

Vladimir A Lyakhovsky

List of Publications by Year in descending order

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115
papers

4,287
citations

94433

37
h-index

123424

61
g-index

119
all docs

119
docs citations

119
times ranked

2839
citing authors

#	ARTICLE	IF	CITATIONS
1	Distributed damage, faulting, and friction. <i>Journal of Geophysical Research</i> , 1997, 102, 27635-27649.	3.3	255
2	Analysis of aftershocks in a lithospheric model with seismogenic zone governed by damage rheology. <i>Geophysical Journal International</i> , 2006, 165, 197-210.	2.4	151
3	Accelerated Seismic Release and Related Aspects of Seismicity Patterns on Earthquake Faults. <i>Pure and Applied Geophysics</i> , 2002, 159, 2385-2412.	1.9	150
4	Water, salt, and energy balances of the Dead Sea. <i>Water Resources Research</i> , 2005, 41, .	4.2	149
5	Bubble growth in highly viscous melts: theory, experiments, and autoexplosivity of dome lavas. <i>Earth and Planetary Science Letters</i> , 1998, 160, 763-776.	4.4	143
6	Earthquake cycle, fault zones, and seismicity patterns in a rheologically layered lithosphere. <i>Journal of Geophysical Research</i> , 2001, 106, 4103-4120.	3.3	143
7	Bubble growth in rhyolitic melts: experimental and numerical investigation. <i>Bulletin of Volcanology</i> , 1996, 58, 19-32.	3.0	140
8	Vesiculation processes in silicic magmas. <i>Geological Society Special Publication</i> , 1998, 145, 27-50.	1.3	129
9	Self-driven mode switching of earthquake activity on a fault system. <i>Earth and Planetary Science Letters</i> , 1999, 172, 11-21.	4.4	115
10	Bubble growth during decompression of magma: experimental and theoretical investigation. <i>Journal of Volcanology and Geothermal Research</i> , 2004, 129, 7-22.	2.1	107
11	A viscoelastic damage model with applications to stable and unstable fracturing. <i>Geophysical Journal International</i> , 2004, 159, 1155-1165.	2.4	103
12	The structure, isostasy and gravity field of the Levant continental margin and the southeast Mediterranean area. <i>Tectonophysics</i> , 2006, 425, 137-157.	2.2	98
13	Structural Properties and Deformation Patterns of Evolving Strike-slip Faults: Numerical Simulations Incorporating Damage Rheology. <i>Pure and Applied Geophysics</i> , 2009, 166, 1537-1573.	1.9	94
14	Non-linear elastic behaviour of damaged rocks. <i>Geophysical Journal International</i> , 1997, 130, 157-166.	2.4	91
15	Coupled evolution of damage and porosity in poroelastic media: theory and applications to deformation of porous rocks. <i>Geophysical Journal International</i> , 2004, 156, 701-713.	2.4	83
16	A non-local visco-elastic damage model and dynamic fracturing. <i>Journal of the Mechanics and Physics of Solids</i> , 2011, 59, 1752-1776.	4.8	75
17	Interpretation of Spring Recession Curves. <i>Ground Water</i> , 2002, 40, 543-551.	1.3	73
18	A viscoelastic damage rheology and rate- and state-dependent friction. <i>Geophysical Journal International</i> , 2005, 161, 179-190.	2.4	64

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19	Salt dissolution and sinkhole formation along the Dead Sea shore. <i>Journal of Geophysical Research</i> , 2006, 111, n/a-n/a.	3.3	63
20	Scaling relations of earthquakes and aseismic deformation in a damage rheology model. <i>Geophysical Journal International</i> , 2008, 172, 651-662.	2.4	63
21	Non-linear damage rheology and wave resonance in rocks. <i>Geophysical Journal International</i> , 2009, 178, 910-920.	2.4	54
22	Radial variations of melt viscosity around growing bubbles and gas overpressure in vesiculating magmas. <i>Earth and Planetary Science Letters</i> , 2001, 186, 1-6.	4.4	53
23	Bubble nucleation as a trigger for xenolith entrapment in mantle melts. <i>Earth and Planetary Science Letters</i> , 2006, 245, 278-288.	4.4	53
24	Rock dilation, nonlinear deformation, and pore pressure change under shear. <i>Earth and Planetary Science Letters</i> , 2005, 237, 577-589.	4.4	50
25	Stable and unstable damage evolution in rocks with implications to fracturing of granite. <i>Geophysical Journal International</i> , 2006, 167, 1005-1016.	2.4	49
26	Time response of the water table and saltwater transition zone to a base level drop. <i>Water Resources Research</i> , 2008, 44, .	4.2	48
27	Dynamic Ruptures on a Frictional Interface with Off-Fault Brittle Damage: Feedback Mechanisms and Effects on Slip and Near-Fault Motion. <i>Pure and Applied Geophysics</i> , 2015, 172, 1243-1267.	1.9	48
28	Viscoelâ€uroelastic damage model for brittleâ€uductile failure of porous rocks. <i>Journal of Geophysical Research: Solid Earth</i> , 2015, 120, 2179-2199.	3.4	47
29	A rheological model of a fractured solid. <i>Tectonophysics</i> , 1993, 226, 187-198.	2.2	46
30	Dyke propagation with distributed damage of the host rock. <i>Earth and Planetary Science Letters</i> , 1999, 165, 177-185.	4.4	45
31	Mechanical modeling and InSAR measurements of Mount Sedom uplift, Dead Sea basin: Implications for effective viscosity of rock salt. <i>Geochemistry, Geophysics, Geosystems</i> , 2006, 7, n/a-n/a.	2.5	45
32	Viscoelastic damage modeling of sinkhole formation. <i>Journal of Structural Geology</i> , 2012, 42, 163-170.	2.3	45
33	The thermal structure of Israel and the Dead Sea Fault. <i>Tectonophysics</i> , 2013, 602, 69-77.	2.2	45
34	Evolving geometrical and material properties of fault zones in a damage rheology model. <i>Geochemistry, Geophysics, Geosystems</i> , 2009, 10, .	2.5	43
35	The effect of base level changes and geological structures on the location of the groundwater divide, as exhibited in the hydrological system between the Dead Sea and the Mediterranean Sea. <i>Journal of Hydrology</i> , 2009, 378, 218-229.	5.4	41
36	InSAR Measurements and Viscoelastic Modeling of Sinkhole Precursory Subsidence: Implications for Sinkhole Formation, Early Warning, and Sediment Properties. <i>Journal of Geophysical Research F: Earth Surface</i> , 2018, 123, 678-693.	2.8	40

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37	Expansion dynamics of volatile-supersaturated liquids and bulk viscosity of bubbly magmas. <i>Journal of Fluid Mechanics</i> , 2002, 460, 39-56.	3.4	38
38	Damage evolution and fluid flow in poroelastic rock. <i>Izvestiya, Physics of the Solid Earth</i> , 2007, 43, 13-23.	0.9	37
39	Cyclic activity at Soufrière Hills Volcano, Montserrat: degassing-induced pressurization and stick-slip extrusion. <i>Geological Society Special Publication</i> , 2008, 307, 169-188.	1.3	37
40	Attenuation in gas-charged magma. <i>Journal of Volcanology and Geothermal Research</i> , 2006, 153, 21-36.	2.1	36
41	Brittle deformation and damage-induced seismic wave anisotropy in rocks. <i>Geophysical Journal International</i> , 2009, 178, 901-909.	2.4	36
42	Continental transformâ€“rift interaction adjacent to a continental margin: The Levant case study. <i>Earth-Science Reviews</i> , 2014, 139, 83-103.	9.1	36
43	Earthquake Swarms Triggered by Groundwater Extraction Near the Dead Sea Fault. <i>Geophysical Research Letters</i> , 2019, 46, 8056-8063.	4.0	36
44	Scaling of fracture length and distributed damage. <i>Geophysical Journal International</i> , 2001, 144, 114-122.	2.4	34
45	Is advective heat transport significant at the Dead Sea basin?. <i>Geofluids</i> , 2007, 7, 292-300.	0.7	34
46	Drop-down formation of deep basins along the Dead Sea and other strike-slip fault systems. <i>Geophysical Journal International</i> , 2010, 181, 185-197.	2.4	32
47	Damageâ€“breakage rheology model and solid-granular transition near brittle instability. <i>Journal of the Mechanics and Physics of Solids</i> , 2014, 64, 184-197.	4.8	32
48	Middleâ€“Late Eocene structure of the southern Levant continental margin â€” Tectonic motion versus global sea-level change. <i>Tectonophysics</i> , 2011, 499, 165-177.	2.2	31
49	Damage zones around en echelon dike segments in porous sandstone. <i>Journal of Geophysical Research</i> , 2000, 105, 3115-3133.	3.3	30
50	The configuration of the freshâ€“saline groundwater interface within the regional Judea Group carbonate aquifer in northern Israel between the Mediterranean and the Dead Sea base levels as delineated by deep geoelectromagnetic soundings. <i>Journal of Hydrology</i> , 2007, 344, 123-134.	5.4	27
51	Deep long period volcanic earthquakes generated by degassing of volatile-rich basaltic magmas. <i>Nature Communications</i> , 2020, 11, 3918.	12.8	27
52	Faulting processes along the northern Dead Sea transform and the Levant margin. <i>Geology</i> , 1992, 20, 1139.	4.4	26
53	The origin of the Dead Sea rift. <i>Tectonophysics</i> , 1994, 240, 29-43.	2.2	26
54	Velocities and driving pressures of clay-rich sediments injected into clastic dykes during earthquakes. <i>Geophysical Journal International</i> , 2008, 175, 1095-1107.	2.4	26

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55	The Elastic Strain Energy of Damaged Solids with Applications to Non-Linear Deformation of Crystalline Rocks. <i>Pure and Applied Geophysics</i> , 2011, 168, 2199-2210.	1.9	26
56	A Continuum Damage–Breakage Faulting Model and Solid-Granular Transitions. <i>Pure and Applied Geophysics</i> , 2014, 171, 3099-3123.	1.9	26
57	Transient groundwater-lake interactions in a continental rift: Sea of Galilee, Israel. <i>Bulletin of the Geological Society of America</i> , 2000, 112, 1694-1702.	3.3	26
58	Simulation of collision zone segmentation in the central Mediterranean. <i>Tectonophysics</i> , 1995, 243, 57-68.	2.2	25
59	Inelastic compaction, dilation and hysteresis of sandstones under hydrostatic conditions. <i>Geophysical Journal International</i> , 2014, 197, 920-925.	2.4	25
60	Transient salt transport modeling of shallow brine beneath a freshwater lake, the Sea of Galilee, Israel. <i>Water Resources Research</i> , 2000, 36, 101-107.	4.2	24
61	Sustained water-level changes caused by damage and compaction induced by teleseismic earthquakes. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 4943-4954.	3.4	24
62	Deformation and seismicity associated with continental rift zones propagating toward continental margins. <i>Geochemistry, Geophysics, Geosystems</i> , 2012, 13, .	2.5	23
63	Stress Patterns and Failure Around Rough Interlocked Fault Surface. <i>Journal of Geophysical Research: Solid Earth</i> , 2019, 124, 7138-7154.	3.4	23
64	Accelerated Seismic Release and Related Aspects of Seismicity Patterns on Earthquake Faults. , 2002, , 2385-2412.		23
65	Dynamic rupture in a damage-breakage rheology model. <i>Geophysical Journal International</i> , 2016, 206, 1126-1143.	2.4	22
66	The propagation of a dyke driven by gas-saturated magma. <i>Geophysical Journal International</i> , 2012, 189, 956-966.	2.4	21
67	Improving the method of low-temperature anisotropy of magnetic susceptibility (LT-AMS) measurements in air. <i>Geochemistry, Geophysics, Geosystems</i> , 2016, 17, 2940-2950.	2.5	20
68	Water-level oscillations caused by volumetric and deviatoric dynamic strains. <i>Geophysical Journal International</i> , 2016, 204, 841-851.	2.4	19
69	Numerical modelling of regional neotectonic movements in the northern Black Sea. <i>Tectonophysics</i> , 1996, 266, 221-231.	2.2	18
70	Numerical modelling of post-seismic rupture propagation after the Sumatra 26.12.2004 earthquake constrained by GRACE gravity data. <i>Geophysical Journal International</i> , 2013, 194, 640-650.	2.4	18
71	Dynamic Rupture and Seismic Radiation in a Damage–Breakage Rheology Model. <i>Pure and Applied Geophysics</i> , 2019, 176, 1003-1020.	1.9	18
72	Melt instabilities in an intraplate lithosphere and implications for volcanism in the Harrat Ash-Shaam volcanic field (NW Arabia). <i>Journal of Geophysical Research: Solid Earth</i> , 2015, 120, 1543-1558.	3.4	15

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73	The processes controlling damage zone propagation induced by wellbore fluid injection. <i>Geophysical Journal International</i> , 2013, 193, 209-219.	2.4	14
74	Fault-zone healing effectiveness and the structural evolution of strike-slip fault systems. <i>Geophysical Journal International</i> , 2011, 186, 963-970.	2.4	13
75	Deep geothermal: The "Moon Landing" mission in the unconventional energy and minerals space. <i>Journal of Earth Science (Wuhan, China)</i> , 2015, 26, 2-10.	3.2	13
76	Poroelastic damage rheology: Dilation, compaction, and failure of rocks. <i>Geochemistry, Geophysics, Geosystems</i> , 2005, 6, n/a-n/a.	2.5	12
77	Fault Wear by Damage Evolution During Steady-State Slip. <i>Pure and Applied Geophysics</i> , 2014, 171, 3143-3157.	1.9	12
78	Halite Precipitation From Double-Diffusive Salt Fingers in the Dead Sea: Numerical Simulations. <i>Water Resources Research</i> , 2019, 55, 4252-4265.	4.2	12
79	Representation of seismic sources sustaining changes of elastic moduli. <i>Geophysical Journal International</i> , 2019, 217, 135-139.	2.4	12
80	Non-linear anisotropic damage rheology model: Theory and experimental verification. <i>European Journal of Mechanics, A/Solids</i> , 2021, 85, 104085.	3.7	12
81	Acoustics of rheologically non-linear solids. <i>Physics of the Earth and Planetary Interiors</i> , 1988, 50, 60-64.	1.9	11
82	On the Relation Between Steep Monoclinal Flexure Zones and Steep Hydraulic Gradients. <i>Ground Water</i> , 2007, 45, 616-626.	1.3	11
83	Relating strain localization and Kaiser effect to yield surface evolution in brittle rocks. <i>Geophysical Journal International</i> , 2020, 221, 2091-2103.	2.4	11
84	Comparative study of temporal variations in the earth's gravity field using GRACE gravity models in the regions of three recent giant earthquakes. <i>Izvestiya, Physics of the Solid Earth</i> , 2014, 50, 177-191.	0.9	10
85	Magnetic Signature of the Kinneret "Kinarot Tectonic Basin Along the Dead Sea Transform, Northern Israel. <i>Pure and Applied Geophysics</i> , 2019, 176, 4383-4399.	1.9	10
86	Effects of pre-existing faults on compaction localization in porous sandstones. <i>Tectonophysics</i> , 2018, 747-748, 1-15.	2.2	9
87	The role of the intermediate principal stress on the direction of damage zone during hydraulic stimulation. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2018, 107, 86-93.	5.8	9
88	Formation of damage zone and seismic velocity variations during hydraulic stimulation: numerical modelling and field observations. <i>Geophysical Journal International</i> , 2013, 195, 1023-1033.	2.4	8
89	Pressure waves in a supersaturated bubbly magma. <i>Geophysical Journal International</i> , 2011, 187, 421-438.	2.4	7
90	Numerical modeling of seawater intrusion into endorheic hydrological systems. <i>Hydrogeology Journal</i> , 2013, 21, 1001-1010.	2.1	7

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91	Isotropic seismic radiation from rock damage and dilatancy. <i>Geophysical Journal International</i> , 2020, 222, 449-460.	2.4	7
92	On the relation between seismic wave velocity and stress in a solid. <i>Geophysical Journal International</i> , 1987, 91, 429-437.	2.4	6
93	Earthquake source properties from analysis of dynamic ruptures and far-field seismic waves in a damage-breakage model. <i>Geophysical Journal International</i> , 2021, 224, 1793-1810.	2.4	6
94	Modelling yield cap evolution in sandstone based on brittle creep experiments. <i>International Journal of Rock Mechanics and Minings Sciences</i> , 2021, 141, 104706.	5.8	6
95	Stress distribution over the Mozambique Ridge. <i>Tectonophysics</i> , 1994, 240, 21-27.	2.2	5
96	Active transform fault zone at the fringe of the Dead Sea Basin. <i>Tectonics</i> , 2015, 34, 1475-1493.	2.8	5
97	A new anisotropic poroelasticity model to describe damage accumulation during cyclic triaxial loading of rock. <i>Geophysical Journal International</i> , 2022, 230, 179-201.	2.4	5
98	Oceanic topography and heatflow: Indications for a silent discharge of cold rock into the convecting Earth. <i>Geophysical Research Letters</i> , 1995, 22, 1273-1276.	4.0	4
99	Borehole breakout modeling in arkose and granite rocks. <i>Geomechanics and Geophysics for Geo-Energy and Geo-Resources</i> , 2021, 7, 1.	2.9	4
100	Runaway Versus Stable Fracturing During Hydraulic Stimulation: Insights from the Damage Rheology Modeling. <i>Rock Mechanics and Rock Engineering</i> , 2021, 54, 5449-5464.	5.4	4
101	Hydrological response to the Sea of Galilee 2018 seismic swarm. <i>Journal of Hydrology</i> , 2020, 582, 124499.	5.4	3
102	Effective seismic wave velocities and attenuation in partially molten rocks. <i>Earth and Planetary Science Letters</i> , 2021, 572, 117117.	4.4	3
103	Uplift and subsidence at the periphery of the Lebanese Restraining Bend, Northern Dead Sea Fault. <i>Tectonophysics</i> , 2022, 830, 229292.	2.2	3
104	Damping of pressure waves in visco-elastic, saturated bubbly magma. <i>Geological Society Special Publication</i> , 2008, 307, 11-31.	1.3	2
105	Damage Rheology Model and Decay Law of Aftershock Activity. , 2007, , 23-32.		2
106	Nonlinear elasticity and scalar damage rheology model for fractured rocks. , 2009, , 123-132.		2
107	Structural Properties and Deformation Patterns of Evolving Strike-slip Faults: Numerical Simulations Incorporating Damage Rheology. , 2009, , 1537-1573.		1
108	Compaction, strain, and stress anisotropy in porous rocks. <i>Geomechanics and Geophysics for Geo-Energy and Geo-Resources</i> , 2022, 8, 1.	2.9	1

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109	Remote Triggering of Damage Followed by Healing Recorded in Groundwater Pressure. Water (Switzerland), 2021, 13, 3656.	2.7	1
110	Tensor compaction of porous rocks: theory and experimental verification. Journal of Mining Institute, 0, Online first, .	0.8	1
111	Detailed Regional Magnetic Mapping on a Bike, A Case Study from Northern Israel. Pure and Applied Geophysics, 2022, 179, 2769-2795.	1.9	1
112	Joint nucleation from cavity-shaped flaws: Field observations, probability of occurrence, and 3D mechanical analysis. Geochemistry, Geophysics, Geosystems, 2008, 9, .	2.5	0
113	Introduction to special section: Fault damage zones. Interpretation, 2017, 5, SPi-SPi.	1.1	0
114	The 26th IUGG Conference on Mathematical Geophysics Sea of Galilee, Israel, 4-8 June 2006. Israel Journal of Earth Sciences, 2007, 56, i-ii.	0.3	0
115	Damage rheology and stable versus unstable fracturing of rocks. , 2009, , 133-144.		0