

Steven R Higgins

List of Publications by Year in descending order

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citations

331670

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42
docs citations

42
times ranked

2247
citing authors

#	ARTICLE	IF	CITATIONS
1	Using atomic force spectroscopy to study oil/mineral interactions at reservoir temperatures and pressures. <i>Fuel</i> , 2020, 259, 116194.	6.4	10
2	A Raman-Based Imaging Method for Characterizing the Molecular Adsorption and Spatial Distribution of Silver Nanoparticles on Hydrated Mineral Surfaces. <i>Environmental Science & Technology</i> , 2018, 52, 2854-2862.	10.0	7
3	Unraveling the Effects of Strontium Incorporation on Barite Growthâ€”In Situ and Ex Situ Observations Using Multiscale Chemical Imaging. <i>Crystal Growth and Design</i> , 2018, 18, 5521-5533.	3.0	23
4	Hydrothermal Atomic Force Microscopy Investigation of Barite Growth: Role of Spectator Ions in Elementary Step Edge Growth Kinetics and Hillock Morphology. <i>Crystal Growth and Design</i> , 2017, 17, 6085-6095.	3.0	7
5	Hydrothermal atomic force microscopy observations of barite step growth rates as a function of the aqueous barium-to-sulfate ratio. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 183, 1-13.	3.9	33
6	Growth kinetics of step edges on celestite (0 0 1) surfaces as a function of temperature, saturation state, ionic strength, and aqueous strontium:sulfate ratio: An in-situ atomic force microscopy study. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 175, 222-238.	3.9	18
7	Measuring the Silver Composition of Nanocolloids by Inductively Coupled Plasmaâ€”Optical Emission Spectroscopy: A Laboratory Experiment for Chemistry and Engineering Students. <i>Journal of Chemical Education</i> , 2015, 92, 1061-1065.	2.3	12
8	Strontium incorporation during calcite growth: Implications for chemical mapping using friction force microscopy. <i>Chemical Geology</i> , 2015, 411, 274-282.	3.3	4
9	Chemical Force Spectroscopy Evidence Supporting the Layer-by-Layer Model of Organic Matter Binding to Iron (oxy)Hydroxide Mineral Surfaces. <i>Environmental Science & Technology</i> , 2015, 49, 9733-9741.	10.0	68
10	Magnesite Step Growth Rates as a Function of the Aqueous Magnesium:Carbonate Ratio. <i>Crystal Growth and Design</i> , 2014, 14, 6033-6040.	3.0	28
11	Effects of crystal orientation on the dissolution of calcite by chemical and microscopic analysis. <i>Chemical Geology</i> , 2013, 360-361, 10-21.	3.3	48
12	Dissolution Kinetics and Mechanisms at Dolomiteâ€”Water Interfaces: Effects of Electrolyte Specific Ionic Strength. <i>Environmental Science & Technology</i> , 2013, 47, 110-118.	10.0	18
13	Specific surface area of hierarchical graphitic substrates suitable for multi-functional applications. <i>Materials Letters</i> , 2012, 88, 160-163.	2.6	15
14	Effects of magnesium ions on near-equilibrium calcite dissolution: Step kinetics and morphology. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 719-733.	3.9	36
15	Properties of Ca-Rich and Mg-Rich Carbonate Films on Dolomite: Implications for Compositional Surface Mapping with Scanning Force Microscopy. <i>Langmuir</i> , 2010, 26, 4769-4775.	3.5	7
16	Dissolution kinetics of calcite at 50â€”70Â°C: An atomic force microscopic study under near-equilibrium conditions. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 4285-4297.	3.9	47
17	Friction characteristics of Cd-rich carbonate films on calcite surfaces: implications for compositional differentiation at the nanometer scale. <i>Geochemical Transactions</i> , 2009, 10, 7.	0.7	19
18	A computer program for automated step edge motion analysis from scanning probe microscopy images. <i>Surface Science</i> , 2009, 603, 1034-1040.	1.9	1

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19	Model nucleation and growth studies of nanoscale oxide coatings suitable for modification of microcellular and nano-structured carbon. <i>Surface and Coatings Technology</i> , 2008, 203, 65-72.	4.8	10
20	Dissolution kinetics and topographic relaxation on celestite (001) surfaces: The effect of solution saturation state studied using Atomic Force Microscopy. <i>Geochimica Et Cosmochimica Acta</i> , 2008, 72, 759-770.	3.9	15
21	Quantitative Lateral Force Microscopy Study of the Dolomite (104)~Water Interface. <i>Langmuir</i> , 2007, 23, 8909-8915.	3.5	9
22	X-ray photoelectron spectroscopic studies of dolomite surfaces exposed to undersaturated and supersaturated aqueous solutions. <i>Geochimica Et Cosmochimica Acta</i> , 2006, 70, 3342-3350.	3.9	21
23	Near molecular-scale growth of natural minerals: Experimental methods and errors in length-dependent step speeds with scanning probe microscopy. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2006, 150, 235-247.	1.7	15
24	Investigation of growth, coverage and effectiveness of plasma assisted nano-films of fluorocarbon. <i>Applied Surface Science</i> , 2006, 252, 5676-5686.	6.1	17
25	Growth and dissolution kinetics at the dolomite-water interface: An in-situ scanning probe microscopy study. <i>American Mineralogist</i> , 2005, 90, 963-968.	1.9	31
26	Self-limiting growth on dolomite: Experimental observations with in situ atomic force microscopy. <i>Geochimica Et Cosmochimica Acta</i> , 2005, 69, 2085-2094.	3.9	56
27	Thermal decomposition (pyrolysis) of urea in an open reaction vessel. <i>Thermochimica Acta</i> , 2004, 424, 131-142.	2.7	688
28	Response to comment on "Point of zero charge of a corundum-water interface probed with optical second harmonic generation (SHG) and atomic force microscopy (AFM): new approaches to oxide surface charge". <i>Geochimica Et Cosmochimica Acta</i> , 2003, 67, 321-322.	3.9	8
29	The structure of hematite (α -Fe ₂ O ₃) (001) surfaces in aqueous media: scanning tunneling microscopy and resonant tunneling calculations of coexisting O and Fe terminations. <i>Geochimica Et Cosmochimica Acta</i> , 2003, 67, 985-1000.	3.9	125
30	Dissolution Kinetics, Step and Surface Morphology of Magnesite (104) Surfaces in Acidic Aqueous Solution at 60 Å°C by Atomic Force Microscopy under Defined Hydrodynamic Conditions. <i>Journal of Physical Chemistry B</i> , 2002, 106, 6696-6705.	2.6	20
31	Dissolution kinetics of magnesite in acidic aqueous solution: a hydrothermal atomic force microscopy study assessing step kinetics and dissolution flux. <i>Geochimica Et Cosmochimica Acta</i> , 2002, 66, 3201-3210.	3.9	54
32	Point of zero charge of a corundum-water interface probed with optical second harmonic generation (SHG) and atomic force microscopy (AFM): New approaches to oxide surface charge. <i>Geochimica Et Cosmochimica Acta</i> , 2001, 65, 3055-3063.	3.9	77
33	Dissolution kinetics of magnesite in acidic aqueous solution, a hydrothermal atomic force microscopy (HAFM) study: step orientation and kink dynamics. <i>Geochimica Et Cosmochimica Acta</i> , 2001, 65, 4257-4266.	3.9	81
34	Kink Dynamics and Step Growth on Barium Sulfate (001): A Hydrothermal Scanning Probe Microscopy Study. <i>Journal of Physical Chemistry B</i> , 2000, 104, 6978-6982.	2.6	53
35	Acidic dissolution of plagioclase: in-situ observations by hydrothermal atomic force microscopy. <i>Geochimica Et Cosmochimica Acta</i> , 1999, 63, 3183-3191.	3.9	72
36	Dissolution of the periclase (001) surface; a scanning force microscope study. <i>American Mineralogist</i> , 1999, 84, 144-151.	1.9	39

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37	Dissolution Kinetics of the Barium Sulfate (001) Surface by Hydrothermal Atomic Force Microscopy. <i>Langmuir</i> , 1998, 14, 4967-4971.	3.5	49
38	A hydrothermal atomic force microscope for imaging in aqueous solution up to 150°C. <i>Review of Scientific Instruments</i> , 1998, 69, 2994-2998.	1.3	72
39	Chemical dissolution of the galena (001) surface observed using electrochemical scanning tunneling microscopy. <i>Geochimica Et Cosmochimica Acta</i> , 1996, 60, 3067-3073.	3.9	25
40	Experimental Nanomaterials and Nanoscience - An Interdisciplinary Laboratory Course. , 0, , .		0