Marijn A Van Huis

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/6242541/publications.pdf

Version: 2024-02-01

125 papers	5,178 citations	94381 37 h-index	95218 68 g-index
131 all docs	131 docs citations	131 times ranked	6674 citing authors

#	Article	IF	Citations
1	The crystal structure of the Î²â€² phase in Alâ€“Mgâ€“Si alloys. Acta Materialia, 2007, 55, 3815-3823.	3.8	364
2	Atomic Pillar-Based Nanoprecipitates Strengthen AlMgSi Alloys. Science, 2006, 312, 416-419.	6.0	283
3	Assembly of Colloidal Semiconductor Nanorods in Solution by Depletion Attraction. Nano Letters, 2010, 10, 743-749.	4.5	250
4	Nanogold: A Quantitative Phase Map. ACS Nano, 2009, 3, 1431-1436.	7.3	238
5	Low-Temperature Nanocrystal Unification through Rotations and Relaxations Probed by in Situ Transmission Electron Microscopy. Nano Letters, 2008, 8, 3959-3963.	4.5	167
6	Unity quantum yield of photogenerated charges and band-like transport in quantum-dot solids. Nature Nanotechnology, 2011, 6, 733-739.	15.6	164
7	Epitaxial CdSe-Au Nanocrystal Heterostructures by Thermal Annealing. Nano Letters, 2010, 10, 3028-3036.	4.5	152
8	Anisotropic Cation Exchange in PbSe/CdSe Core/Shell Nanocrystals of Different Geometry. Chemistry of Materials, 2012, 24, 294-302.	3.2	144
9	Deformation-induced austenite grain rotation and transformation in TRIP-assisted steel. Acta Materialia, 2012, 60, 1311-1321.	3.8	142
10	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.	3.8	136
11	Three-Dimensional Atomic Imaging of Colloidal Coreâ€“Shell Nanocrystals. Nano Letters, 2011, 11, 3420-3424.	4.5	134
12	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.	3.8	114
13	Atomic Imaging of Phase Transitions and Morphology Transformations in Nanocrystals. Advanced Materials, 2009, 21, 4992-4995.	11.1	104
14	Size-Tunable, Hexagonal Plate-like Cu₃P and Janus-like Cuâ€“Cu₃P Nanocrystals. ACS Nano, 2012, 6, 32-41.	7.3	94
15	Energetics of Polar and Nonpolar Facets of PbSe Nanocrystals from Theory and Experiment. ACS Nano, 2010, 4, 211-218.	7.3	93
16	Stability, structure and electronic properties of Î³-Fe23C6 from first-principles theory. Acta Materialia, 2010, 58, 2968-2977.	3.8	85
17	Origin of Predominance of Cementite among Iron Carbides in Steel at Elevated Temperature. Physical Review Letters, 2010, 105, 055503.	2.9	83
18	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, .	1.1	82

#	Article	IF	Citations
19	Morphological Transformations and Fusion of PbSe Nanocrystals Studied Using Atomistic Simulations. Nano Letters, 2010, 10, 3966-3971.	4.5	79
20	Characterization of NbC and (Nb,Ti)N nanoprecipitates in TRIP assisted multiphase steels. Acta Materialia, 2011, 59, 7406-7415.	3.8	78
21	Solution-Processable Ultrathin Size- and Shape-Controlled Colloidal Cu2â€“xS Nanosheets. Chemistry of Materials, 2015, 27, 283-291.	3.2	76
22	Thermal enhancement and quenching of upconversion emission in nanocrystals. Nanoscale, 2019, 11, 12188-12197.	2.8	72
23	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></mm Physical Review B, 2016, 94, .	2.1	70
24	Tandem catalysis with double-shelled hollow spheres. Nature Materials, 2022, 21, 572-579.	13.3	65
25	Single Particle Deformation and Analysis of Silica-Coated Gold Nanorods before and after Femtosecond Laser Pulse Excitation. Nano Letters, 2016, 16, 1818-1825.	4.5	58
26	Transformations of gold nanoparticles investigated using variable temperature high-resolution transmission electron microscopy. Ultramicroscopy, 2010, 110, 506-516.	0.8	57
27	Thermal stability and electronic and magnetic properties of atomically thin 2D transition metal oxides. Npj 2D Materials and Applications, 2019, 3, .	3.9	55
28	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.	1.3	54
29	Shape-Dependent Multiexciton Emission and Whispering Gallery Modes in Supraparticles of CdSe/Multishell Quantum Dots. ACS Nano, 2015, 9, 3942-3950.	7.3	53
30	Structure and stability of Fe2C phases from density-functional theory calculations. Scripta Materialia, 2010, 63, 418-421.	2.6	51
31	Atomic Resolution Monitoring of Cation Exchange in CdSe-PbSe Heteronanocrystals during Epitaxial Solidâ€“Solidâ€“Vapor Growth. Nano Letters, 2014, 14, 3661-3667.	4.5	48
32	Atomistic understanding of cation exchange in PbS nanocrystals using simulations with pseudoligands. Nature Communications, 2016, 7, 11503.	5.8	48
33	Thermally induced atomic reconstruction of PbSe/CdSe core/shell quantum dots into PbSe/CdSe bi-hemisphere hetero-nanocrystals. Journal of Materials Chemistry, 2011, 21, 11556.	6.7	47
34	New Ab Initio Based Pair Potential for Accurate Simulation of Phase Transitions in ZnO. Journal of Physical Chemistry C, 2014, 118, 11050-11061.	1.5	45
35	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.	1.5	43
36	Oxidative Etching and Metal Overgrowth of Gold Nanorods within Mesoporous Silica Shells. Chemistry of Materials, 2015, 27, 7196-7203.	3.2	42

#	Article	IF	Citations
37	Positron confinement in embedded lithium nanoclusters. Physical Review B, 2002, 65, .	1.1	38
38	Formation, structure and magnetism of the Î³-(Fe,M)23C6 (M = Cr, Ni) phases: A first-principles study. Acta Materialia, 2016, 103, 273-279.	3.8	38
39	Quantitative 3D analysis of huge nanoparticle assemblies. Nanoscale, 2016, 8, 292-299.	2.8	38
40	Predicted stability, structures, and magnetism of 3d transition metal nitrides: the M4N phases. RSC Advances, 2014, 4, 7885.	1.7	36
41	Stability and structures of the Îµ-phases of iron nitrides and iron carbides from first principles. Scripta Materialia, 2011, 64, 296-299.	2.6	35
42	Nano-Tomography of Porous Geological Materials Using Focused Ion Beam-Scanning Electron Microscopy. Minerals (Basel, Switzerland), 2016, 6, 104.	0.8	34
43	Chemical Transformation of Au-Tipped CdS Nanorods into AuS/Cd Core/Shell Particles by Electron Beam Irradiation. Nano Letters, 2011, 11, 4555-4561.	4.5	33
44	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.	1.5	31
45	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.	2.7	31
46	Predicted vacancy cluster structures in MgO and their interaction with helium. Nuclear Instruments & Methods in Physics Research B, 2000, 171, 528-536.	0.6	30
47	Twoâ€Fold Emission From the Sâ€Shell of PbSe/CdSe Core/Shell Quantum Dots. Small, 2011, 7, 3493-3501.	5.2	30
48	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		

#	Article	IF	Citations
55	Stability and structures of the CFCC-TmC phases: A first-principles study. Computational Materials Science, 2012, 51, 146-150.	1.4	24
56	Depth dependence of vacancy formation energy at (100), (110), and (111) Al surfaces: A first-principles study. Physical Review B, 2016, 93, .	1.1	24
57	Bridging the gap: 3D real-space characterization of colloidal assemblies via FIB-SEM tomography. Nanoscale, 2019, 11, 5304-5316.	2.8	24
58	Stability and crystal structures of iron carbides: A comparison between the semi-empirical modified embedded atom method and quantum-mechanical DFT calculations. Physical Review B, 2012, 85, .	1.1	23
59	The role of point defects in PbS, PbSe and PbTe: a<i>first principles</i>study. Journal of Physics Condensed Matter, 2015, 27, 355801.	0.7	23
60	Formation of Colloidal Copper Indium Sulfide Nanosheets by Two-Dimensional Self-Organization. Chemistry of Materials, 2017, 29, 10551-10560.	3.2	22
61	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, .	1.1	21
62	Novel ultrafine Fe(C) precipitates strengthen transformation-induced-plasticity steel. Acta Materialia, 2012, 60, 7160-7168.	3.8	21
63	Thermally Induced Structural and Morphological Changes of CdSe/CdS Octapods. Small, 2012, 8, 937-942.	5.2	21
64	Heat-induced transformation of CdSeâ€“CdSâ€“ZnS coreâ€“multishell quantum dots by Zn diffusion into inner layers. Chemical Communications, 2015, 51, 3320-3323.	2.2	20
65	Strong Long-Range Relaxations of Structural Defects in Graphene Simulated Using a New Semiempirical Potential. Journal of Physical Chemistry C, 2015, 119, 9646-9655.	1.5	20
66	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.	6.6	19
67	A transferable force field for CdS-CdSe-PbS-PbSe solid systems. Journal of Chemical Physics, 2014, 141, 244503.	1.2	19
68	Are stirring and sonication pre-dispersion methods equivalent for in vitro toxicology evaluation of SiC and TiC?. Journal of Nanoparticle Research, 2012, 14, 1.	0.8	18
69	Observation of Undamped 3D Brownian Motion of Nanoparticles Using Liquidâ€Cell Scanning Transmission Electron Microscopy. Particle and Particle Systems Characterization, 2020, 37, 2000003.	1.2	18
70	Phase constitution and microstructure of the NbTiVZr refractory high-entropy alloy solidified upon different processing. Acta Materialia, 2021, 221, 117416.	3.8	18
71	Formation and dissociation of Zn nanoclusters in MgO. Nuclear Instruments & Methods in Physics Research B, 2004, 216, 390-395.	0.6	16
72	Formation and Photoluminescence of â€œCauliflowerâ€•Silicon Nanoparticles. Journal of Physical Chemistry C, 2015, 119, 11042-11047.	1.5	16

#	Article	IF	Citations
73	Monocrystalline Nanopatterns Made by Nanocube Assembly and Epitaxy. Advanced Materials, 2017, 29, 1701064.	11.1	16
74	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.	0.6	15
75	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.	5.0	15
76	Concurrent substitutional and displacive phase transformations in Al-Mg-Si nanoclusters. Physical Review B, 2007, 76, .	1.1	14
77	Surfaces of colloidal PbSe nanocrystals probed by thin-film positron annihilation spectroscopy. APL Materials, 2013, 1, .	2.2	13
78	Unravelling the structural and chemical features influencing deformation-induced martensitic transformations in steels. Scripta Materialia, 2014, 71, 29-32.	2.6	13
79	Crystal structure, stability, and electronic properties of hydrated metal sulfates MSO4(H2O)n (M=Ni,) Tj ETQq1 1 0.784314 rgBT /Ove 77-86.	1.9	13
80	In situ electron microscopy study of structural transformations in 2D CoSe2. Npj 2D Materials and Applications, 2021, 5, .	3.9	13
81	Thermal annealing behaviour and defect evolution of helium in fully stabilised zirconia. Journal of Nuclear Materials, 2003, 319, 65-73.	1.3	12
82	Recognizing nitrogen dopant atoms in graphene using atomic force microscopy. Physical Review B, 2016, 93, .	1.1	12
83	Acetate ligands determine the crystal structure of CdSe nanoplatelets â€“ a density functional theory study. Physical Chemistry Chemical Physics, 2016, 18, 22021-22024.	1.3	12
84	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.	0.6	11
85	Structural tale of two novel (Cr, Mn)C carbides in steel. Acta Materialia, 2014, 78, 161-172.	3.8	11
86	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.	2.4	11
87	Formation of gold nanoclusters in MgO by ion implantation at elevated temperatures. Nuclear Instruments & Methods in Physics Research B, 2000, 166-167, 215-219.	0.6	10
88	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.	1.5	10
89	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.	2.8	10
90	In Situ Study of the Wet Chemical Etching of SiO2 and Nanoparticle@SiO2 Coreâ€“Shell Nanospheres. ACS Applied Nano Materials, 2021, 4, 1136-1148.	2.4	10

#	Article	IF	Citations
91	Formation of solid Kr nanoclusters in MgO. Physical Review B, 2003, 67, .	1.1	9
92	Size-dependent structure of CdSe nanoclusters formed after ion implantation in MgO. Acta Materialia, 2005, 53, 1305-1311.	3.8	9
93	Coreâ€"shell reconfiguration through thermal annealing in Fe_{<i>x</i>}O/CoFe₂O₄ordered 2D nanocrystal arrays. Nanotechnology, 2014, 25, 055601.	1.3	9
94	Two-Dimensional Hydrous Silica: Nanosheets and Nanotubes Predicted from First-Principles Simulations. Journal of Physical Chemistry C, 2015, 119, 14343-14350.	1.5	9
95	Unexpected origin of magnetism in monoclinic Nb₁₂O₂₉ from first-principles calculations. Journal of Materials Chemistry C, 2015, 3, 651-657.	2.7	9
96	Lithium Ion Implantation Effects in MgO (100). Materials Science Forum, 2001, 363-365, 448-450.	0.3	8
97	Adsorption Study of a Water Molecule on Vacancy-Defected Nonpolar CdS Surfaces. Journal of Physical Chemistry C, 2017, 121, 9815-9824.	1.5	8
98	Selective Vertical and Horizontal Growth of 2D WS₂ Revealed by In Situ Thermolysis using Transmission Electron Microscopy. Advanced Functional Materials, 2022, 32, 2106450.	7.8	8
99	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.	1.5	7
100	Single-step coating of mesoporous SiO₂ onto nanoparticles: growth of yolkâ€"shell structures from coreâ€"shell structures. Nanoscale, 2021, 13, 10925-10932.	2.8	7
101	Tunability of Interactions between the Core and Shell in Rattle-Type Particles Studied with Liquid-Cell Electron Microscopy. ACS Nano, 2021, 15, 11137-11149.	7.3	7
102	A positron beam study of hydrogen confined in nano-cavities in crystalline silicon. Nuclear Instruments & Methods in Physics Research B, 2004, 216, 251-256.	0.6	6
103	Structure and stability of hcp iron carbide precipitates: A first-principles study. Heliyon, 2017, 3, e00408.	1.4	6
104	In situ mechanical, temperature and gas exposure treatments of materials combined with variable energy positron beam techniques. Applied Surface Science, 2002, 194, 239-244.	3.1	5
105	Germanium Quantum Dot GrÃtzelâ€Type Solar Cell. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1800570.	0.8	5
106	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.	0.6	4
107	Electron microscopy and positron annihilation study of CdSe nanoclusters embedded in MgO. Nuclear Instruments & Methods in Physics Research B, 2004, 218, 410-415.	0.6	4
108	Formation of Au nanocrystals in ceramic oxides by ion implantation. Surface and Interface Analysis, 2004, 36, 193-194.	0.8	4

#	Article	IF	Citations
109	Morphological and chemical transformations of single silica-coated CdSe/CdS nanorods upon fs-laser excitation. Nanoscale, 2017, 9, 4810-4818.	2.8	4
110	Formation of CdSe nanoclusters in MgO by ion beam synthesis. Nuclear Instruments & Methods in Physics Research B, 2004, 216, 121-126.	0.6	3
111	Stability and geometry of silica nano-ribbons (SNRs): a first-principles study. Physical Chemistry Chemical Physics, 2016, 18, 21825-21832.	1.3	3
112	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
113	Variable temperature investigation of the atomic structure of gold nanoparticles. Journal of Physics: Conference Series, 2010, 241, 012095.	0.3	2
114	Lowâ€dose liquid cell electron microscopy investigation of the complex etching mechanism of rodâ€shaped silica colloids. Nano Select, 2021, 2, 313-327.	1.9	2
115	Electron Microscopy Techniques. , 2014, , 191-221.		2
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.	0.6	1
117	In-situ TEM Observation of Gold Nanocluster Nucleation, Coarsening and Refining in Au Implanted MgO(100) Foils. AIP Conference Proceedings, 2003, , .	0.3	1
118	Deuteron implantation into hexagonal silicon carbide: defects and deuterium behaviour. EPJ Applied Physics, 2003, 23, 11-18.	0.3	1
119	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
120	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
121	Defects and nanocluster engineering in MgO. AIP Conference Proceedings, 2001, , .	0.3	0
122	Characterization of Nanoclusters in MgO Created by Means of Ion Implantation.. Materials Research Society Symposia Proceedings, 2003, 792, 57.	0.1	0
123	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
124	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.	0.7	0
125	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, .	7.8	0