellby, Niklas; Pantelides, Sokrates T.; Krivanek, Ondrej L., Temperature Measurement by a Nanoscale Electron Probe Using Energy Gain and Loss Spectroscopy, 2018, Physical Review Letters, 10.1103/PhysRevLett.120.095901	https://link.aps.org/doi/10.1103/PhysRevLett.120.095901
Ion beam heating of kinetically constrained nanomaterials	Gen, Xi; van Benthem, Klaus	Gen, Xi; van Benthem, Klaus, Ion beam heating of kinetically constrained nanomaterials, 2018, Ultramicroscopy, 10.1016/j.ultramic.2017.12.005	http://www.sciencedirect.com/science/article/pii/S0304399117302280

Title	Authors	Citations	Web Link
Investigating the thermal stability of irradiation-induced damage in a zirconium alloy with novel in situ techniques	Topping, M.; Ungár, T.; Race, C. P.; Harte, A.; Garner, A.; Baxter, F.; Dumbill, S.; Frankel, P.; Preuss, M.	Topping, M.; Ungár, T.; Race, C. P.; Harte, A.; Garner, A.; Baxter, F.; Dumbill, S.; Frankel, P.; Preuss, M., Investigating the thermal stability of irradiation-induced damage in a zirconium alloy with novel in situ techniques, 2018, Acta Materialia, 10.1016/j.actamat.2017.11.051	http://www.sciencedirect.com/science/article/pii/S135964541731042X
Atomistic evolution during the phase transition on a metastable single NaYF ₄ :Yb,Er upconversion nanoparticle	Pin, Min Wook; Park, Eun Jin; Choi, Suji; Kim, Yong Il; Jeon, Chang Hoon; Ha, Tai Hwan; Kim, Young Heon	Pin, Min Wook; Park, Eun Jin; Choi, Suji; Kim, Yong Il; Jeon, Chang Hoon; Ha, Tai Hwan; Kim, Young Heon, Atomistic evolution during the phase transition on a metastable single NaYF ₄ :Yb,Er upconversion nanoparticle, 2018, Scientific Reports, 10.1038/s41598-018-20702-9	https://www.nature.com/articles/s41598-018-20702-9
Highly Deformable and Mobile Palladium Nanocrystals as Efficient Carbon Scavengers	Lu, Peng-Han; Xie, De-Gang; Liu, Bo-Yu; Ai, Fei; Zhang, Zhao-Rui; Jin, Ming-Shang; Zhang, Xiao Feng; Ma, Evan; Li, Ju; Shan, Zhi-Wei	Lu, Peng-Han; Xie, De-Gang; Liu, Bo-Yu; Ai, Fei; Zhang, Zhao-Rui; Jin, Ming-Shang; Zhang, Xiao Feng; Ma, Evan; Li, Ju; Shan, Zhi-Wei, Highly Deformable and Mobile Palladium Nanocrystals as Efficient Carbon Scavengers, 2018, arXiv:1802.00207 [cond-mat, physics:physics], -	http://arxiv.org/abs/1802.00207
Direct Observation of Inner-Layer Inward Contractions of Multiwalled Boron Nitride Nanotubes upon in Situ Heating	Li, Zhongwen; Li, Zi-An; Sun, Shuaishuai; Zheng, Dingguo; Wang, Hong; Tian, Huanfang; Yang, Huaixin; Bai, Xuedong; Li, Jianqi	Li, Zhongwen; Li, Zi-An; Sun, Shuaishuai; Zheng, Dingguo; Wang, Hong; Tian, Huanfang; Yang, Huaixin; Bai, Xuedong; Li, Jianqi, Direct Observation of Inner-Layer Inward Contractions of Multiwalled Boron Nitride Nanotubes upon in Situ Heating, 2018, Nanomaterials, 10.3390/nano8020086	https://www.mdpi.com/2079-4991/8/2/86
Understanding the Stability of Pt-Based Nanocages under Thermal Stress Using In Situ Electron Microscopy	Vara, Madeline; Wang, Xue; Howe, Jane; Chi, Miaofang; Xia, Younan	Vara, Madeline; Wang, Xue; Howe, Jane; Chi, Miaofang; Xia, Younan, Understanding the Stability of Pt-Based Nanocages under Thermal Stress Using In Situ Electron Microscopy, 2018, ChemNanoMat, 10.1002/cnma.201700298	https://onlinelibrary.wiley.com/doi/abs/10.1002/cnma.201700298
Observation of Resistive Switching Behavior in Crossbar Core-Shell Ni/NiO Nanowires Memristor	Ting, Yi-Hsin; Chen, Jui-Yuan; Huang, Chun-Wei; Huang, Ting-Kai; Hsieh, Cheng-Yu; Wu, Wen-Wei	Ting, Yi-Hsin; Chen, Jui-Yuan; Huang, Chun-Wei; Huang, Ting-Kai; Hsieh, Cheng-Yu; Wu, Wen-Wei, Observation of Resistive Switching Behavior in Crossbar Core-Shell Ni/NiO Nanowires Memristor, 2018, Small, 10.1002/sml.201703153	https://onlinelibrary.wiley.com/doi/abs/10.1002/sml.201703153
A Novel Domain-Confined Growth Strategy for In Situ Controllable Fabrication of Individual Hollow Nanostructures	Tang, Luping; He, Longbing; Zhang, Lei; Yu, Kaihao; Xu, Tao; Zhang, Qiubo; Dong, Hui; Zhu, Chao; Sun, Litao	Tang, Luping; He, Longbing; Zhang, Lei; Yu, Kaihao; Xu, Tao; Zhang, Qiubo; Dong, Hui; Zhu, Chao; Sun, Litao, A Novel Domain-Confined Growth Strategy for In Situ Controllable Fabrication of Individual Hollow Nanostructures, 2018, Advanced Science, 10.1002/advs.201700213	https://onlinelibrary.wiley.com/doi/abs/10.1002/advs.201700213
An optimized sample preparation approach for atomic resolution in situ studies of thin films	Moatti, Adele; Sachan, Ritesh; Prater, John; Narayan, Jagdish	Moatti, Adele; Sachan, Ritesh; Prater, John; Narayan, Jagdish, An optimized sample preparation approach for atomic resolution in situ studies of thin films, 2018, Microscopy Research and Technique, 10.1002/jemt.23130	https://onlinelibrary.wiley.com/doi/abs/10.1002/jemt.23130
Highly Stretchable and Reliable, Transparent and Conductive Entangled Graphene Mesh Networks	Han, Jaehyun; Lee, Jun-Young; Lee, Jihye; Yeo, Jong-Souk	Han, Jaehyun; Lee, Jun-Young; Lee, Jihye; Yeo, Jong-Souk, Highly Stretchable and Reliable, Transparent and Conductive Entangled Graphene Mesh Networks, 2018, Advanced Materials, 10.1002/adma.201704626	https://onlinelibrary.wiley.com/doi/abs/10.1002/adma.201704626
Investigating the oxidation mechanism of tantalum nanoparticles at high heating rates	DeLisio, Jeffery B.; Wang, Xizheng; Wu, Tao; Egan, Garth C.; Jacob, Rohit J.; Zachariah, Michael R.	DeLisio, Jeffery B.; Wang, Xizheng; Wu, Tao; Egan, Garth C.; Jacob, Rohit J.; Zachariah, Michael R., Investigating the oxidation mechanism of tantalum nanoparticles at high heating rates, 2017, Journal of Applied Physics, 10.1063/1.4995574	https://aip.scitation.org/doi/abs/10.1063/1.4995574
Reduction reactions and densification during in situ TEM heating of iron oxide nanochains	Bonifacio, Cecile S.; Das, Gautom; Kennedy, Ian M.; van Benthem, Klaus	Bonifacio, Cecile S.; Das, Gautom; Kennedy, Ian M.; van Benthem, Klaus, Reduction reactions and densification during in situ TEM heating of iron oxide nanochains, 2017, Journal of Applied Physics, 10.1063/1.5004092	https://aip.scitation.org/doi/10.1063/1.5004092
Mitigating e-beam-induced hydrocarbon deposition on graphene for atomic-scale scanning transmission electron microscopy studies	Dyck, Ondrej; Kim, Songkil; Kalinin, Sergei V.; Jesse, Stephen	Dyck, Ondrej; Kim, Songkil; Kalinin, Sergei V.; Jesse, Stephen, Mitigating e-beam-induced hydrocarbon deposition on graphene for atomic-scale scanning transmission electron microscopy studies, 2017, Journal of Vacuum Science & Technology B, 10.1116/1.5003034	https://avs.scitation.org/doi/abs/10.1116/1.5003034
In situ observation of the impact of surface oxidation on the crystallization mechanism of GeTe phase-change thin films by scanning transmission electron microscopy	Berthier, R.; Bernier, N.; Cooper, D.; Sabbione, C.; Hippert, F.; Noé, P.	Berthier, R.; Bernier, N.; Cooper, D.; Sabbione, C.; Hippert, F.; Noé, P., In situ observation of the impact of surface oxidation on the crystallization mechanism of GeTe phase-change thin films by scanning transmission electron microscopy, 2017, Journal of Applied Physics, 10.1063/1.5002637	https://aip.scitation.org/doi/10.1063/1.5002637
Understanding the graphitization and growth of free-standing nanocrystalline graphene using in situ transmission electron microscopy	Kumar, C. N. Shyam; Chakravadhanula, Venkata Sai Kiran; Riaz, Adnan; Dehm, Simone; Wang, Di; Mu, Xiaoke; Flavel, Benjamin; Krupke, Ralph; Kübel, Christian	Kumar, C. N. Shyam; Chakravadhanula, Venkata Sai Kiran; Riaz, Adnan; Dehm, Simone; Wang, Di; Mu, Xiaoke; Flavel, Benjamin; Krupke, Ralph; Kübel, Christian, Understanding the graphitization and growth of free-standing nanocrystalline graphene using in situ transmission electron microscopy, 2017, Nanoscale, 10.1039/C7NR03276E	https://pubs.rsc.org/en/content/articlelanding/2017/nr/c7nr03276e
In situ chemoresistive sensing in the environmental TEM: probing functional devices and their nanoscale morphology	Steinhauer, Stephan; Vernieres, Jerome; Krainer, Johanna; Köck, Anton; Grammatikopoulos, Panagiotis; Sowwan, Mukhles	Steinhauer, Stephan; Vernieres, Jerome; Krainer, Johanna; Köck, Anton; Grammatikopoulos, Panagiotis; Sowwan, Mukhles, In situ chemoresistive sensing in the environmental TEM: probing functional devices and their nanoscale morphology, 2017, Nanoscale, 10.1039/C6NR09322A	https://pubs.rsc.org/en/content/articlelanding/2017/nr/c6nr09322a
Direct Observation of Current-Induced Motion of a 3D Vortex Domain Wall in Cylindrical Nanowires	Ivanov, Yurii P.; Chuvilin, Andrey; Lopatin, Sergei; Mohammed, Hanan; Kosel, Jurgen	Ivanov, Yurii P.; Chuvilin, Andrey; Lopatin, Sergei; Mohammed, Hanan; Kosel, Jurgen, Direct Observation of Current-Induced Motion of a 3D Vortex Domain Wall in Cylindrical Nanowires, 2017, ACS Applied Materials & Interfaces, 10.1021/acsami.7b03404	https://doi.org/10.1021/acsami.7b03404

Title	Authors	Citations	Web Link
Understanding the Thermal Stability of Palladium–Platinum Core–Shell Nanocrystals by In Situ Transmission Electron Microscopy and Density Functional Theory	Vara, Madeline; Roling, Luke T.; Wang, Xue; Elnabawy, Ahmed O.; Hood, Zachary D.; Chi, Miaofang; Mavrikakis, Manos; Xia, Younan	Vara, Madeline; Roling, Luke T.; Wang, Xue; Elnabawy, Ahmed O.; Hood, Zachary D.; Chi, Miaofang; Mavrikakis, Manos; Xia, Younan, Understanding the Thermal Stability of Palladium–Platinum Core–Shell Nanocrystals by In Situ Transmission Electron Microscopy and Density Functional Theory, 2017, ACS Nano, 10.1021/acs.nano.6b08692	https://doi.org/10.1021/acs.nano.6b08692
Real-time atomistic observation of structural phase transformations in individual hafnia nanorods	Hudak, Bethany M.; Depner, Sean W.; Waetzig, Gregory R.; Talapatra, Anjana; Arroyave, Raymundo; Banerjee, Sarbajit; Guiton, Beth S.	Hudak, Bethany M.; Depner, Sean W.; Waetzig, Gregory R.; Talapatra, Anjana; Arroyave, Raymundo; Banerjee, Sarbajit; Guiton, Beth S., Real-time atomistic observation of structural phase transformations in individual hafnia nanorods, 2017, Nature Communications, 10.1038/ncomms15316	https://www.nature.com/articles/ncomms15316
In situ investigation of ordering phase transformations in FePt magnetic nanoparticles	Wittig, James E.; Bentley, James; Allard, Lawrence F.	Wittig, James E.; Bentley, James; Allard, Lawrence F., In situ investigation of ordering phase transformations in FePt magnetic nanoparticles, 2017, Ultramicroscopy, 10.1016/j.ultramic.2016.11.025	http://www.sciencedirect.com/science/article/pii/S0304399116303667
Atomic Scale Dynamics of Contact Formation in the Cross-Section of InGaAs Nanowire Channels	Chen, Renjie; Jungjohann, Katherine L.; Mook, William M.; Nogan, John; Dayeh, Shadi A.	Chen, Renjie; Jungjohann, Katherine L.; Mook, William M.; Nogan, John; Dayeh, Shadi A., Atomic Scale Dynamics of Contact Formation in the Cross-Section of InGaAs Nanowire Channels, 2017, Nano Letters, 10.1021/acs.nanolett.6b04713	https://doi.org/10.1021/acs.nanolett.6b04713
Preparation and phase transition of FeOOH nanorods: strain effects on catalytic water oxidation	Park, Gisang; Kim, Yong-Il; Kim, Young Heon; Park, Mira; Jang, Kyu Yeon; Song, Hyunjoon; Nam, Ki Min	Park, Gisang; Kim, Yong-Il; Kim, Young Heon; Park, Mira; Jang, Kyu Yeon; Song, Hyunjoon; Nam, Ki Min, Preparation and phase transition of FeOOH nanorods: strain effects on catalytic water oxidation, 2017, Nanoscale, 10.1039/C6NR09790A	https://pubs.rsc.org/en/content/articlelanding/2017/nr/c6nr09790a
External-field-induced crystal structure and domain texture in (1–x)Na0.5Bi0.5TiO3–xK0.5Bi0.5TiO3 piezoceramics	Otonicar, M.; Park, J.; Logar, M.; Esteves, G.; Jones, J. L.; Jancar, B.	Otonicar, M.; Park, J.; Logar, M.; Esteves, G.; Jones, J. L.; Jancar, B., External-field-induced crystal structure and domain texture in (1–x)Na0.5Bi0.5TiO3–xK0.5Bi0.5TiO3 piezoceramics, 2017, Acta Materialia, 10.1016/j.actamat.2017.01.052	http://www.sciencedirect.com/science/article/pii/S1359645417300642
In-situ TEM observation of Multilevel Storage Behavior in low power FeRAM device	Chiu, Chung-Hua; Huang, Chun-Wei; Hsieh, Ying-Hui; Chen, Jui-Yuan; Chang, Chia-Fu; Chu, Ying-Hao; Wu, Wen-Wei	Chiu, Chung-Hua; Huang, Chun-Wei; Hsieh, Ying-Hui; Chen, Jui-Yuan; Chang, Chia-Fu; Chu, Ying-Hao; Wu, Wen-Wei, In-situ TEM observation of Multilevel Storage Behavior in low power FeRAM device, 2017, Nano Energy, 10.1016/j.nanoen.2017.02.008	http://www.sciencedirect.com/science/article/pii/S2211285517300794
Low temperature carbonization of cellulose nanocrystals for high performance carbon anode of sodium-ion batteries	Zhu, Hongli; Shen, Fei; Luo, Wei; Zhu, Shuze; Zhao, Minhua; Natarajan, Bharath; Dai, Jiaqi; Zhou, Lihui; Ji, Xiulei; Yassar, Reza S.; Li, Teng; Hu, Liangbing	Zhu, Hongli; Shen, Fei; Luo, Wei; Zhu, Shuze; Zhao, Minhua; Natarajan, Bharath; Dai, Jiaqi; Zhou, Lihui; Ji, Xiulei; Yassar, Reza S.; Li, Teng; Hu, Liangbing, Low temperature carbonization of cellulose nanocrystals for high performance carbon anode of sodium-ion batteries, 2017, Nano Energy, 10.1016/j.nanoen.2017.01.021	http://www.sciencedirect.com/science/article/pii/S2211285517300216
Evolution of Microstructural Disorder in Annealed Bismuth Telluride Nanowires	Erickson, Kristopher J.; Limmer, Steven J.; Yelton, W. Graham; Rochford, Caitlin; Siegal, Michael P.; Medlin, Douglas L.	Erickson, Kristopher J.; Limmer, Steven J.; Yelton, W. Graham; Rochford, Caitlin; Siegal, Michael P.; Medlin, Douglas L., Evolution of Microstructural Disorder in Annealed Bismuth Telluride Nanowires, 2017, ECS Journal of Solid State Science and Technology, 10.1149/2.0181703jss	https://iopscience.iop.org/article/10.1149/2.0181703jss/meta
Probing electron beam effects with chemoresistive nanosensors during in situ environmental transmission electron microscopy	Steinhauer, S.; Wang, Z.; Zhou, Z.; Krainer, J.; Köck, A.; Nordlund, K.; Djurabekova, F.; Grammatikopoulos, P.; Sowwan, M.	Steinhauer, S.; Wang, Z.; Zhou, Z.; Krainer, J.; Köck, A.; Nordlund, K.; Djurabekova, F.; Grammatikopoulos, P.; Sowwan, M., Probing electron beam effects with chemoresistive nanosensors during in situ environmental transmission electron microscopy, 2017, Applied Physics Letters, 10.1063/1.4977711	https://aip.scitation.org/doi/abs/10.1063/1.4977711
Evidencing the structural conversion of hydrothermally synthesized titanate nanorods by in situ electron microscopy	Fei, Linfeng; Lu, Wei; Hu, Yongming; Gao, Guanyin; Yong, Zehui; Sun, Tiejun; Zhou, Naigen; Gu, Haoshuang; Wang, Yu	Fei, Linfeng; Lu, Wei; Hu, Yongming; Gao, Guanyin; Yong, Zehui; Sun, Tiejun; Zhou, Naigen; Gu, Haoshuang; Wang, Yu, Evidencing the structural conversion of hydrothermally synthesized titanate nanorods by in situ electron microscopy, 2017, Journal of Materials Chemistry A, 10.1039/C6TA09883E	https://pubs.rsc.org/en/content/articlelanding/2017/ta/c6ta09883e
Opposite effects of Cu and Pt atoms on graphene edges	Kano, Emi; Hashimoto, Ayako; Takeguchi, Masaki	Kano, Emi; Hashimoto, Ayako; Takeguchi, Masaki, Opposite effects of Cu and Pt atoms on graphene edges, 2017, Applied Physics Express, 10.7567/APEX.10.025104	https://iopscience.iop.org/article/10.7567/APEX.10.025104/meta
Memristors with diffusive dynamics as synaptic emulators for neuromorphic computing	Wang, Zhongrui; Joshi, Saamil; Savel'ev, Sergey E.; Jiang, Hao; Midya, Rivu; Lin, Peng; Hu, Miao; Ge, Ning; Strachan, John Paul; Li, Zhiyong; Wu, Qing; Barnell, Mark; Li, Geng-Lin; Xin, Huolin L.; Williams, R. Stanley; Xia, Qiangfei; Yang, J. Joshua	Wang, Zhongrui; Joshi, Saamil; Savel'ev, Sergey E.; Jiang, Hao; Midya, Rivu; Lin, Peng; Hu, Miao; Ge, Ning; Strachan, John Paul; Li, Zhiyong; Wu, Qing; Barnell, Mark; Li, Geng-Lin; Xin, Huolin L.; Williams, R. Stanley; Xia, Qiangfei; Yang, J. Joshua, Memristors with diffusive dynamics as synaptic emulators for neuromorphic computing, 2017, Nature Materials, 10.1038/nmat4756	https://www.nature.com/articles/nmat4756
In situ observation of the thermal stability of black phosphorus	Lin, Shenghuang; Li, Yanyong; Lu, Wei; Chui, Ying San; Rogée, Lukas; Bao, Qiaoliang; Lau, Shu Ping	Lin, Shenghuang; Li, Yanyong; Lu, Wei; Chui, Ying San; Rogée, Lukas; Bao, Qiaoliang; Lau, Shu Ping, In situ observation of the thermal stability of black phosphorus, 2017, 2D Materials, 10.1088/2053-1583/aa55b2	https://doi.org/10.1088/2053-1583/aa55b2
Stability of a Bifunctional Cu-Based Core@Zeolite Shell Catalyst for Dimethyl Ether Synthesis Under Redox Conditions Studied by Environmental Transmission Electron Microscopy and In Situ X-Ray Ptychography	Baier, Sina; Damsgaard, Christian D.; Klumpp, Michael; Reinhardt, Juliane; Sheppard, Thomas; Balogh, Zoltan; Kasama, Takeshi; Benzi, Federico; Wagner, Jakob B.; Schwieger, Wilhelm; Schroer, Christian G.; Grunwaldt, Jan-Dierk	Baier, Sina; Damsgaard, Christian D.; Klumpp, Michael; Reinhardt, Juliane; Sheppard, Thomas; Balogh, Zoltan; Kasama, Takeshi; Benzi, Federico; Wagner, Jakob B.; Schwieger, Wilhelm; Schroer, Christian G.; Grunwaldt, Jan-Dierk, Stability of a Bifunctional Cu-Based Core@Zeolite Shell Catalyst for Dimethyl Ether Synthesis Under Redox Conditions Studied by Environmental Transmission Electron Microscopy and In Situ X-Ray Ptychography, 2017, Microscopy and Microanalysis: The Official Journal of Microscopy Society of America, Microbeam Analysis Society, Microscopical Society of Canada, 10.1017/S1431927617000332	

Title	Authors	Citations	Web Link
Gas Phase Synthesis of Multifunctional Fe-Based Nanocubes	Vernieres, Jerome; Steinhauer, Stephan; Zhao, Junlei; Chapelle, Audrey; Menini, Philippe; Dufour, Nicolas; Diaz, Rosa E.; Nordlund, Kai; Djurabekova, Flyura; Grammatikopoulos, Panagiotis; Sowwan, Mukhles	Vernieres, Jerome; Steinhauer, Stephan; Zhao, Junlei; Chapelle, Audrey; Menini, Philippe; Dufour, Nicolas; Diaz, Rosa E.; Nordlund, Kai; Djurabekova, Flyura; Grammatikopoulos, Panagiotis; Sowwan, Mukhles , Gas Phase Synthesis of Multifunctional Fe-Based Nanocubes, 2017, Advanced Functional Materials, 10.1002/adfm.201605328	https://onlinelibrary.wiley.com/doi/abs/10.1002/adfm.201605328
Direct Observation of Dual-Filament Switching Behaviors in Ta2O5-Based Memristors	Chang, Chia-Fu; Chen, Jui-Yuan; Huang, Chun-Wei; Chiu, Chung-Hua; Lin, Ting-Yi; Yeh, Ping-Hung; Wu, Wen-Wei	Chang, Chia-Fu; Chen, Jui-Yuan; Huang, Chun-Wei; Chiu, Chung-Hua; Lin, Ting-Yi; Yeh, Ping-Hung; Wu, Wen-Wei , Direct Observation of Dual-Filament Switching Behaviors in Ta2O5-Based Memristors, 2017, Small, 10.1002/sml.201603116	https://onlinelibrary.wiley.com/doi/abs/10.1002/sml.201603116
Observing the evolution of graphene layers at high current density	Huang, Chun-Wei; Chen, Jui-Yuan; Chiu, Chung-Hua; Hsin, Cheng-Lun; Tseng, Tseung-Yuen; Wu, Wen-Wei	Huang, Chun-Wei; Chen, Jui-Yuan; Chiu, Chung-Hua; Hsin, Cheng-Lun; Tseng, Tseung-Yuen; Wu, Wen-Wei , Observing the evolution of graphene layers at high current density, 2016, Nano Research, 10.1007/s12274-016-1237-0	https://doi.org/10.1007/s12274-016-1237-0
An experimental system combined with a micromachine and double-tilt TEM holder	Sato, Takaaki; Tochigi, Eita; Mizoguchi, Teruyasu; Ikuhara, Yuichi; Fujita, Hiroyuki	Sato, Takaaki; Tochigi, Eita; Mizoguchi, Teruyasu; Ikuhara, Yuichi; Fujita, Hiroyuki , An experimental system combined with a micromachine and double-tilt TEM holder, 2016, Microelectronic Engineering, 10.1016/j.mee.2016.06.018	http://www.sciencedirect.com/science/article/pii/S0167931716303501
On the role of the gas environment, electron-dose-rate, and sample on the image resolution in transmission electron microscopy	Ek, Martin; Jespersen, Sebastian P. F.; Damsgaard, Christian D.; Helveg, Stig	Ek, Martin; Jespersen, Sebastian P. F.; Damsgaard, Christian D.; Helveg, Stig , On the role of the gas environment, electron-dose-rate, and sample on the image resolution in transmission electron microscopy, 2016, Advanced Structural and Chemical Imaging, 10.1186/s40679-016-0018-x	https://doi.org/10.1186/s40679-016-0018-x
Robust mesoporous silica compacts: multi-scale characterization of microstructural changes related to physical-mechanical properties	Maheshwari, Harsh; Roehling, John D.; Turner, Bryce A.; Abdinor, Jamal; Tran-Roehling, Tien B.; Deo, Milind D.; Bartl, Michael H.; Risbud, Subhash H.; van Benthem, Klaus	Maheshwari, Harsh; Roehling, John D.; Turner, Bryce A.; Abdinor, Jamal; Tran-Roehling, Tien B.; Deo, Milind D.; Bartl, Michael H.; Risbud, Subhash H.; van Benthem, Klaus , Robust mesoporous silica compacts: multi-scale characterization of microstructural changes related to physical-mechanical properties, 2016, Journal of Materials Science, 10.1007/s10853-016-9759-0	https://doi.org/10.1007/s10853-016-9759-0
Sublimation of Ag nanocrystals and their wetting behaviors with graphene and carbon nanotubes	Lian, Ruixue; Yu, Han; He, Longbing; Zhang, Lei; Zhou, Yilong; Bu, Xinyang; Xu, Tao; Sun, Litao	Lian, Ruixue; Yu, Han; He, Longbing; Zhang, Lei; Zhou, Yilong; Bu, Xinyang; Xu, Tao; Sun, Litao , Sublimation of Ag nanocrystals and their wetting behaviors with graphene and carbon nanotubes, 2016, Carbon, 10.1016/j.carbon.2016.01.105	http://www.sciencedirect.com/science/article/pii/S0008622316300938
Direct observation of Li diffusion in Li-doped ZnO nanowires	Li, Guohua; Yu, Lei; Hudak, Bethany M.; Chang, Yao-Jen; Baek, Hyeonjun; Sundararajan, Abhishek; Strachan, Douglas R.; Yi, Gyu-Chul; Guiton, Beth S.	Li, Guohua; Yu, Lei; Hudak, Bethany M.; Chang, Yao-Jen; Baek, Hyeonjun; Sundararajan, Abhishek; Strachan, Douglas R.; Yi, Gyu-Chul; Guiton, Beth S. , Direct observation of Li diffusion in Li-doped ZnO nanowires, 2016, Materials Research Express, 10.1088/2053-1591/3/5/054001	https://doi.org/10.1088/2053-1591/3/5/054001
Atomic Resolution in Situ Imaging of a Double-Bilayer Multistep Growth Mode in Gallium Nitride Nanowires	Gamalski, A. D.; Tersoff, J.; Stach, E. A.	Gamalski, A. D.; Tersoff, J.; Stach, E. A. , Atomic Resolution in Situ Imaging of a Double-Bilayer Multistep Growth Mode in Gallium Nitride Nanowires, 2016, Nano Letters, 10.1021/acs.nanolett.5b04650	https://doi.org/10.1021/acs.nanolett.5b04650
Mass transport phenomena in copper nanowires at high current density	Huang, Yu-Ting; Huang, Chun-Wei; Chen, Jui-Yuan; Ting, Yi-Hsin; Cheng, Shao-Liang; Liao, Chien-Neng; Wu, Wen-Wei	Huang, Yu-Ting; Huang, Chun-Wei; Chen, Jui-Yuan; Ting, Yi-Hsin; Cheng, Shao-Liang; Liao, Chien-Neng; Wu, Wen-Wei , Mass transport phenomena in copper nanowires at high current density, 2016, Nano Research, 10.1007/s12274-016-0998-9	https://doi.org/10.1007/s12274-016-0998-9
Visualisation of single atom dynamics in water gas shift reaction for hydrogen generation	Gai, Pratibha L.; Yoshida, Kenta; Ward, Michael R.; Walsh, Michael; Baker, Richard T.; Water, Leon van de; Watson, Mike J.; Boyes, Edward D.	Gai, Pratibha L.; Yoshida, Kenta; Ward, Michael R.; Walsh, Michael; Baker, Richard T.; Water, Leon van de; Watson, Mike J.; Boyes, Edward D. , Visualisation of single atom dynamics in water gas shift reaction for hydrogen generation, 2016, Catalysis Science & Technology, 10.1039/C5CY01154J	https://pubs.rsc.org/en/content/articlelanding/2016/cy/c5cy01154j
In Situ Observation on Dislocation-Controlled Sublimation of Mg Nanoparticles	Yu, Qian; Mao, Min-Min; Li, Qing-Jie; Fu, Xiao-Qian; Tian, He; Li, Ji-Xue; Mao, Scott X.; Zhang, Ze	Yu, Qian; Mao, Min-Min; Li, Qing-Jie; Fu, Xiao-Qian; Tian, He; Li, Ji-Xue; Mao, Scott X.; Zhang, Ze , In Situ Observation on Dislocation-Controlled Sublimation of Mg Nanoparticles, 2016, Nano Letters, 10.1021/acs.nanolett.5b04439	https://doi.org/10.1021/acs.nanolett.5b04439
Nickel/Platinum Dual Silicide Axial Nanowire Heterostructures with Excellent Photosensor Applications	Wu, Yen-Ting; Huang, Chun-Wei; Chiu, Chung-Hua; Chang, Chia-Fu; Chen, Jui-Yuan; Lin, Ting-Yi; Huang, Yu-Ting; Lu, Kuo-Chang; Yeh, Ping-Hung; Wu, Wen-Wei	Wu, Yen-Ting; Huang, Chun-Wei; Chiu, Chung-Hua; Chang, Chia-Fu; Chen, Jui-Yuan; Lin, Ting-Yi; Huang, Yu-Ting; Lu, Kuo-Chang; Yeh, Ping-Hung; Wu, Wen-Wei , Nickel/Platinum Dual Silicide Axial Nanowire Heterostructures with Excellent Photosensor Applications, 2016, Nano Letters, 10.1021/acs.nanolett.5b04309	
Real-Time Observation of Reconstruction Dynamics on TiO2(001) Surface under Oxygen via an Environmental Transmission Electron Microscope	Yuan, Wentao; Wang, Yong; Li, Hengbo; Wu, Hanglong; Zhang, Ze; Selloni, Annabella; Sun, Chenghua	Yuan, Wentao; Wang, Yong; Li, Hengbo; Wu, Hanglong; Zhang, Ze; Selloni, Annabella; Sun, Chenghua , Real-Time Observation of Reconstruction Dynamics on TiO2(001) Surface under Oxygen via an Environmental Transmission Electron Microscope, 2016, Nano Letters, 10.1021/acs.nanolett.5b03277	https://doi.org/10.1021/acs.nanolett.5b03277
Rapid synthesis of hybrids and hollow PdO nanostructures by controlled in situ dissolution of a ZnO nanorod template: insights into the formation mechanism and thermal stability	Kundu, Subhajt; Ravishankar, N.	Kundu, Subhajt; Ravishankar, N. , Rapid synthesis of hybrids and hollow PdO nanostructures by controlled in situ dissolution of a ZnO nanorod template: insights into the formation mechanism and thermal stability, 2016, Nanoscale, 10.1039/C5NR06730H	https://pubs.rsc.org/en/content/articlelanding/2016/nr/c5nr06730h
Interactions between C and Cu atoms in single-layer graphene: direct observation and modelling	Kano, Emi; Hashimoto, Ayako; Kaneko, Tomoaki; Tajima, Nobuo; Ohno, Takahisa; Takeguchi, Masaki	Kano, Emi; Hashimoto, Ayako; Kaneko, Tomoaki; Tajima, Nobuo; Ohno, Takahisa; Takeguchi, Masaki , Interactions between C and Cu atoms in single-layer graphene: direct observation and modelling, 2016, Nanoscale, 10.1039/c5nr05913e	

Title	Authors	Citations	Web Link
Formation and Dynamics of Electron-Irradiation-Induced Defects in Hexagonal Boron Nitride at Elevated Temperatures	Pham, Thang; Gibb, Ashley L.; Li, Zhenglu; Gilbert, S. Matt; Song, Chengyu; Louie, Steven G.; Zettl, Alex	Pham, Thang; Gibb, Ashley L.; Li, Zhenglu; Gilbert, S. Matt; Song, Chengyu; Louie, Steven G.; Zettl, Alex, Formation and Dynamics of Electron-Irradiation-Induced Defects in Hexagonal Boron Nitride at Elevated Temperatures, 2016, Nano Letters, 10.1021/acs.nanolett.6b03442	
The impact of carbon coating on the synthesis and properties of α' -Fe ₁₆ N ₂ powders	Bridges, C. A.; Rios, O.; Allard, L. F.; Meyer, H. M.; Huq, A.; Jiang, Y.; Wang, J.-P.; Brady, M. P.	Bridges, C. A.; Rios, O.; Allard, L. F.; Meyer, H. M.; Huq, A.; Jiang, Y.; Wang, J.-P.; Brady, M. P., The impact of carbon coating on the synthesis and properties of α' -Fe ₁₆ N ₂ powders, 2016, Physical chemistry chemical physics: PCCP, 10.1039/c6cp00737f	
In situ TEM studies of micron-sized all-solid-state fluoride ion batteries: Preparation, prospects, and challenges	Fawey, Mohammed Hammad; Chakravadhanula, Venkata Sai Kiran; Reddy, Munnangi Anji; Rongeat, Carine; Scherer, Torsten; Hahn, Horst; Fichtner, Maximilian; Kübel, Christian	Fawey, Mohammed Hammad; Chakravadhanula, Venkata Sai Kiran; Reddy, Munnangi Anji; Rongeat, Carine; Scherer, Torsten; Hahn, Horst; Fichtner, Maximilian; Kübel, Christian, In situ TEM studies of micron-sized all-solid-state fluoride ion batteries: Preparation, prospects, and challenges, 2016, Microscopy Research and Technique, 10.1002/jemt.22675	https://onlinelibrary.wiley.com/doi/abs/10.1002/jemt.22675
Surface faceting and elemental diffusion behaviour at atomic scale for alloy nanoparticles during in situ annealing	Chi, Miaofang; Wang, Chao; Lei, Yinkai; Wang, Guofeng; Li, Dongguo; More, Karren L.; Lupini, Andrew; Allard, Lawrence F.; Markovic, Nenad M.; Stamenkovic, Vojislav R.	Chi, Miaofang; Wang, Chao; Lei, Yinkai; Wang, Guofeng; Li, Dongguo; More, Karren L.; Lupini, Andrew; Allard, Lawrence F.; Markovic, Nenad M.; Stamenkovic, Vojislav R., Surface faceting and elemental diffusion behaviour at atomic scale for alloy nanoparticles during in situ annealing, 2015, Nature Communications, 10.1038/ncomms9925	https://www.nature.com/articles/ncomms9925
Surface Segregation of Fe in Pt-Fe Alloy Nanoparticles: Its Precedence and Effect on the Ordered-Phase Evolution during Thermal Annealing	Prabhudev, Sagar; Bugnet, Matthieu; Zhu, Guo-Zhen; Bock, Christina; Botton, Gianluigi A.	Prabhudev, Sagar; Bugnet, Matthieu; Zhu, Guo-Zhen; Bock, Christina; Botton, Gianluigi A., Surface Segregation of Fe in Pt-Fe Alloy Nanoparticles: Its Precedence and Effect on the Ordered-Phase Evolution during Thermal Annealing, 2015, ChemCatChem, 10.1002/cctc.201500380	https://chemistry-europe.onlinelibrary.wiley.com/doi/full/10.1002/cctc.201500380
Nanoscale size effects in crystallization of metallic glass nanorods	Sohn, Sungwoo; Jung, Yeonwoong; Xie, Yujun; Osuji, Chinedum; Schroers, Jan; Cha, Judy J.	Sohn, Sungwoo; Jung, Yeonwoong; Xie, Yujun; Osuji, Chinedum; Schroers, Jan; Cha, Judy J., Nanoscale size effects in crystallization of metallic glass nanorods, 2015, Nature Communications, 10.1038/ncomms9157	http://www.nature.com/articles/ncomms9157
Unraveling the Origin of Structural Disorder in High Temperature Transition Al ₂ O ₃ : Structure of θ -Al ₂ O ₃	Kovarik, Libor; Bowden, Mark; Shi, Dachuan; Washton, Nancy M.; Andersen, Amity; Hu, Jian Zhi; Lee, Jaekyoung; Szanyi, János; Kwak, Ja-Hun; Peden, Charles H. F.	Kovarik, Libor; Bowden, Mark; Shi, Dachuan; Washton, Nancy M.; Andersen, Amity; Hu, Jian Zhi; Lee, Jaekyoung; Szanyi, János; Kwak, Ja-Hun; Peden, Charles H. F., Unraveling the Origin of Structural Disorder in High Temperature Transition Al ₂ O ₃ : Structure of θ -Al ₂ O ₃ , 2015, Chemistry of Materials, 10.1021/acs.chemmater.5b02523	https://doi.org/10.1021/acs.chemmater.5b02523
Thermal Stability of Core-Shell Nanoparticles: A Combined In Situ Study by XPS and TEM	Bonifacio, Cecile S.; Carenco, Sophie; Wu, Cheng Hao; House, Stephen D.; Bluhm, Hendrik; Yang, Judith C.	Bonifacio, Cecile S.; Carenco, Sophie; Wu, Cheng Hao; House, Stephen D.; Bluhm, Hendrik; Yang, Judith C., Thermal Stability of Core-Shell Nanoparticles: A Combined In Situ Study by XPS and TEM, 2015, Chemistry of Materials, 10.1021/acs.chemmater.5b01862	https://doi.org/10.1021/acs.chemmater.5b01862
Intermetallic GaPd ₂ Nanoparticles on SiO ₂ for Low-Pressure CO ₂ Hydrogenation to Methanol: Catalytic Performance and In Situ Characterization	Fiordaliso, Elisabetta M.; Sharafutdinov, Irek; Carvalho, Hudson W. P.; Grunwaldt, Jan-D.; Hansen, Thomas W.; Chorkendorff, Ib; Wagner, Jakob B.; Damsgaard, Christian D.	Fiordaliso, Elisabetta M.; Sharafutdinov, Irek; Carvalho, Hudson W. P.; Grunwaldt, Jan-D.; Hansen, Thomas W.; Chorkendorff, Ib; Wagner, Jakob B.; Damsgaard, Christian D., Intermetallic GaPd ₂ Nanoparticles on SiO ₂ for Low-Pressure CO ₂ Hydrogenation to Methanol: Catalytic Performance and In Situ Characterization, 2015, ACS Catalysis, 10.1021/acscatal.5b01271	https://doi.org/10.1021/acscatal.5b01271
Atomic Visualization of the Phase Transition in Highly Strained BiFeO ₃ Thin Films with Excellent Pyroelectric Response	Chiu, Chung-Hua; Liang, Wen-I; Huang, Chun-Wei; Chen, Jui-Yuan; Liu, Yun-Ya; Li, Jiang-Yu; Hsin, Cheng-Lun; Chu, Ying-Hao; Wu, Wen-Wei	Chiu, Chung-Hua; Liang, Wen-I; Huang, Chun-Wei; Chen, Jui-Yuan; Liu, Yun-Ya; Li, Jiang-Yu; Hsin, Cheng-Lun; Chu, Ying-Hao; Wu, Wen-Wei, Atomic Visualization of the Phase Transition in Highly Strained BiFeO ₃ Thin Films with Excellent Pyroelectric Response, 2015, Nano Energy, 10.1016/j.nanoen.2015.08.001	http://www.sciencedirect.com/science/article/pii/S2211285515003250
Applying compressive sensing to TEM video: a substantial frame rate increase on any camera	Stevens, Andrew; Kovarik, Libor; Abellan, Patricia; Yuan, Xin; Carin, Lawrence; Browning, Nigel D.	Stevens, Andrew; Kovarik, Libor; Abellan, Patricia; Yuan, Xin; Carin, Lawrence; Browning, Nigel D., Applying compressive sensing to TEM video: a substantial frame rate increase on any camera, 2015, Advanced Structural and Chemical Imaging, 10.1186/s40679-015-0009-3	https://doi.org/10.1186/s40679-015-0009-3
Crystallization Pathway for Metastable Hexagonal Close-Packed Gold in Germanium Nanowire Catalysts	Marshall, Ann F.; Thombare, Shruti V.; McIntyre, Paul C.	Marshall, Ann F.; Thombare, Shruti V.; McIntyre, Paul C., Crystallization Pathway for Metastable Hexagonal Close-Packed Gold in Germanium Nanowire Catalysts, 2015, Crystal Growth & Design, 10.1021/acs.cgd.5b00803	https://doi.org/10.1021/acs.cgd.5b00803
Preparation and properties of PLGA nanofiber membranes reinforced with cellulose nanocrystals	Mo, Yunfei; Guo, Rui; Liu, Jianghui; Lan, Yong; Zhang, Yi; Xue, Wei; Zhang, Yuanming	Mo, Yunfei; Guo, Rui; Liu, Jianghui; Lan, Yong; Zhang, Yi; Xue, Wei; Zhang, Yuanming, Preparation and properties of PLGA nanofiber membranes reinforced with cellulose nanocrystals, 2015, Colloids and Surfaces B: Biointerfaces, 10.1016/j.colsurfb.2015.05.029	http://www.sciencedirect.com/science/article/pii/S0927776515003276
Palladium-platinum core-shell icosahedra with substantially enhanced activity and durability towards oxygen reduction	Wang, Xue; Choi, Sang-Il; Roling, Luke T.; Luo, Ming; Ma, Cheng; Zhang, Lei; Chi, Miaofang; Liu, Jingyue; Xie, Zhaoxiong; Herron, Jeffrey A.; Mavrikakis, Manos; Xia, Younan	Wang, Xue; Choi, Sang-Il; Roling, Luke T.; Luo, Ming; Ma, Cheng; Zhang, Lei; Chi, Miaofang; Liu, Jingyue; Xie, Zhaoxiong; Herron, Jeffrey A.; Mavrikakis, Manos; Xia, Younan, Palladium-platinum core-shell icosahedra with substantially enhanced activity and durability towards oxygen reduction, 2015, Nature Communications, 10.1038/ncomms8594	https://www.nature.com/articles/ncomms8594
Electrospray formation and combustion characteristics of iodine-containing Al/CuO nanothermite microparticles	Wang, Haiyang; DeLisio, Jeffery B.; Jian, Guoqiang; Zhou, Wenbo; Zachariah, Michael R.	Wang, Haiyang; DeLisio, Jeffery B.; Jian, Guoqiang; Zhou, Wenbo; Zachariah, Michael R., Electrospray formation and combustion characteristics of iodine-containing Al/CuO nanothermite microparticles, 2015, Combustion and Flame, 10.1016/j.combustflame.2015.04.005	http://www.sciencedirect.com/science/article/pii/S0010218015001169
Consolidation of Partially Stabilized ZrO ₂ in the Presence of a Noncontacting Electric Field	Majidi, Hasti; van Benthem, Klaus	Majidi, Hasti; van Benthem, Klaus, Consolidation of Partially Stabilized ZrO ₂ in the Presence of a Noncontacting Electric Field, 2015, Physical Review Letters, 10.1103/PhysRevLett.114.195503	

Title	Authors	Citations	Web Link
Quantitative analysis for in situ sintering of 3% yttria-stabilized zirconia in the transmission electron microscope	Majidi, Hasti; Holland, Troy B.; van Benthem, Klaus	Majidi, Hasti; Holland, Troy B.; van Benthem, Klaus , Quantitative analysis for in situ sintering of 3% yttria-stabilized zirconia in the transmission electron microscope, 2015, Ultramicroscopy, 10.1016/j.ultramicro.2014.12.011	http://www.sciencedirect.com/science/article/pii/S030439911400268X
Inelastic electron irradiation damage in hexagonal boron nitride	Cretu, Ovidiu; Lin, Yung-Chang; Suenaga, Kazutomo	Cretu, Ovidiu; Lin, Yung-Chang; Suenaga, Kazutomo , Inelastic electron irradiation damage in hexagonal boron nitride, 2015, Micron, 10.1016/j.micron.2015.02.002	http://www.sciencedirect.com/science/article/pii/S0968432815000153
Electronic Transport of Recrystallized Freestanding Graphene Nanoribbons	Qi, Zhengqing John; Daniels, Colin; Hong, Sung Ju; Park, Yung Woo; Meunier, Vincent; Drndić, Marija; Johnson, A. T. Charlie	Qi, Zhengqing John; Daniels, Colin; Hong, Sung Ju; Park, Yung Woo; Meunier, Vincent; Drndić, Marija; Johnson, A. T. Charlie , Electronic Transport of Recrystallized Freestanding Graphene Nanoribbons, 2015, ACS Nano, 10.1021/nn507452g	https://doi.org/10.1021/nn507452g
Effect of metal–support interactions in Ni/Al ₂ O ₃ catalysts with low metal loading for methane dry reforming	Ewbank, Jessica L.; Kovarik, Libor; Diallo, Fatoumata Z.; Sievers, Carsten	Ewbank, Jessica L.; Kovarik, Libor; Diallo, Fatoumata Z.; Sievers, Carsten , Effect of metal–support interactions in Ni/Al ₂ O ₃ catalysts with low metal loading for methane dry reforming, 2015, Applied Catalysis A: General, 10.1016/j.apcata.2015.01.029	http://www.sciencedirect.com/science/article/pii/S0926860X15000447
Low voltage transmission electron microscopy of graphene	Bachmatiuk, Alicja; Zhao, Jiong; Gorantla, Sandeep Madhukar; Martinez, Ignacio Guillermo Gonzalez; Wiedermann, Jerzy; Lee, Changgu; Eckert, Juergen; Rummeli, Mark Hermann	Bachmatiuk, Alicja; Zhao, Jiong; Gorantla, Sandeep Madhukar; Martinez, Ignacio Guillermo Gonzalez; Wiedermann, Jerzy; Lee, Changgu; Eckert, Juergen; Rummeli, Mark Hermann , Low voltage transmission electron microscopy of graphene, 2015, Small (Weinheim an Der Bergstrasse, Germany), 10.1002/sml.201401804	
Nucleation of fcc Ta when heating thin films	Janish, Matthew T.; Mook, William M.; Carter, C. Barry	Janish, Matthew T.; Mook, William M.; Carter, C. Barry , Nucleation of fcc Ta when heating thin films, 2015, Scripta Materialia, 10.1016/j.scriptamat.2014.10.010	http://www.sciencedirect.com/science/article/pii/S1359646214004102
Thermal Stability of Gold Nanoparticles Embedded within Metal Oxide Frameworks Fabricated by Hybrid Modifications onto Sacrificial Textile Templates	Padbury, Richard P.; Halbur, Jonathan C.; Krommenhoek, Peter J.; Tracy, Joseph B.; Jur, Jesse S.	Padbury, Richard P.; Halbur, Jonathan C.; Krommenhoek, Peter J.; Tracy, Joseph B.; Jur, Jesse S. , Thermal Stability of Gold Nanoparticles Embedded within Metal Oxide Frameworks Fabricated by Hybrid Modifications onto Sacrificial Textile Templates, 2015, Langmuir, 10.1021/la504094g	https://doi.org/10.1021/la504094g
Environmental TEM study of the dynamic nanoscaled morphology of NiO/YSZ during reduction	Simonsen, Søren Bredmose; Agersted, Karsten; Hansen, Karin Vels; Jacobsen, Torben; Wagner, Jakob Birkedal; Hansen, Thomas Willum; Kuhn, Luise Theil	Simonsen, Søren Bredmose; Agersted, Karsten; Hansen, Karin Vels; Jacobsen, Torben; Wagner, Jakob Birkedal; Hansen, Thomas Willum; Kuhn, Luise Theil , Environmental TEM study of the dynamic nanoscaled morphology of NiO/YSZ during reduction, 2015, Applied Catalysis A: General, 10.1016/j.apcata.2014.10.045	http://www.sciencedirect.com/science/article/pii/S0926860X14006681
Observing gas-catalyst dynamics at atomic resolution and single-atom sensitivity	Helveg, S.; Kisielowski, C. F.; Jinschek, J. R.; Specht, P.; Yuan, G.; Frei, H.	Helveg, S.; Kisielowski, C. F.; Jinschek, J. R.; Specht, P.; Yuan, G.; Frei, H. , Observing gas-catalyst dynamics at atomic resolution and single-atom sensitivity, 2015, Micron, 10.1016/j.micron.2014.07.009	http://www.sciencedirect.com/science/article/pii/S096843281400153X
Direct observation of Pt-terminating carbyne on graphene	Kano, Emi; Takeguchi, Masaki; Fujita, Jun-ichi; Hashimoto, Ayako	Kano, Emi; Takeguchi, Masaki; Fujita, Jun-ichi; Hashimoto, Ayako , Direct observation of Pt-terminating carbyne on graphene, 2014, Carbon, 10.1016/j.carbon.2014.08.077	http://www.sciencedirect.com/science/article/pii/S0008622314008173
Understanding catalyst behavior during in situ heating through simultaneous secondary and transmitted electron imaging	Howe, Jane Y; Allard, Lawrence F; Bigelow, Wilbur C; Demers, Hendrix; Overbury, Steven H	Howe, Jane Y; Allard, Lawrence F; Bigelow, Wilbur C; Demers, Hendrix; Overbury, Steven H , Understanding catalyst behavior during in situ heating through simultaneous secondary and transmitted electron imaging, 2014, Nanoscale Research Letters, 10.1186/1556-276X-9-614	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4236855/
Nucleation of Graphene and Its Conversion to Single-Walled Carbon Nanotubes	Picher, Matthieu; Lin, Pin Ann; Gomez-Ballesteros, Jose L.; Balbuena, Perla B.; Sharma, Renu	Picher, Matthieu; Lin, Pin Ann; Gomez-Ballesteros, Jose L.; Balbuena, Perla B.; Sharma, Renu , Nucleation of Graphene and Its Conversion to Single-Walled Carbon Nanotubes, 2014, Nano Letters, 10.1021/nl501977b	https://doi.org/10.1021/nl501977b
Catalyst faceting during graphene layer crystallization in the course of carbon nanofiber growth	Maurice, J. -L.; Pribat, D.; He, Z.; Patriarche, G.; Cojocaru, C. S.	Maurice, J. -L.; Pribat, D.; He, Z.; Patriarche, G.; Cojocaru, C. S. , Catalyst faceting during graphene layer crystallization in the course of carbon nanofiber growth, 2014, Carbon, 10.1016/j.carbon.2014.07.047	http://www.sciencedirect.com/science/article/pii/S000862231400685X
Visualized effect of oxidation on magnetic recording fidelity in pseudo-single-domain magnetite particles	Almeida, Trevor P.; Kasama, Takeshi; Muxworthy, Adrian R.; Williams, Wyn; Nagy, Lesleis; Hansen, Thomas W.; Brown, Paul D.; Dunin-Borkowski, Rafal E.	Almeida, Trevor P.; Kasama, Takeshi; Muxworthy, Adrian R.; Williams, Wyn; Nagy, Lesleis; Hansen, Thomas W.; Brown, Paul D.; Dunin-Borkowski, Rafal E. , Visualized effect of oxidation on magnetic recording fidelity in pseudo-single-domain magnetite particles, 2014, Nature Communications, 10.1038/ncomms6154	https://www.nature.com/articles/ncomms6154
Growth Mechanism for Single- and Multi-Layer MoS ₂ Nanocrystals	Hansen, Lars P.; Johnson, Erik; Brorson, Michael; Helveg, Stig	Hansen, Lars P.; Johnson, Erik; Brorson, Michael; Helveg, Stig , Growth Mechanism for Single- and Multi-Layer MoS ₂ Nanocrystals, 2014, The Journal of Physical Chemistry C, 10.1021/jp5069279	https://doi.org/10.1021/jp5069279
Investigating Local Degradation and Thermal Stability of Charged Nickel-Based Cathode Materials through Real-Time Electron Microscopy	Hwang, Sooyeon; Kim, Seung Min; Bak, Seong-Min; Cho, Byung-Won; Chung, Kyung Yoon; Lee, Jeong Yong; Chang, Wonyoung; Stach, Eric A.	Hwang, Sooyeon; Kim, Seung Min; Bak, Seong-Min; Cho, Byung-Won; Chung, Kyung Yoon; Lee, Jeong Yong; Chang, Wonyoung; Stach, Eric A. , Investigating Local Degradation and Thermal Stability of Charged Nickel-Based Cathode Materials through Real-Time Electron Microscopy, 2014, ACS Applied Materials & Interfaces, 10.1021/am503278f	https://doi.org/10.1021/am503278f

Title	Authors	Citations	Web Link
Initiation and Reaction in Al/Bi ₂ O ₃ Nanothermites: Evidence for the Predominance of Condensed Phase Chemistry	Piekiel, Nicholas W.; Zhou, Lei; Sullivan, Kyle T.; Chowdhury, Snehaunshu; Egan, Garth C.; Zachariah, Michael R.; Michael R.	Piekiel, Nicholas W.; Zhou, Lei; Sullivan, Kyle T.; Chowdhury, Snehaunshu; Egan, Garth C.; Zachariah, Michael R. , Initiation and Reaction in Al/Bi ₂ O ₃ Nanothermites: Evidence for the Predominance of Condensed Phase Chemistry, 2014, Combustion Science and Technology, 10.1080/00102202.2014.908858	https://doi.org/10.1080/00102202.2014.908858
Observation of Sublattice Disordering of the Catalytic Sites in a Complex Mo–V–Nb–Te–O Oxidation Catalyst Using High Temperature STEM Imaging	Blom, Douglas A.; Vogt, Thomas; Allard, Larry F.; Buttrey, Douglas J.	Blom, Douglas A.; Vogt, Thomas; Allard, Larry F.; Buttrey, Douglas J. , Observation of Sublattice Disordering of the Catalytic Sites in a Complex Mo–V–Nb–Te–O Oxidation Catalyst Using High Temperature STEM Imaging, 2014, Topics in Catalysis, 10.1007/s11244-014-0278-4	https://doi.org/10.1007/s11244-014-0278-4
WO ₃ nano-ribbons: their phase transformation from tungstite (WO ₃ ·H ₂ O) to tungsten oxide (WO ₃)	Ahmadi, Majid; Sahoo, Satyaprakash; Younesi, Reza; Gaur, Anand P. S.; Katiyar, Ram S.; Guinel, Maxime J-F	Ahmadi, Majid; Sahoo, Satyaprakash; Younesi, Reza; Gaur, Anand P. S.; Katiyar, Ram S.; Guinel, Maxime J-F , WO ₃ nano-ribbons: their phase transformation from tungstite (WO ₃ ·H ₂ O) to tungsten oxide (WO ₃), 2014, Journal of Materials Science, 10.1007/s10853-014-8304-2	https://doi.org/10.1007/s10853-014-8304-2
Novel Heterostructured Ge Nanowires Based on Polytype Transformation	Vincent, Laetitia; Patriarche, Gilles; Hallais, Géraldine; Renard, Charles; Gardès, Cyrille; Troadec, David; Bouchier, Daniel	Vincent, Laetitia; Patriarche, Gilles; Hallais, Géraldine; Renard, Charles; Gardès, Cyrille; Troadec, David; Bouchier, Daniel , Novel Heterostructured Ge Nanowires Based on Polytype Transformation, 2014, Nano Letters, 10.1021/nl502049a	https://doi.org/10.1021/nl502049a
Structure of δ-Alumina: Toward the Atomic Level Understanding of Transition Alumina Phases	Kovarik, Libor; Bowden, Mark; Genc, Arda; Szanyi, János; Peden, Charles H. F.; Kwak, Ja Hun	Kovarik, Libor; Bowden, Mark; Genc, Arda; Szanyi, János; Peden, Charles H. F.; Kwak, Ja Hun , Structure of δ-Alumina: Toward the Atomic Level Understanding of Transition Alumina Phases, 2014, The Journal of Physical Chemistry C, 10.1021/jp500051j	https://doi.org/10.1021/jp500051j
In-situ high-pressure transmission electron microscopy for Earth and materials sciences	Wu, J.; Buseck, P. R.	Wu, J.; Buseck, P. R. , In-situ high-pressure transmission electron microscopy for Earth and materials sciences, 2014, American Mineralogist, 10.2138/am.2014.4857	https://pubs.geoscienceworld.org/ammin/article/99/8-9/1521-1527/46168
Real-time observation of the solid-liquid-vapor dissolution of individual tin(IV) oxide nanowires	Hudak, Bethany M.; Chang, Yao-Jen; Yu, Lei; Li, Guohua; Edwards, Danielle N.; Guiton, Beth S.	Hudak, Bethany M.; Chang, Yao-Jen; Yu, Lei; Li, Guohua; Edwards, Danielle N.; Guiton, Beth S. , Real-time observation of the solid-liquid-vapor dissolution of individual tin(IV) oxide nanowires, 2014, ACS nano, 10.1021/nn5007804	
Chirality-specific growth of single-walled carbon nanotubes on solid alloy catalysts	Yang, Feng; Wang, Xiao; Zhang, Daqi; Yang, Juan; Luo, Da; Xu, Ziwei; Wei, Jiake; Wang, Jian-Qiang; Xu, Zhi; Peng, Fei; Li, Xuemei; Li, Ruoming; Li, Yilun; Li, Meihui; Bai, Xuedong; Ding, Feng; Li, Yan	Yang, Feng; Wang, Xiao; Zhang, Daqi; Yang, Juan; Luo, Da; Xu, Ziwei; Wei, Jiake; Wang, Jian-Qiang; Xu, Zhi; Peng, Fei; Li, Xuemei; Li, Ruoming; Li, Yilun; Li, Meihui; Bai, Xuedong; Ding, Feng; Li, Yan , Chirality-specific growth of single-walled carbon nanotubes on solid alloy catalysts, 2014, Nature, 10.1038/nature13434	https://www.nature.com/articles/nature13434
Nanoparticle Metamorphosis: An in Situ High-Temperature Transmission Electron Microscopy Study of the Structural Evolution of Heterogeneous Au:Fe ₂ O ₃ Nanoparticles	Baumgardner, William J.; Yu, Yingchao; Hovden, Robert; Honrao, Shreyas; Hennig, Richard G.; Abruña, Héctor D.; Muller, David; Hanrath, Tobias	Baumgardner, William J.; Yu, Yingchao; Hovden, Robert; Honrao, Shreyas; Hennig, Richard G.; Abruña, Héctor D.; Muller, David; Hanrath, Tobias , Nanoparticle Metamorphosis: An in Situ High-Temperature Transmission Electron Microscopy Study of the Structural Evolution of Heterogeneous Au:Fe ₂ O ₃ Nanoparticles, 2014, ACS Nano, 10.1021/nn501543d	https://doi.org/10.1021/nn501543d
In Situ TEM Observation of a Microcrucible Mechanism of Nanowire Growth	Boston, R.; Schnepf, Z.; Nemoto, Y.; Sakka, Y.; Hall, S. R.	Boston, R.; Schnepf, Z.; Nemoto, Y.; Sakka, Y.; Hall, S. R. , In Situ TEM Observation of a Microcrucible Mechanism of Nanowire Growth, 2014, Science, 10.1126/science.1251594	https://www.sciencemag.org/lookup/doi/10.1126/science.1251594
Effect of surface carbon coating on sintering of silver nanoparticles: in situ TEM observations	Asoro, M. A.; Kovar, D.; Ferreira, P. J.	Asoro, M. A.; Kovar, D.; Ferreira, P. J. , Effect of surface carbon coating on sintering of silver nanoparticles: in situ TEM observations, 2014, Chemical Communications, 10.1039/C4CC01547A	https://pubs.rsc.org/en/content/articlelanding/2014/cc/c4cc01547a
In situ imaging of ultra-fast loss of nanostructure in nanoparticle aggregates	Egan, Garth C.; Sullivan, Kyle T.; LaGrange, Thomas; Reed, Bryan W.; Zachariah, Michael R.	Egan, Garth C.; Sullivan, Kyle T.; LaGrange, Thomas; Reed, Bryan W.; Zachariah, Michael R. , In situ imaging of ultra-fast loss of nanostructure in nanoparticle aggregates, 2014, Journal of Applied Physics, 10.1063/1.4867116	https://aip.scitation.org/doi/abs/10.1063/1.4867116
Decomposition of amorphous Si ₂ C by thermal annealing	Gustus, R.; Gruber, W.; Wegewitz, L.; Geckle, U.; Prang, R.; Kübel, C.; Schmidt, H.; Maus-Friedrichs, W.	Gustus, R.; Gruber, W.; Wegewitz, L.; Geckle, U.; Prang, R.; Kübel, C.; Schmidt, H.; Maus-Friedrichs, W. , Decomposition of amorphous Si ₂ C by thermal annealing, 2014, Thin Solid Films, 10.1016/j.tsf.2013.12.033	http://www.sciencedirect.com/science/article/pii/S004060901302097X
Observing thermomagnetic stability of nonideal magnetite particles: Good paleomagnetic recorders?	Almeida, Trevor P.; Kasama, Takeshi; Muxworthy, Adrian R.; Williams, Wyn; Nagy, Lesleis; Dunin-Borkowski, Rafal E.	Almeida, Trevor P.; Kasama, Takeshi; Muxworthy, Adrian R.; Williams, Wyn; Nagy, Lesleis; Dunin-Borkowski, Rafal E. , Observing thermomagnetic stability of nonideal magnetite particles: Good paleomagnetic recorders?, 2014, Geophysical Research Letters, 10.1002/2014GL061432	https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1002/2014GL061432
Real-time imaging and elemental mapping of AgAu nanoparticle transformations	A. Lewis, E.; A. Slater, T. J.; Prestat, E.; Macedo, A.; O'Brien, P.; C. Camargo, P. H.; J. Haigh, S.	A. Lewis, E.; A. Slater, T. J.; Prestat, E.; Macedo, A.; O'Brien, P.; C. Camargo, P. H.; J. Haigh, S. , Real-time imaging and elemental mapping of AgAu nanoparticle transformations, 2014, Nanoscale, 10.1039/C4NR04837G	https://pubs.rsc.org/en/content/articlelanding/2014/nr/c4nr04837g
Direct observation of carbon nanostructure growth at liquid–solid interfaces	Fei, Lin-feng; Sun, Tie-yu; Lu, Wei; An, Xiao-qiang; Hu, Zhuo-feng; Yu, Jimmy C.; Zheng, Ren-kui; Li, Xiao-min; Chan, Helen L. W.; Wang, Yu	Fei, Lin-feng; Sun, Tie-yu; Lu, Wei; An, Xiao-qiang; Hu, Zhuo-feng; Yu, Jimmy C.; Zheng, Ren-kui; Li, Xiao-min; Chan, Helen L. W.; Wang, Yu , Direct observation of carbon nanostructure growth at liquid–solid interfaces, 2013, Chemical Communications, 10.1039/C3CC46264A	https://pubs.rsc.org/en/content/articlelanding/2014/cc/c3cc46264a

Title	Authors	Citations	Web Link
Synthesis of Au–MoS ₂ Nanocomposites: Thermal and Friction-Induced Changes to the Structure	Scharf, T. W.; Goeke, R. S.; Kotula, P. G.; Prasad, S. V.	Scharf, T. W.; Goeke, R. S.; Kotula, P. G.; Prasad, S. V. , Synthesis of Au–MoS ₂ Nanocomposites: Thermal and Friction-Induced Changes to the Structure, 2013, ACS Applied Materials & Interfaces, 10.1021/am4034476	https://doi.org/10.1021/am4034476
In situ transmission electron microscopy observations of sublimation in silver nanoparticles	Asoro, Michael A.; Kovar, Desiderio; Ferreira, Paulo J.	Asoro, Michael A.; Kovar, Desiderio; Ferreira, Paulo J. , In situ transmission electron microscopy observations of sublimation in silver nanoparticles, 2013, ACS nano, 10.1021/nn402771j	
Dynamic Evolution of Conducting Nanofilament in Resistive Switching Memories	Chen, Jui-Yuan; Hsin, Cheng-Lun; Huang, Chun-Wei; Chiu, Chung-Hua; Huang, Yu-Ting; Lin, Su-Jien; Wu, Wen-Wei; Chen, Lih-Juann	Chen, Jui-Yuan; Hsin, Cheng-Lun; Huang, Chun-Wei; Chiu, Chung-Hua; Huang, Yu-Ting; Lin, Su-Jien; Wu, Wen-Wei; Chen, Lih-Juann , Dynamic Evolution of Conducting Nanofilament in Resistive Switching Memories, 2013, Nano Letters, 10.1021/nl4015638	https://doi.org/10.1021/nl4015638
Strain solitons and topological defects in bilayer graphene	Alden, Jonathan S.; Tsen, Adam W.; Huang, Pinshane Y.; Hovden, Robert; Brown, Lola; Park, Jiwoong; Muller, David A.; McEuen, Paul L.	Alden, Jonathan S.; Tsen, Adam W.; Huang, Pinshane Y.; Hovden, Robert; Brown, Lola; Park, Jiwoong; Muller, David A.; McEuen, Paul L. , Strain solitons and topological defects in bilayer graphene, 2013, Proceedings of the National Academy of Sciences, 10.1073/pnas.1309394110	https://www.pnas.org/content/110/28/11256
Atomic Resolution Imaging of Grain Boundary Defects in Monolayer Chemical Vapor Deposition-Grown Hexagonal Boron Nitride	Gibb, Ashley L.; Alem, Nasim; Chen, Jian-Hao; Erickson, Kristopher J.; Ciston, Jim; Gautam, Abhay; Linck, Martin; Zettl, Alex	Gibb, Ashley L.; Alem, Nasim; Chen, Jian-Hao; Erickson, Kristopher J.; Ciston, Jim; Gautam, Abhay; Linck, Martin; Zettl, Alex , Atomic Resolution Imaging of Grain Boundary Defects in Monolayer Chemical Vapor Deposition-Grown Hexagonal Boron Nitride, 2013, Journal of the American Chemical Society, 10.1021/ja400637n	https://doi.org/10.1021/ja400637n
Coalescence in the Thermal Annealing of Nanoparticles: An in Situ STEM Study of the Growth Mechanisms of Ordered Pt–Fe Nanoparticles in a KCl Matrix	Chen, Hao; Yu, Yingchao; Xin, Huolin L.; Newton, Kathryn A.; Holtz, Megan E.; Wang, Deli; Muller, David A.; Abruña, Héctor D.; DiSalvo, Francis J.	Chen, Hao; Yu, Yingchao; Xin, Huolin L.; Newton, Kathryn A.; Holtz, Megan E.; Wang, Deli; Muller, David A.; Abruña, Héctor D.; DiSalvo, Francis J. , Coalescence in the Thermal Annealing of Nanoparticles: An in Situ STEM Study of the Growth Mechanisms of Ordered Pt–Fe Nanoparticles in a KCl Matrix, 2013, Chemistry of Materials, 10.1021/cm303489z	https://doi.org/10.1021/cm303489z
An in situ experimental study of grain growth in a nanocrystalline Fe ₉₁ Ni ₈ Zr ₁ alloy	Kotan, Hasan; Darling, Kris A.; Saber, Mostafa; Scattergood, Ronald O.; Koch, Carl C.	Kotan, Hasan; Darling, Kris A.; Saber, Mostafa; Scattergood, Ronald O.; Koch, Carl C. , An in situ experimental study of grain growth in a nanocrystalline Fe ₉₁ Ni ₈ Zr ₁ alloy, 2013, Journal of Materials Science, 10.1007/s10853-012-7002-1	https://doi.org/10.1007/s10853-012-7002-1
Heating induced microstructural changes in graphene/Cu nanocomposites	Solá, F.; Niu, J.; Xia, Z. H.	Solá, F.; Niu, J.; Xia, Z. H. , Heating induced microstructural changes in graphene/Cu nanocomposites, 2013, Journal of Physics D: Applied Physics, 10.1088/0022-3727/46/6/065309	https://doi.org/10.1088/0022-3727/46/6/065309
Multifunctional Properties of Multistage Spark Plasma Sintered HA–BaTiO ₃ -Based Piezobiocomposites for Bone Replacement Applications	Dubey, Ashutosh Kumar; Ea, Anumol; Balani, Kantesh; Basu, Bikramjit	Dubey, Ashutosh Kumar; Ea, Anumol; Balani, Kantesh; Basu, Bikramjit , Multifunctional Properties of Multistage Spark Plasma Sintered HA–BaTiO ₃ -Based Piezobiocomposites for Bone Replacement Applications, 2013, Journal of the American Ceramic Society, 10.1111/jace.12566	https://ceramics.onlinelibrary.wiley.com/doi/abs/10.1111/jace.12566
Mechanistic Insights into a Non-Classical Diffusion Pathway for the Formation of Hollow Intermetallics: A Route to Multicomponent Hollow Structures	Anumol, E. A.; Nethravathi, C.; Ravishankar, N.	Anumol, E. A.; Nethravathi, C.; Ravishankar, N. , Mechanistic Insights into a Non-Classical Diffusion Pathway for the Formation of Hollow Intermetallics: A Route to Multicomponent Hollow Structures, 2013, Particle & Particle Systems Characterization, 10.1002/ppsc.201300022	https://onlinelibrary.wiley.com/doi/abs/10.1002/ppsc.201300022
In situ observation of Pt nanoparticles on graphene layers under high temperature using aberration-corrected transmission electron microscopy	Hashimoto, Ayako; Takeguchi, Masaki	Hashimoto, Ayako; Takeguchi, Masaki , In situ observation of Pt nanoparticles on graphene layers under high temperature using aberration-corrected transmission electron microscopy, 2012, Microscopy, 10.1093/jmicro/dfs060	
In situ transmission electron microscopic investigations of reduction-oxidation reactions during densification of nickel nanoparticles	Matsuno, Misa; Bonifacio, Cecile S.; Rufner, Jorgen F.; Thron, Andrew M.; Holland, Troy B.; Mukherjee, Amiya K.; Benthem, Klaus van	Matsuno, Misa; Bonifacio, Cecile S.; Rufner, Jorgen F.; Thron, Andrew M.; Holland, Troy B.; Mukherjee, Amiya K.; Benthem, Klaus van , In situ transmission electron microscopic investigations of reduction-oxidation reactions during densification of nickel nanoparticles, 2012, Journal of Materials Research, 10.1557/jmr.2012.256	https://www.cambridge.org/core/journals/journal-of-materials-research/article/in-situ-transmission-electron-microscopic-investigations-of-reduction-oxidation-reactions-during-densification-of-nickel-nanoparticles/E88B7D47BD0EFA1ED86FC333997A58B
Carbohydrate-Derived Hydrothermal Carbons: A Thorough Characterization Study	Yu, Linghui; Falco, Camillo; Weber, Jens; White, Robin J.; Howe, Jane Y.; Titirici, Maria-Magdalena	Yu, Linghui; Falco, Camillo; Weber, Jens; White, Robin J.; Howe, Jane Y.; Titirici, Maria-Magdalena , Carbohydrate-Derived Hydrothermal Carbons: A Thorough Characterization Study, 2012, Langmuir, 10.1021/la3024277	https://doi.org/10.1021/la3024277
In situ studies on the shrinkage and expansion of graphene nanopores under electron beam irradiation at temperatures in the range of 400–1200°C	Lu, Ning; Wang, Jinguo; Floresca, Herman C.; Kim, Moon J.	Lu, Ning; Wang, Jinguo; Floresca, Herman C.; Kim, Moon J. , In situ studies on the shrinkage and expansion of graphene nanopores under electron beam irradiation at temperatures in the range of 400–1200°C, 2012, Carbon, 10.1016/j.carbon.2012.02.078	http://www.sciencedirect.com/science/article/pii/S0008622312002151
Nanoporous Pd alloys with compositionally tunable hydrogen storage properties prepared by nanoparticle consolidation	Cappillino, Patrick J.; Sugar, Joshua D.; Hekmaty, Michelle A.; Jacobs, Benjamin W.; Stavila, Vitalie; Kotula, Paul G.; Chames, Jeffrey M.; Yang, Nancy Y.; Robinson, David B.	Cappillino, Patrick J.; Sugar, Joshua D.; Hekmaty, Michelle A.; Jacobs, Benjamin W.; Stavila, Vitalie; Kotula, Paul G.; Chames, Jeffrey M.; Yang, Nancy Y.; Robinson, David B. , Nanoporous Pd alloys with compositionally tunable hydrogen storage properties prepared by nanoparticle consolidation, 2012, Journal of Materials Chemistry, 10.1039/C2JM30988B	https://pubs.rsc.org/en/content/articlelanding/2012/jm/c2jm30988b
Stability of Porous Platinum Nanoparticles: Combined In Situ TEM and Theoretical Study	Chang, Shery L. Y.; Barnard, Amanda S.; Dwyer, Christian; Hansen, Thomas W.; Wagner, Jakob B.; Dunin-Borkowski, Rafal E.; Weyland, Matthew; Konishi, Hiromi; Xu, Huifang	Chang, Shery L. Y.; Barnard, Amanda S.; Dwyer, Christian; Hansen, Thomas W.; Wagner, Jakob B.; Dunin-Borkowski, Rafal E.; Weyland, Matthew; Konishi, Hiromi; Xu, Huifang , Stability of Porous Platinum Nanoparticles: Combined In Situ TEM and Theoretical Study, 2012, The Journal of Physical Chemistry Letters, 10.1021/jz3001823	https://doi.org/10.1021/jz3001823

Title	Authors	Citations	Web Link
L10 Ordering of Ultrasmall FePt Nanoparticles Revealed by TEM In Situ Annealing	Delalande, Michaël; Guinel, Maxime J.-F.; Allard, Lawrence F.; Delattre, Anastasia; Le Bris, Rémy; Samson, Yves; Bayle-Guillemaud, Pascale; Reiss, Peter	Delalande, Michaël; Guinel, Maxime J.-F.; Allard, Lawrence F.; Delattre, Anastasia; Le Bris, Rémy; Samson, Yves; Bayle-Guillemaud, Pascale; Reiss, Peter , L10 Ordering of Ultrasmall FePt Nanoparticles Revealed by TEM In Situ Annealing, 2012, The Journal of Physical Chemistry C, 10.1021/jp300037r	https://doi.org/10.1021/jp300037r
Effect of Rhodium Distribution on Thermal Stability of Nanoporous Palladium–Rhodium Powders	Ong, Markus D.; Jacobs, Benjamin W.; Sugar, Joshua D.; Grass, Michael E.; Liu, Zhi; Buffleben, George M.; Clift, W. Miles; Langham, Mary E.; Cappillino, Patrick J.; Robinson, David B.	Ong, Markus D.; Jacobs, Benjamin W.; Sugar, Joshua D.; Grass, Michael E.; Liu, Zhi; Buffleben, George M.; Clift, W. Miles; Langham, Mary E.; Cappillino, Patrick J.; Robinson, David B. , Effect of Rhodium Distribution on Thermal Stability of Nanoporous Palladium–Rhodium Powders, 2012, Chemistry of Materials, 10.1021/cm202688m	https://doi.org/10.1021/cm202688m
Reactive sintering: An important component in the combustion of nanocomposite thermites	Sullivan, K. T.; Piekiet, N. W.; Wu, C.; Chowdhury, S.; Kelly, S. T.; Hufnagel, T. C.; Fezzaa, K.; Zachariah, M. R.	Sullivan, K. T.; Piekiet, N. W.; Wu, C.; Chowdhury, S.; Kelly, S. T.; Hufnagel, T. C.; Fezzaa, K.; Zachariah, M. R. , Reactive sintering: An important component in the combustion of nanocomposite thermites, 2012, Combustion and Flame, 10.1016/j.combustflame.2011.07.015	http://www.sciencedirect.com/science/article/pii/S0010218011002276
Dynamic Observation of Phase Transformation Behaviors in Indium(III) Selenide Nanowire Based Phase Change Memory	Huang, Yu-Ting; Huang, Chun-Wei; Chen, Jui-Yuan; Ting, Yi-Hsin; Lu, Kuo-Chang; Chueh, Yu-Lun; Wu, Wen-Wei	Huang, Yu-Ting; Huang, Chun-Wei; Chen, Jui-Yuan; Ting, Yi-Hsin; Lu, Kuo-Chang; Chueh, Yu-Lun; Wu, Wen-Wei , Dynamic Observation of Phase Transformation Behaviors in Indium(III) Selenide Nanowire Based Phase Change Memory, 2014, ACS Nano, 10.1021/nn503576x	https://doi.org/10.1021/nn503576x
Controlled growth of a line defect in graphene and implications for gate-tunable valley filtering	Chen, J.-H.; Autès, G.; Alem, N.; Gargiulo, F.; Gautam, A.; Linck, M.; Kisielowski, C.; Yazyev, O. V.; Louie, S. G.; Zettl, A.	Chen, J.-H.; Autès, G.; Alem, N.; Gargiulo, F.; Gautam, A.; Linck, M.; Kisielowski, C.; Yazyev, O. V.; Louie, S. G.; Zettl, A. , Controlled growth of a line defect in graphene and implications for gate-tunable valley filtering, 2014, Physical Review B, 10.1103/PhysRevB.89.121407	https://link.aps.org/doi/10.1103/PhysRevB.89.121407
Enhanced shape stability of Pd-Rh core-frame nanocubes at elevated temperature: in situ heating transmission electron microscopy	Lu, Ning; Wang, Jinguo; Xie, Shuifen; Xia, Younan; Kim, Moon J.	Lu, Ning; Wang, Jinguo; Xie, Shuifen; Xia, Younan; Kim, Moon J. , Enhanced shape stability of Pd-Rh core-frame nanocubes at elevated temperature: in situ heating transmission electron microscopy, 2013, Chemical Communications (Cambridge, England), 10.1039/c3cc46465b	