Marijn A Van Huis

List of Publications by Year
in descending order

125 papers	5,178 citations	94433 37 h-index	95266 68 g-index
131 all docs	131 docs citations	131 times ranked	6674 citing authors

#	Article	IF	Citations
1	Selective Vertical and Horizontal Growth of 2D WS₂ Revealed by In Situ Thermolysis using Transmission Electron Microscopy. Advanced Functional Materials, 2022, 32, 2106450.	14.9	8
2	Selective Vertical and Horizontal Growth of 2D WS₂ Revealed by In Situ Thermolysis using Transmission Electron Microscopy (Adv. Funct. Mater. 1/2022). Advanced Functional Materials, 2022, 32, .	14.9	0
3	Heating-Induced Transformation of Anatase TiO₂ Nanorods into Rock-Salt TiO Nanoparticles: Implications for Photocatalytic and Gas-Sensing Applications. ACS Applied Nano Materials, 2022, 5, 1600-1606.	5.0	11
4	Tandem catalysis with double-shelled hollow spheres. Nature Materials, 2022, 21, 572-579.	27.5	65
5	Lowâ€dose liquid cell electron microscopy investigation of the complex etching mechanism of rodâ€shaped silica colloids. Nano Select, 2021, 2, 313-327.	3.7	2
6	Single-step coating of mesoporous SiO₂ onto nanoparticles: growth of yolkâ€“shell structures from coreâ€“shell structures. Nanoscale, 2021, 13, 10925-10932.	5.6	7
7	Symmetric and asymmetric epitaxial growth of metals (Ag, Pd, and Pt) onto Au nanotriangles: effects of reductants and plasmonic properties. Nanoscale, 2021, 13, 2902-2913.	5.6	10
8	In situ electron microscopy study of structural transformations in 2D CoSe2. Npj 2D Materials and Applications, 2021, 5, .	7.9	13
9	Structural Control over Bimetallic Coreâ€“Shell Nanorods for Surface-Enhanced Raman Spectroscopy. ACS Omega, 2021, 6, 7034-7046.	3.5	29
10	Tunability of Interactions between the Core and Shell in Rattle-Type Particles Studied with Liquid-Cell Electron Microscopy. ACS Nano, 2021, 15, 11137-11149.	14.6	7
11	In Situ Study of the Wet Chemical Etching of SiO2 and Nanoparticle@SiO2 Coreâ€“Shell Nanospheres. ACS Applied Nano Materials, 2021, 4, 1136-1148.	5.0	10
12	Transformation of Co₃O₄ nanoparticles to CoO monitored by <i>in situ</i> TEM and predicted ferromagnetism at the Co₃O₄/CoO interface from first principles. Journal of Materials Chemistry C, 2021, 9, 5662-5675.	5.5	31
13	Phase constitution and microstructure of the NbTiVZr refractory high-entropy alloy solidified upon different processing. Acta Materialia, 2021, 221, 117416.	7.9	18
14	Observation of Undamped 3D Brownian Motion of Nanoparticles Using Liquidâ€Cell Scanning Transmission Electron Microscopy. Particle and Particle Systems Characterization, 2020, 37, 2000003.	2.3	18
15	Compartmentalization of gold nanoparticle clusters in hollow silica spheres and their assembly induced by an external electric field. Journal of Colloid and Interface Science, 2020, 566, 202-210.	9.4	15
16	Thermal enhancement and quenching of upconversion emission in nanocrystals. Nanoscale, 2019, 11, 12188-12197.	5.6	72
17	Structural and Electronic Properties of Frenkel and Schottky Defects at the MgO{100} Surface: Spin Polarization, Mid-Band Gap States, and Charge Trapping at Vacancy Sites. Journal of Physical Chemistry C, 2019, 123, 14408-14420.	3.1	10
18	Thermal stability and electronic and magnetic properties of atomically thin 2D transition metal oxides. Npj 2D Materials and Applications, 2019, 3, .	7.9	55

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19	Intermetallic Differences at CdSâ€“Metal (Ni, Pd, Pt, and Au) Interfaces: From Single-Atom to Subnanometer Metal Clusters. Journal of Physical Chemistry C, 2019, 123, 9298-9310.	3.1	7
20	Bridging the gap: 3D real-space characterization of colloidal assemblies via FIB-SEM tomography. Nanoscale, 2019, 11, 5304-5316.	5.6	24
21	Strained epitaxial interfaces of metal (Pd, Pt, Au) overlayers on nonpolar CdS (101Â¯0) surfaces from first-principles. Journal of Physics Condensed Matter, 2019, 31, 505001.	1.8	0
22	Germanium Quantum Dot GrÃ¤tzelâ€Type Solar Cell. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1800570.	1.8	5
23	Interfacial Self-Assembly and Oriented Attachment in the Family of PbX (X = S, Se, Te) Nanocrystals. Journal of Physical Chemistry C, 2018, 122, 12464-12473.	3.1	43
24	Adsorption Study of a Water Molecule on Vacancy-Defected Nonpolar CdS Surfaces. Journal of Physical Chemistry C, 2017, 121, 9815-9824.	3.1	8
25	Monocrystalline Nanopatterns Made by Nanocube Assembly and Epitaxy. Advanced Materials, 2017, 29, 1701064.	21.0	16
26	Morphological and chemical transformations of single silica-coated CdSe/CdS nanorods upon fs-laser excitation. Nanoscale, 2017, 9, 4810-4818.	5.6	4
27	Structure and stability of hcp iron carbide precipitates: A first-principles study. Heliyon, 2017, 3, e00408.	3.2	6
28	Formation of Colloidal Copper Indium Sulfide Nanosheets by Two-Dimensional Self-Organization. Chemistry of Materials, 2017, 29, 10551-10560.	6.7	22
29	Nano-Tomography of Porous Geological Materials Using Focused Ion Beam-Scanning Electron Microscopy. Minerals (Basel, Switzerland), 2016, 6, 104.	2.0	34
30	Atomistic understanding of cation exchange in PbS nanocrystals using simulations with pseudoligands. Nature Communications, 2016, 7, 11503.	12.8	48
31	Stability and geometry of silica nano-ribbons (SNRs): a first-principles study. Physical Chemistry Chemical Physics, 2016, 18, 21825-21832.	2.8	3
32	Depth dependence of vacancy formation energy at (100), (110), and (111) Al surfaces: A first-principles study. Physical Review B, 2016, 93, .	3.2	24
33	Recognizing nitrogen dopant atoms in graphene using atomic force microscopy. Physical Review B, 2016, 93, .	3.2	12
34	Acetate ligands determine the crystal structure of CdSe nanoplatelets â€“ a density functional theory study. Physical Chemistry Chemical Physics, 2016, 18, 22021-22024.	2.8	12
35	Strong spin-orbit splitting and magnetism of point defect states in monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>WS</mml:mi><mml:mn>2</mml:mn></mml:msub></m Physical Review B, 2016, 94, .	3.2	70
36	Single Particle Deformation and Analysis of Silica-Coated Gold Nanorods before and after Femtosecond Laser Pulse Excitation. Nano Letters, 2016, 16, 1818-1825.	9.1	58

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37	Formation, structure and magnetism of the Î³-(Fe,M)23C6 (M = Cr, Ni) phases: A first-principles study. Acta Materialia, 2016, 103, 273-279.	7.9	38
38	Quantitative 3D analysis of huge nanoparticle assemblies. Nanoscale, 2016, 8, 292-299.	5.6	38
39	Heat-induced transformation of CdSeâ€“CdSâ€“ZnS coreâ€“multishell quantum dots by Zn diffusion into inner layers. Chemical Communications, 2015, 51, 3320-3323.	4.1	20
40	Two-Dimensional Hydrous Silica: Nanosheets and Nanotubes Predicted from First-Principles Simulations. Journal of Physical Chemistry C, 2015, 119, 14343-14350.	3.1	9
41	Formation and Photoluminescence of â€œCauliflowerâ€•Silicon Nanoparticles. Journal of Physical Chemistry C, 2015, 119, 11042-11047.	3.1	16
42	Stabilization of Rock Salt ZnO Nanocrystals by Low-Energy Surfaces and Mg Additions: A First-Principles Study. Journal of Physical Chemistry C, 2015, 119, 5648-5656.	3.1	31
43	Strong Long-Range Relaxations of Structural Defects in Graphene Simulated Using a New Semiempirical Potential. Journal of Physical Chemistry C, 2015, 119, 9646-9655.	3.1	20
44	Shape-Dependent Multiexciton Emission and Whispering Gallery Modes in Supraparticles of CdSe/Multishell Quantum Dots. ACS Nano, 2015, 9, 3942-3950.	14.6	53
45	Oxidative Etching and Metal Overgrowth of Gold Nanorods within Mesoporous Silica Shells. Chemistry of Materials, 2015, 27, 7196-7203.	6.7	42
46	The role of point defects in PbS, PbSe and PbTe: a<i>first principles</i>study. Journal of Physics Condensed Matter, 2015, 27, 355801.	1.8	23
47	The accurate calculation of the band gap of liquid water by means of GW corrections applied to plane-wave density functional theory molecular dynamics simulations. Physical Chemistry Chemical Physics, 2015, 17, 365-375.	2.8	54
48	Unexpected origin of magnetism in monoclinic Nb₁₂O₂₉ from first-principles calculations. Journal of Materials Chemistry C, 2015, 3, 651-657.	5.5	9
49	Solution-Processable Ultrathin Size- and Shape-Controlled Colloidal Cu2â€“xS Nanosheets. Chemistry of Materials, 2015, 27, 283-291.	6.7	76
50	Crystal structure, stability, and electronic properties of hydrated metal sulfates MSO4(H2O)n (M=Ni,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 77-86.	3.8	13
51	Coreâ€“shell reconfiguration through thermal annealing in Fe_{<i>x</i>}O/CoFe₂O₄ordered 2D nanocrystal arrays. Nanotechnology, 2014, 25, 055601.	2.6	9
52	A transferable force field for CdS-CdSe-PbS-PbSe solid systems. Journal of Chemical Physics, 2014, 141, 244503.	3.0	19
53	New Ab Initio Based Pair Potential for Accurate Simulation of Phase Transitions in ZnO. Journal of Physical Chemistry C, 2014, 118, 11050-11061.	3.1	45
54	Atomic Resolution Monitoring of Cation Exchange in CdSe-PbSe Heteronanocrystals during Epitaxial Solidâ€“Solidâ€“Vapor Growth. Nano Letters, 2014, 14, 3661-3667.	9.1	48

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55	Unravelling the structural and chemical features influencing deformation-induced martensitic transformations in steels. Scripta Materialia, 2014, 71, 29-32.	5.2	13
56	Real-Time Atomic Scale Imaging of Nanostructural Evolution in Aluminum Alloys. Nano Letters, 2014, 14, 384-389.	9.1	27
57	Predicted stability, structures, and magnetism of 3d transition metal nitrides: the M4N phases. RSC Advances, 2014, 4, 7885.	3.6	36
58	Solution-Phase Epitaxial Growth of Quasi-Monocrystalline Cuprous Oxide on Metal Nanowires. Nano Letters, 2014, 14, 5891-5898.	9.1	27
59	Structural tale of two novel (Cr, Mn)C carbides in steel. Acta Materialia, 2014, 78, 161-172.	7.9	11
60	Electron Microscopy Techniques. , 2014, , 191-221.		2
61	From Sphere to Multipod: Thermally Induced Transitions of CdSe Nanocrystals Studied by Molecular Dynamics Simulations. Journal of the American Chemical Society, 2013, 135, 5869-5876.	13.7	19
62	Surfaces of colloidal PbSe nanocrystals probed by thin-film positron annihilation spectroscopy. APL Materials, 2013, 1, .	5.1	13
63	Structural and magnetic properties of NiC<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mi>x</mml:mi></mml:msub></mml:math>and NiN<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow		

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73	Chemical Transformation of Au-Tipped CdS Nanorods into AuS/Cd Core/Shell Particles by Electron Beam Irradiation. Nano Letters, 2011, 11, 4555-4561.	9.1	33
74	Three-Dimensional Atomic Imaging of Colloidal Coreâ€“Shell Nanocrystals. Nano Letters, 2011, 11, 3420-3424.	9.1	134
75	Stability and structures of the Îµ-phases of iron nitrides and iron carbides from first principles. Scripta Materialia, 2011, 64, 296-299.	5.2	35
76	Unity quantum yield of photogenerated charges and band-like transport in quantum-dot solids. Nature Nanotechnology, 2011, 6, 733-739.	31.5	164
77	Characterization of NbC and (Nb,Ti)N nanoprecipitates in TRIP assisted multiphase steels. Acta Materialia, 2011, 59, 7406-7415.	7.9	78
78	Twoâ€Fold Emission From the Sâ€Shell of PbSe/CdSe Core/Shell Quantum Dots. Small, 2011, 7, 3493-3501.	10.0	30
79	Role of carbon and nitrogen in Fe<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>C and Fe<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>N from first-principles calculations. Physical Review B, 2011, 84, .	3.2	29
80	The origin of predominance of cementite among iron carbides in steel at elevated temperature. Materials Research Society Symposia Proceedings, 2011, 1296, 1.	0.1	1
81	Stability, structure and electronic properties of Î³-Fe23C6 from first-principles theory. Acta Materialia, 2010, 58, 2968-2977.	7.9	85
82	Transformations of gold nanoparticles investigated using variable temperature high-resolution transmission electron microscopy. Ultramicroscopy, 2010, 110, 506-516.	1.9	57
83	Structure and stability of Fe2C phases from density-functional theory calculations. Scripta Materialia, 2010, 63, 418-421.	5.2	51
84	Variable temperature investigation of the atomic structure of gold nanoparticles. Journal of Physics: Conference Series, 2010, 241, 012095.	0.4	2
85	Assembly of Colloidal Semiconductor Nanorods in Solution by Depletion Attraction. Nano Letters, 2010, 10, 743-749.	9.1	250
86	Energetics of Polar and Nonpolar Facets of PbSe Nanocrystals from Theory and Experiment. ACS Nano, 2010, 4, 211-218.	14.6	93
87	Epitaxial CdSe-Au Nanocrystal Heterostructures by Thermal Annealing. Nano Letters, 2010, 10, 3028-3036.	9.1	152
88	Morphological Transformations and Fusion of PbSe Nanocrystals Studied Using Atomistic Simulations. Nano Letters, 2010, 10, 3966-3971.	9.1	79
89	Origin of Predominance of Cementite among Iron Carbides in Steel at Elevated Temperature. Physical Review Letters, 2010, 105, 055503.	7.8	83
90	Nanogold: A Quantitative Phase Map. ACS Nano, 2009, 3, 1431-1436.	14.6	238

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91	Atomic Imaging of Phase Transitions and Morphology Transformations in Nanocrystals. Advanced Materials, 2009, 21, 4992-4995.	21.0	104
92	Structural, electronic, and magnetic properties of iron carbide<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>Fe</mml:mtext></mml:mrow><mml:mn>7</mml:mn></mml:msul from first-principles theory. Physical Review B, 2009, 80, .	3.2	82
93	Low-Temperature Nanocrystal Unification through Rotations and Relaxations Probed by in Situ Transmission Electron Microscopy. Nano Letters, 2008, 8, 3959-3963.	9.1	167
94	Concurrent substitutional and displacive phase transformations in Al-Mg-Si nanoclusters. Physical Review B, 2007, 76, .	3.2	14
95	Phase stability and structural features of matrix-embedded hardening precipitates in Alâ€"Mgâ€"Si alloys in the early stages of evolution. Acta Materialia, 2007, 55, 2183-2199.	7.9	114
96	The crystal structure of the Î²â€² phase in Alâ€"Mgâ€"Si alloys. Acta Materialia, 2007, 55, 3815-3823.	7.9	364
97	Phase stability and structural relations of nanometer-sized, matrix-embedded precipitate phases in Alâ€"Mgâ€"Si alloys in the late stages of evolution. Acta Materialia, 2006, 54, 2945-2955.	7.9	136
98	Atomic Pillar-Based Nanoprecipitates Strengthen AlMgSi Alloys. Science, 2006, 312, 416-419.	12.6	283
99	Size-dependent structure of CdSe nanoclusters formed after ion implantation in MgO. Acta Materialia, 2005, 53, 1305-1311.	7.9	9
100	Structural Stability and Optical Properties of hexagonal and cubic CdSe Nanocrystals synthesized in MgO. Materials Research Society Symposia Proceedings, 2004, 848, 435.	0.1	0
101	Depth-Selective 2D-ACAR and Coincidence Doppler Investigation of Embedded Au Nanocrystals in MgO. Materials Science Forum, 2004, 445-446, 398-400.	0.3	1
102	Formation of CdSe nanoclusters in MgO by ion beam synthesis. Nuclear Instruments & Methods in Physics Research B, 2004, 216, 121-126.	1.4	3
103	A positron beam study of hydrogen confined in nano-cavities in crystalline silicon. Nuclear Instruments & Methods in Physics Research B, 2004, 216, 251-256.	1.4	6
104	Formation and dissociation of Zn nanoclusters in MgO. Nuclear Instruments & Methods in Physics Research B, 2004, 216, 390-395.	1.4	16
105	Formation, growth and dissociation of He bubbles in Al2O3. Nuclear Instruments & Methods in Physics Research B, 2004, 216, 149-155.	1.4	25
106	Electron microscopy and positron annihilation study of CdSe nanoclusters embedded in MgO. Nuclear Instruments & Methods in Physics Research B, 2004, 218, 410-415.	1.4	4
107	Formation of Au nanocrystals in ceramic oxides by ion implantation. Surface and Interface Analysis, 2004, 36, 193-194.	1.8	4
108	Thermal annealing behaviour and defect evolution of helium in fully stabilised zirconia. Journal of Nuclear Materials, 2003, 319, 65-73.	2.7	12

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109	Formation of Au-nanocrystals in TiO₂ and SrTiO₃ by ion implantation in restricted volumes. Materials Research Society Symposia Proceedings, 2003, 792, 507.	0.1	2
110	Characterization of Nanoclusters in MgO Created by Means of Ion Implantation.. Materials Research Society Symposia Proceedings, 2003, 792, 57.	0.1	0
111	Formation of solid Kr nanoclusters in MgO. Physical Review B, 2003, 67, .	3.2	9
112	In-situ TEM Observation of Gold Nanocluster Nucleation, Coarsening and Refining in Au Implanted MgO(100) Foils. AIP Conference Proceedings, 2003, , .	0.4	1
113	Deuteron implantation into hexagonal silicon carbide: defects and deuterium behaviour. EPJ Applied Physics, 2003, 23, 11-18.	0.7	1
114	Positron confinement in embedded lithium nanoclusters. Physical Review B, 2002, 65, .	3.2	38
115	Electronic structure and orientation relationship of Li nanoclusters embedded in MgO studied by depth-selective positron annihilation two-dimensional angular correlation. Physical Review B, 2002, 66, .	3.2	21
116	Positron annihilation 2D-ACAR study of semi-coherent Li nanoclusters in MgO() and MgO(). Nuclear Instruments & Methods in Physics Research B, 2002, 191, 275-280.	1.4	1
117	Structural properties of Au and Ag nanoclusters embedded in MgO. Nuclear Instruments & Methods in Physics Research B, 2002, 191, 442-446.	1.4	29
118	A hot implantation study on the evolution of defects in He ion implanted MgO(100). Nuclear Instruments & Methods in Physics Research B, 2002, 191, 452-455.	1.4	4
119	Nanocavity formation processes in MgO() by light ion (D, He, Li) and heavy ion (Kr, Cu, Au) implantation. Nuclear Instruments & Methods in Physics Research B, 2002, 191, 610-615.	1.4	15
120	In situ mechanical, temperature and gas exposure treatments of materials combined with variable energy positron beam techniques. Applied Surface Science, 2002, 194, 239-244.	6.1	5
121	Defects and nanocluster engineering in MgO. AIP Conference Proceedings, 2001, , .	0.4	0
122	Lithium Ion Implantation Effects in MgO (100). Materials Science Forum, 2001, 363-365, 448-450.	0.3	8
123	Formation of gold nanoclusters in MgO by ion implantation at elevated temperatures. Nuclear Instruments & Methods in Physics Research B, 2000, 166-167, 215-219.	1.4	10
124	Copper implantation defects in MgO observed by positron beam analysis, RBS and X-TEM. Nuclear Instruments & Methods in Physics Research B, 2000, 166-167, 225-231.	1.4	11
125	Predicted vacancy cluster structures in MgO and their interaction with helium. Nuclear Instruments & Methods in Physics Research B, 2000, 171, 528-536.	1.4	30