

# Youxue Zhang

## List of Publications by Year in descending order

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105  
papers

6,680  
citations

43973

48  
h-index

62479

80  
g-index

111  
all docs

111  
docs citations

111  
times ranked

3622  
citing authors

#	ARTICLE	IF	CITATIONS
1	Diffusive fractionation of K isotopes in molten basalts. <i>Earth and Planetary Science Letters</i> , 2022, 581, 117405.	1.8	6
2	Diffusion in Melts and Magmas. <i>Reviews in Mineralogy and Geochemistry</i> , 2022, 87, 283-337.	2.2	10
3	Rapid reduction of basaltic glasses in piston-cylinder experiments: a XANES study. <i>Contributions To Mineralogy and Petrology</i> , 2021, 176, 1.	1.2	4
4	Depletion ages and factors of MORB mantle sources. <i>Earth and Planetary Science Letters</i> , 2020, 530, 115926.	1.8	3
5	Magma Pressure-Temperature-Time Paths During Mafic Explosive Eruptions. <i>Frontiers in Earth Science</i> , 2020, 8, .	0.8	11
6	H <sub>2</sub> O and Other Volatiles in the Moon, 50 Years and on. <i>ACS Earth and Space Chemistry</i> , 2020, 4, 1480-1499.	1.2	5
7	Multicomponent diffusion in a basaltic melt: Temperature dependence. <i>Chemical Geology</i> , 2020, 549, 119700.	1.4	6
8	A melt inclusion study on volatile abundances in the lunar mantle. <i>Geochimica Et Cosmochimica Acta</i> , 2019, 249, 17-41.	1.6	42
9	Kinetics of Quartz Dissolution in Natural Silicate Melts and Dependence of SiO <sub>2</sub> Diffusivity on Melt Composition. <i>ACS Earth and Space Chemistry</i> , 2019, 3, 599-616.	1.2	5
10	Multicomponent diffusion in basaltic melts at 1350°C. <i>Geochimica Et Cosmochimica Acta</i> , 2018, 228, 190-204.	1.6	20
11	Impact-melt hygrometer for Mars: The case of shergottite Elephant Moraine (EETA) 79001. <i>Earth and Planetary Science Letters</i> , 2018, 490, 206-215.	1.8	18
12	Cooling rates of lunar orange glass beads. <i>Earth and Planetary Science Letters</i> , 2018, 503, 88-94.	1.8	19
13	Seconds after impact: Insights into the thermal history of impact ejecta from diffusion between lechatelierite and host glass in tektites and experiments. <i>Geochimica Et Cosmochimica Acta</i> , 2018, 241, 69-94.	1.6	20
14	A heterogeneous lunar interior for hydrogen isotopes as revealed by the lunar highlands samples. <i>Earth and Planetary Science Letters</i> , 2017, 473, 14-23.	1.8	36
15	Cu and Fe diffusion in rhyolitic melts during chalcocite dissolution: Implications for porphyry ore deposits and tektites. <i>American Mineralogist</i> , 2017, 102, 1287-1301.	0.9	17
16	Volatile loss during homogenization of lunar melt inclusions. <i>Earth and Planetary Science Letters</i> , 2017, 478, 214-224.	1.8	25
17	Cu diffusion in a basaltic melt. <i>American Mineralogist</i> , 2016, 101, 1474-1482.	0.9	22
18	Cassiterite dissolution and Sn diffusion in silicate melts of variable water content. <i>Chemical Geology</i> , 2016, 441, 162-176.	1.4	12

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19	Multicomponent diffusion in silicate melts: SiO <sub>2</sub> -TiO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> -MgO-CaO-Na <sub>2</sub> O-K <sub>2</sub> O System. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 195, 126-141.	1.6	25
20	Quantification of CO <sub>2</sub> concentration in apatite. <i>American Mineralogist</i> , 2016, 101, 2443-2451.	0.9	5
21	Zircon saturation and Zr diffusion in rhyolitic melts, and zircon growth geospeedometer. <i>American Mineralogist</i> , 2016, 101, 1252-1267.	0.9	29
22	Rutile solubility in NaF-NaCl-KCl-bearing aqueous fluids at 0.5-2.79 GPa and 250-650 °C. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 177, 170-181.	1.6	55
23	Kinetics of anorthite dissolution in basaltic melt. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 179, 257-274.	1.6	32
24	Water, fluorine, and sulfur concentrations in the lunar mantle. <i>Earth and Planetary Science Letters</i> , 2015, 427, 37-46.	1.8	93
25	Toward a quantitative model for the formation of gravitational magmatic sulfide deposits. <i>Chemical Geology</i> , 2015, 391, 56-73.	1.4	23
26	Electron probe microanalysis and microscopy: Principles and applications in characterization of mineral inclusions in chromite from diamond deposit. <i>Ore Geology Reviews</i> , 2015, 65, 733-748.	1.1	18
27	Degassing History of Earth. , 2014, , 37-69.		8
28	Quantification of the elemental incompatibility sequence, and composition of the "superchondritic" mantle. <i>Chemical Geology</i> , 2014, 369, 12-21.	1.4	9
29	Chemical zonation in olivine-hosted melt inclusions. <i>Contributions To Mineralogy and Petrology</i> , 2014, 168, 1.	1.2	44
30	Kinetics and dynamics of mass-transfer-controlled mineral and bubble dissolution or growth: a review. <i>European Journal of Mineralogy</i> , 2013, 25, 255-266.	0.4	13
31	Water diffusion in potassium-rich phonolitic and trachytic melts. <i>Chemical Geology</i> , 2013, 346, 149-161.	1.4	27
32	Hydroxyl and molecular H <sub>2</sub> O diffusivity in a haploandesitic melt. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 103, 36-48.	1.6	27
33	Water in lunar anorthosites and evidence for a wet early Moon. <i>Nature Geoscience</i> , 2013, 6, 177-180.	5.4	165
34	Direct measurement of hydroxyl in the lunar regolith and the origin of lunar surface water. <i>Nature Geoscience</i> , 2012, 5, 779-782.	5.4	120
35	Calibration for IR measurements of OH in apatite. <i>American Mineralogist</i> , 2011, 96, 1392-1397.	0.9	15
36	2. Diffusion in Minerals and Melts: Theoretical Background. , 2010, , 5-60.		5

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37	8. Diffusion Data in Silicate Melts. , 2010, , 311-408.		15
38	4. Analytical Methods in Diffusion Studies. , 2010, , 107-170.		0
39	5. Diffusion of H, C, and O Components in Silicate Melts. , 2010, , 171-226.		11
40	Mechanism of instantaneous coal outbursts. <i>Geology</i> , 2009, 37, 915-918.	2.0	66
41	H <sub>2</sub> O diffusion in peralkaline to peraluminous rhyolitic melts. <i>Contributions To Mineralogy and Petrology</i> , 2009, 157, 765-780.	1.2	34
42	Water diffusion in Mount Changbai peralkaline rhyolitic melt. <i>Contributions To Mineralogy and Petrology</i> , 2009, 158, 471-484.	1.2	19
43	Water speciation and diffusion in haploandesitic melts at 743±873 K and 100MPa. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 3630-3641.	1.6	28
44	Water diffusion in dacitic melt. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 3642-3655.	1.6	38
45	Pressure dependence of viscosity of rhyolitic melts. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 3680-3693.	1.6	53
46	Determination of diffusion coefficients of hydrogen in fused silica between 296 and 523K by Raman spectroscopy and application of fused silica capillaries in studying redox reactions. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 5435-5443.	1.6	39
47	Clinopyroxene dissolution in basaltic melt. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 5730-5747.	1.6	62
48	Pressure dependence of the speciation of dissolved water in rhyolitic melts. <i>Geochimica Et Cosmochimica Acta</i> , 2008, 72, 3229-3240.	1.6	54
49	Olivine dissolution in basaltic melt. <i>Geochimica Et Cosmochimica Acta</i> , 2008, 72, 4756-4777.	1.6	87
50	H <sub>2</sub> O diffusion models in rhyolitic melt with new high pressure data. <i>Chemical Geology</i> , 2008, 250, 68-78.	1.4	106
51	Toward a general viscosity equation for natural anhydrous and hydrous silicate melts. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 403-416.	1.6	253
52	A long-duration experiment on hydrous species geospeedometer and hydrous melt viscosity. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 5226-5232.	1.6	9
53	Silicate melt properties and volcanic eruptions. <i>Reviews of Geophysics</i> , 2007, 45, .	9.0	168
54	Geochemistry of Cenozoic basalts and mantle xenoliths in Northeast China. <i>Lithos</i> , 2007, 96, 108-126.	0.6	205

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55	DYNAMICS OF LAKE ERUPTIONS AND POSSIBLE OCEAN ERUPTIONS. Annual Review of Earth and Planetary Sciences, 2006, 34, 293-324.	4.6	44
56	Response to Comment on "Fate of Rising CO <sub>2</sub> Droplets in Seawater". Environmental Science & Technology, 2006, 40, 3655-3656.	4.6	0
57	Solubility of H <sub>2</sub> O in rhyolitic melts at low pressures and a new empirical model for mixed H <sub>2</sub> O-CO <sub>2</sub> solubility in rhyolitic melts. Journal of Volcanology and Geothermal Research, 2005, 143, 219-235.	0.8	247
58	Fate of Rising CO <sub>2</sub> Droplets in Seawater. Environmental Science & Technology, 2005, 39, 7719-7724.	4.6	20
59	Fe-Mg order-disorder in orthopyroxenes. Geochimica Et Cosmochimica Acta, 2005, 69, 5777-5788.	1.6	40
60	Global tectonic and climatic control of mean elevation of continents, and Phanerozoic sea level change. Earth and Planetary Science Letters, 2005, 237, 524-531.	1.8	22
61	H <sub>2</sub> O diffusion in dacitic melts. Chemical Geology, 2004, 209, 327-340.	1.4	52
62	H <sub>2</sub> O diffusion in dacitic and andesitic melts. Geochimica Et Cosmochimica Acta, 2004, 68, 5139-5150.	1.6	87
63	The speciation of dissolved H <sub>2</sub> O in dacitic melt. American Mineralogist, 2004, 89, 277-284.	0.9	33
64	Rutile/TiO <sub>2</sub> phase equilibria. Contributions To Mineralogy and Petrology, 2003, 145, 199-204.	1.2	81
65	Cooling rates of Plinian-fall and pyroclastic-flow deposits in the Bishop Tuff: inferences from water speciation in quartz-hosted glass inclusions. Bulletin of Volcanology, 2003, 65, 105-123.	1.1	56
66	Methane escape from gas hydrate systems in marine environment, and methane-driven oceanic eruptions. Geophysical Research Letters, 2003, 30, .	1.5	41
67	Kinetics of convective crystal dissolution and melting, with applications to methane hydrate dissolution and dissociation in seawater. Earth and Planetary Science Letters, 2003, 213, 133-148.	1.8	83
68	Viscosity of hydrous rhyolitic melts inferred from kinetic experiments, and a new viscosity model. American Mineralogist, 2003, 88, 1741-1752.	0.9	87
69	Quench rates in air, water, and liquid nitrogen, and inference of temperature in volcanic eruption columns. Earth and Planetary Science Letters, 2002, 200, 315-330.	1.8	57
70	The age and accretion of the earth. Earth-Science Reviews, 2002, 59, 235-263.	4.0	31
71	Ar diffusion in hydrous silicic melts: implications for volatile diffusion mechanisms and fractionation. Earth and Planetary Science Letters, 2001, 192, 363-376.	1.8	56
72	Carmichaelite, a new hydroxyl-bearing titanate from Garnet Ridge, Arizona. American Mineralogist, 2000, 85, 792-800.	0.9	9

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73	Direct observation of immiscibility in pyrope-almandine-grossular garnet. <i>American Mineralogist</i> , 2000, 85, 41-46.	0.9	20
74	H <sub>2</sub> O diffusion in rhyolitic melts and glasses. <i>Chemical Geology</i> , 2000, 169, 243-262.	1.4	232
75	Variable Ti-content and grain size of titanomagnetite as a function of cooling rate in very young MORB. <i>Earth and Planetary Science Letters</i> , 2000, 179, 9-20.	1.8	88
76	Bubble growth in rhyolitic melt. <i>Earth and Planetary Science Letters</i> , 2000, 181, 251-264.	1.8	77
77	Hydrous species geospeedometer in rhyolite: improved calibration and application. <i>Geochimica Et Cosmochimica Acta</i> , 2000, 64, 3347-3355.	1.6	81
78	A criterion for the fragmentation of bubbly magma based on brittle failure theory. <i>Nature</i> , 1999, 402, 648-650.	13.7	186
79	Mineral inclusions in pyrope crystals from Garnet Ridge, Arizona, USA: implications for processes in the upper mantle. <i>Contributions To Mineralogy and Petrology</i> , 1999, 135, 164-178.	1.2	85
80	Exsolution enthalpy of water from silicate liquids. <i>Journal of Volcanology and Geothermal Research</i> , 1999, 88, 201-207.	0.8	19
81	An oxygen barometer for rutile-ilmenite assemblages: oxidation state of metasomatic agents in the mantle. <i>Earth and Planetary Science Letters</i> , 1999, 166, 127-137.	1.8	60
82	Reconciliation of experimental results on H <sub>2</sub> O speciation in rhyolitic glass using in-situ and quenching techniques. <i>Earth and Planetary Science Letters</i> , 1999, 173, 343-349.	1.8	52
83	The speciation of dissolved water in rhyolitic melt. <i>Geochimica Et Cosmochimica Acta</i> , 1999, 63, 3567-3578.	1.6	98
84	H <sub>2</sub> O in rhyolitic glasses and melts: Measurement, speciation, solubility, and diffusion. <i>Reviews of Geophysics</i> , 1999, 37, 493-516.	9.0	234
85	Experimental simulations of gas-driven eruptions: kinetics of bubble growth and effect of geometry. <i>Bulletin of Volcanology</i> , 1998, 59, 281-290.	1.1	32
86	The young age of Earth. <i>Geochimica Et Cosmochimica Acta</i> , 1998, 62, 3185-3189.	1.6	28
87	Mechanical and phase equilibria in inclusion-host systems. <i>Earth and Planetary Science Letters</i> , 1998, 157, 209-222.	1.8	173
88	New calibration of infrared measurement of dissolved water in rhyolitic glasses. <i>Geochimica Et Cosmochimica Acta</i> , 1997, 61, 3089-3100.	1.6	147
89	Dynamics of gas-driven eruptions: Experimental simulations using CO <sub>2</sub> -H <sub>2</sub> O-polymer system. <i>Journal of Geophysical Research</i> , 1997, 102, 3077-3096.	3.3	57
90	Kinetics of the reaction H <sub>2</sub> O + O <sup>2</sup> → 2 OH in rhyolitic glasses upon cooling: Geospeedometry and comparison with glass transition. <i>Geochimica Et Cosmochimica Acta</i> , 1997, 61, 2167-2173.	1.6	97

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91	Diffusion of the hydrous component in pyrope. <i>American Mineralogist</i> , 1996, 81, 706-718.	0.9	105
92	Dynamics of CO <sub>2</sub> -driven lake eruptions. <i>Nature</i> , 1996, 379, 57-59.	13.7	57
93	Atomic radii of noble gas elements in condensed phases. <i>American Mineralogist</i> , 1995, 80, 670-675.	0.9	121
94	Kinetics of the reaction $H_2O + O = 2OH$ in rhyolitic and albitic glasses; preliminary results. <i>American Mineralogist</i> , 1995, 80, 593-612.	0.9	102
95	Reaction kinetics, geospeedometry, and relaxation theory. <i>Earth and Planetary Science Letters</i> , 1994, 122, 373-391.	1.8	48
96	Comparison of element and isotope diffusion of K and Ca in multicomponent silicate melts. <i>Earth and Planetary Science Letters</i> , 1994, 123, 155-166.	1.8	52
97	Distribution and evolution of carbon and nitrogen in Earth. <i>Earth and Planetary Science Letters</i> , 1993, 117, 331-345.	1.8	194
98	A modified effective binary diffusion model. <i>Journal of Geophysical Research</i> , 1993, 98, 11901-11920.	3.3	55
99	Experimental dehydration of natural obsidian and estimation of DH <sub>2</sub> O at low water contents. <i>Geochimica Et Cosmochimica Acta</i> , 1992, 56, 2931-2935.	1.6	31
100	Diffusion of a multi-species component and its role in oxygen and water transport in silicates. <i>Earth and Planetary Science Letters</i> , 1991, 103, 228-240.	1.8	124
101	Diffusion of water in rhyolitic glasses. <i>Geochimica Et Cosmochimica Acta</i> , 1991, 55, 441-456.	1.6	287
102	Water diffusion in a basaltic melt. <i>Nature</i> , 1991, 351, 306-309.	13.7	163
103	Diffusive crystal dissolution. <i>Contributions To Mineralogy and Petrology</i> , 1989, 102, 492-513.	1.2	210
104	Noble gas constraints on the evolution of the Earth's atmosphere. <i>Journal of Geophysical Research</i> , 1989, 94, 13719-13737.	3.3	69
105	Chemical geodynamics of carbon and nitrogen. <i>Chemical Geology</i> , 1988, 70, 43.	1.4	2