

# Nathalie Valle

## List of Publications by Year in descending order

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47  
papers

1,340  
citations

361413  
20  
h-index

345221  
36  
g-index

47  
all docs

47  
docs citations

47  
times ranked

1901  
citing authors

#	ARTICLE	IF	CITATIONS
1	Detection of a ZnSe secondary phase in coevaporated Cu <sub>2</sub> ZnSnSe <sub>4</sub> thin films. Applied Physics Letters, 2011, 98, .	3.3	195
2	A passivating contact for silicon solar cells formed during a single firing thermal annealing. Nature Energy, 2018, 3, 800-808.	39.5	109
3	Elemental and isotopic ( <sup>29</sup> Si and <sup>18</sup> O) tracing of glass alteration mechanisms. Geochimica Et Cosmochimica Acta, 2010, 74, 3412-3431.	3.9	103
4	Route Toward High-Efficiency Single-Phase Cu <sub>2</sub> ZnSn(S,Se) <sub>4</sub> Thin-Film Solar Cells: Model Experiments and Literature Review. IEEE Journal of Photovoltaics, 2011, 1, 200-206.	2.5	91
5	Influence of S/Se ratio on series resistance and on dominant recombination pathway in Cu <sub>2</sub> ZnSn(SSe) <sub>4</sub> thin film solar cells. Thin Solid Films, 2013, 535, 291-295.	1.8	80
6	Friction and wear behavior of Al-SiC(n) hybrid composites with carbon addition. Composites Part B: Engineering, 2017, 108, 291-300.	12.0	67
7	HCl and Br <sub>2</sub> -MeOH etching of Cu <sub>2</sub> ZnSnSe <sub>4</sub> polycrystalline absorbers. Thin Solid Films, 2013, 535, 83-87.	1.8	66
8	Cu <sub>2</sub> ZnSnSe <sub>4</sub> thin film solar cells produced via coevaporation and annealing including a SnSe <sub>2</sub> capping layer. Progress in Photovoltaics: Research and Applications, 2014, 22, 51-57.	8.1	56
9	Sodium enhances indium-gallium interdiffusion in copper indium gallium diselenide photovoltaic absorbers. Nature Communications, 2018, 9, 826.	12.8	51
10	Identification of the aquaporin gene family in Cannabis sativa and evidence for the accumulation of silicon in its tissues. Plant Science, 2019, 287, 110167.	3.6	41
11	Analysis of hydrogen distribution and migration in fired passivating contacts (FPC). Solar Energy Materials and Solar Cells, 2019, 200, 110018.	6.2	38
12	Chemical instability at chalcogenide surfaces impacts chalcopyrite devices well beyond the surface. Nature Communications, 2020, 11, 3634.	12.8	34
13	Metallurgical characterization of coupled carbon diffusion and precipitation in dissimilar steel welds. Journal of Materials Science, 2016, 51, 4864-4879.	3.7	33
14	Do the pristine physico-chemical properties of silver and gold nanoparticles influence uptake and molecular effects on Gammarus fossarum (Crustacea Amphipoda)?. Science of the Total Environment, 2018, 643, 1200-1215.	8.0	31
15	Deliberate and Accidental Gas-Phase Alkali Doping of Chalcogenide Semiconductors: Cu(In,Ga)Se <sub>2</sub> . Scientific Reports, 2017, 7, 43266.	3.3	29
16	Visualising Silicon in Plants: Histochemistry, Silica Sculptures and Elemental Imaging. Cells, 2020, 9, 1066.	4.1	27
17	Investigating Sequential Vapor Infiltration Synthesis on Block-Copolymer-Templated Titania Nanoarrays. Journal of Physical Chemistry C, 2016, 120, 7067-7076.	3.1	26
18	Single crystal growth of BaZrO <sub>3</sub> from the melt at 2700 Å°C using optical floating zone technique and growth prospects from BaB <sub>2</sub> O <sub>4</sub> flux at 1350 Å°C. CrystEngComm, 2019, 21, 502-512.	2.6	25

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19	Fully Transparent Friction-Modulation Haptic Device Based on Piezoelectric Thin Film. <i>Advanced Functional Materials</i> , 2020, 30, 2003539.	14.9	25
20	13.3% efficient solution deposited Cu(In,Ga)Se <sub>2</sub> solar cells processed with different sodium salt sources. <i>Progress in Photovoltaics: Research and Applications</i> , 2016, 24, 749-759.	8.1	22
21	Distribution of Carbon in Martensite During Quenching and Tempering of Dual Phase Steels and Consequences for Damage Properties. <i>ISIJ International</i> , 2013, 53, 1215-1223.	1.4	20
22	Influence of Temperature on Oxidation Mechanisms of Fiber-Textured AlTiTaN Coatings. <i>ACS Applied Materials &amp; Interfaces</i> , 2014, 6, 4115-4125.	8.0	20
23	Understanding the mechanisms of Si-K-Ca glass alteration using silicon isotopes. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 203, 404-421.	3.9	20
24	Nanometric Scale Investigation of Phase Transformations in Advanced Steels for Automotive Application. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2012, 43, 4947-4956.	2.2	14
25	Temperature-Dependent Wear Mechanisms for Magnetron-Sputtered AlTiTaN Hard Coatings. <i>ACS Applied Materials &amp; Interfaces</i> , 2014, 6, 15403-15411.	8.0	13
26	Controlled bandgap CuIn <sub>1-x</sub> Ga <sub>x</sub> (S <sub>0.1</sub> Se <sub>0.9</sub> ) <sub>2</sub> (0.10 ≤ x ≤ 0.72) solar cells from electrodeposited precursors. <i>Thin Solid Films</i> , 2015, 582, 2-6.	1.8	11
27	Freshwater pearl mussels as a stream water stable isotope recorder. <i>Ecohydrology</i> , 2018, 11, e2007.	2.4	11
28	A method for quantitative nanoscale imaging of dopant distributions using secondary ion mass spectrometry: an application example in silicon photovoltaics. <i>MRS Communications</i> , 2019, 9, 916-923.	1.8	10
29	Critical field anisotropy in the antiferroelectric switching of PbZrO <sub>3</sub> films. <i>Applied Physics Letters</i> , 2021, 118, .	3.3	10
30	Secondary Ion Mass Spectrometry. <i>New Developments in Mass Spectrometry</i> , 2014, , 439-499.	0.2	9
31	The Effect of Potassium Fluoride Postdeposition Treatments on the Optoelectronic Properties of Cu(In,Ga)Se <sub>2</sub> Single Crystals. <i>Solar Rrl</i> , 2021, 5, 2000727.	5.8	9
32	Structural properties and high temperature oxidation behaviour of Al-Ti-Ta-N and Al-Ti-Ta-Y-N coatings. <i>Corrosion Science</i> , 2016, 111, 454-466.	6.6	7
33	Passivating Polysilicon Recombination Junctions for Crystalline Silicon Solar Cells. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2100272.	2.4	6
34	Alteration of potash-lime silicate glass in atmospheric medium: study of mechanisms and kinetics using <sup>18</sup> O and D isotopes. <i>Journal of Non-Crystalline Solids</i> , 2021, 570, 121020.	3.1	5
35	Nitrogen Incorporation during Seeded Sublimation Growth of 4H-SiC and 6H-SiC. <i>Materials Science Forum</i> , 0, 821-823, 60-63.	0.3	4
36	Quantification of hydrogen in nanostructured hydrogenated passivating contacts for silicon photovoltaics combining SIMS-APT-TEM: A multiscale correlative approach. <i>Applied Surface Science</i> , 2021, 555, 149650.	6.1	4

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37	Impact of temperature on chlorine contamination and segregation for Ti(C,N) CVD thin hard coating studied by nano-SIMS and atom probe tomography. Scripta Materialia, 2022, 208, 114321.	5.2	4
38	Wear Property of Ductile Iron Locally Reinforced with Cr-Containing Steel Inserts. Key Engineering Materials, 2010, 457, 441-446.	0.4	3
39	Elaboration and quantitative investigation of BCN-type films by dynamic SIMS using the MCs x + mode. Surface and Interface Analysis, 2011, 43, 669-672.	1.8	3
40	Quantitative prediction of Al and learning grain boundary character in Al-rich interstitial free steel. Scripta Materialia, 2022, 219, 114858.	5.2	3
41	Alternative Etching for Improved Cu-rich CuInSe2 Solar Cells. Materials Research Society Symposia Proceedings, 2015, 1771, 163-168.	0.1	2
42	Evaluation of secondary electron intensities for dopant profiling in ion implanted semiconductors: a correlative study combining SE, SIMS and ECV methods. Semiconductor Science and Technology, 2021, 36, 085003.	2.0	2
43	Bulk Defects and Hydrogenation Kinetics in Crystalline Silicon Solar Cells With Fired Passivating Contacts. IEEE Journal of Photovoltaics, 2022, 12, 711-721.	2.5	1
44	A Study of Dual Phase Steel Damage Evolution with Microstructure. Solid State Phenomena, 0, 172-174, 839-844.	0.3	0
45	Preparation and Characterization of Al-Si<sub>3</sub>N<sub>4</sub> Composite Particles. Solid State Phenomena, 0, 197, 155-161.	0.3	0
46	Evidence of reversible oxidation at CuInSe2 grain boundaries. , 2019, , .		0
47	Polycrystalline (Sb,Bi)2Se3 thin film layers for SWIR detection. , 2019, , .		0