Basil Tikoff

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/489364/publications.pdf

Version: 2024-02-01

118 papers	6,418 citations	66343 42 h-index	66911 78 g-index
119 all docs	119 docs citations	119 times ranked	3599 citing authors

#	Article	IF	Citations
1	Strain modeling of displacement-field partitioning in transpressional orogens. Journal of Structural Geology, 1994, 16, 1575-1588.	2.3	488
2	The deformation matrix for simultaneous simple shearing, pure shearing and volume change, and its application to transpression-transtension tectonics. Journal of Structural Geology, 1993, 15, 413-422.	2.3	424
3	Oblique plate motion and continental tectonics. Geology, 1995, 23, 447.	4.4	306
4	Stretching lineations in transpressional shear zones: an example from the Sierra Nevada Batholith, California. Journal of Structural Geology, 1997, 19, 29-39.	2.3	294
5	Crustal-scale, en echelon "P-shear" tensional bridges: A possible solution to the batholithic room problem. Geology, 1992, 20, 927.	4.4	212
6	Upper mantle tectonics: three-dimensional deformation, olivine crystallographic fabrics and seismic properties. Earth and Planetary Science Letters, 1999, 168, 173-186.	4.4	210
7	Multiscale magmatic cyclicity, duration of pluton construction, and the paradoxical relationship between tectonism and plutonism in continental arcs. Tectonophysics, 2011, 500, 20-33.	2.2	203
8	Simultaneous pure and simple shear: the unifying deformation matrix. Tectonophysics, 1993, 217, 267-283.	2.2	199
9	The limitations of three-dimensional kinematic vorticity analysis. Journal of Structural Geology, 1995, 17, 1771-1784.	2.3	187
10	Mechanisms and duration of non-tectonically assisted magma emplacement in the upper crust: The Black Mesa pluton, Henry Mountains, Utah. Tectonophysics, 2006, 428, 1-31.	2.2	159
11	Extended models of transpression and transtension, and application to tectonic settings. Geological Society Special Publication, 1998, 135, 15-33.	1.3	154
12	Strain partitioning during partial melting and crystallizing felsic magmas. Tectonophysics, 1999, 312, 117-132.	2.2	149
13	Transpressional shearing and strike-slip partitioning in the Late Cretaceous Sierra Nevada magmatic arc, California. Tectonics, 1997, 16, 442-459.	2.8	140
14	Modification of the regional stress field by magma intrusion and formation of tabular granitic plutons. Tectonophysics, 1999, 302, 203-224.	2.2	135
15	Isotopic Evolution of the Idaho Batholith and Challis Intrusive Province, Northern US Cordillera. Journal of Petrology, 2011, 52, 2397-2429.	2.8	133
16	Competency contrast, kinematics, and the development of foliations and lineations in the crust. Journal of Structural Geology, 2002, 24, 1065-1085.	2.3	128
17	Thirty-Five-Year Creep Rates for the Creeping Segment of the San Andreas Fault and the Effects of the 2004 Parkfield Earthquake: Constraints from Alignment Arrays, Continuous Global Positioning System, and Creepmeters. Bulletin of the Seismological Society of America, 2006, 96, S250-S268.	2.3	128
18	Emplacement of multiple magma sheets and wall rock deformation: Trachyte Mesa intrusion, Henry Mountains, Utah. Journal of Structural Geology, 2008, 30, 491-512.	2.3	113

#	Article	IF	Citations
19	Three-dimensional reference deformations and strain facies. Journal of Structural Geology, 1999, 21, 1497-1512.	2.3	111
20	Physical experiments of transpressional folding. Journal of Structural Geology, 1998, 20, 661-672.	2.3	89
21	Fabric stability in oblique convergence and divergence. Journal of Structural Geology, 1999, 21, 969-974.	2.3	85
22	Strain and fabric analyses based on porphyroclast interaction. Journal of Structural Geology, 1994, 16, 477-491.	2.3	81
23	Transpressional kinematics and magmatic arcs. Geological Society Special Publication, 1998, 135, 327-340.	1.3	81
24	Evaluating Geoscience Students' Spatial Thinking Skills in a Multi-Institutional Classroom Study. Journal of Geoscience Education, 2014, 62, 146-154.	1.4	79
25	Forward modeling of non-steady-state deformations and the â€˜minimum strain pathâ€™. Journal of Structural Geology, 1997, 19, 987-996.	2.3	74
26	Strike-slip partitioned transpression of the San Andreas fault system: a lithospheric-scale approach. Geological Society Special Publication, 1998, 135, 143-158.	1.3	73
27	Emplacement-related fabric and multiple sheets in the Maiden Creek sill, Henry Mountains, Utah, USA. Journal of Structural Geology, 2005, 27, 1426-1444.	2.3	69
28	Twisting space: are rigid and non-rigid mental transformations separate spatial skills?. Cognitive Processing, 2013, 14, 163-173.	1.4	68
29	Missing Idaho arc: Transpressional modification of the 87Sr/86Sr transition on the western edge of the Idaho batholith. Geology, 2005, 33, 469.	4.4	66
30	Hit-and-run collision model for the Laramide orogeny, western United States. Geology, 1996, 24, 968.	4.4	65
31	Structural geology practice and learning, from the perspective of cognitive science. Journal of Structural Geology, 2013, 54, 72-84.	2.3	63
32	Dynamics of a large, restless, rhyolitic magma system at Laguna del Maule, southern Andes, Chile. GSA Today, 2014, , 4-10.	2.0	63
33	Probing for Proterozoic and Archean crust in the northern U.S. Cordillera with inherited zircon from the Idaho batholith. Bulletin of the Geological Society of America, 2013, 125, 73-88.	3.3	62
34	Displacement control of geologic structures. Journal of Structural Geology, 1999, 21, 959-967.	2.3	61
35	Emplacement and assembly of shallow intrusions from multiple magma pulses, Henry Mountains, Utah. Earth and Environmental Science Transactions of the Royal Society of Edinburgh, 2009, 100, 117-132.	0.3	57
36	Commentary: Analogical Thinking in Geoscience Education. Journal of Geoscience Education, 2010, 58, 2-13.	1.4	57

#	Article	IF	Citations
37	New slip rate estimates for the creeping segment of the San Andreas fault, California. Geology, 2005, 33, 205.	4.4	56
38	The Role of Pyroxenites in Formation of Shear Instabilities in the Mantle: Evidence from an Ultramafic Ultramylonite, Twin Sisters Massif, Washington. Journal of Petrology, 2010, 51, 55-80.	2.8	54
39	Translation and the resolution of the pluton space problem. Journal of Structural Geology, 1999, 21, 1109-1117.	2.3	49
40	Relationship between crustal finite strain and seismic anisotropy in the mantle, Pacific-Australia plate boundary zone, South Island, New Zealand. Geophysical Journal International, 2002, 151, 106-116.	2.4	48
41	A kinematic model for the Rinconada fault system in central California based on structural analysis of en echelon folds and paleomagnetism. Journal of Structural Geology, 2007, 29, 961-982.	2.3	48
42	A new method for the separation of paramagnetic and ferromagnetic susceptibility anisotropy using low field and high field methods. Geophysical Journal International, 2002, 151, 345-359.	2.4	44
43	Development of Magmatic to Solid-State Fabrics during Syntectonic Emplacement of the Mono Creek Granite, Sierra Nevada Batholith. Petrology and Structural Geology, 1997, , 231-252.	0.5	43
44	Drawing on Experience: How Domain Knowledge Is Reflected in Sketches of Scientific Structures and Processes. Research in Science Education, 2014, 44, 859-883.	2.3	42
45	Continuation of the San Andreas fault system into the upper mantle: Evidence from spinel peridotite xenoliths in the Coyote Lake basalt, central California. Tectonophysics, 2007, 429, 1-20.	2.2	41
46	Determining vorticity axes from grain-scale dispersion of crystallographic orientations. Geology, 2015, 43, 803-806.	4.4	41
47	Geomorphic expression of rapid Holocene silicic magma reservoir growth beneath Laguna del Maule, Chile. Science Advances, 2018, 4, eaat1513.	10.3	38
48	Geologic and geophysical investigation of two fine-grained granites, Sierra Nevada Batholith, California: Evidence for structural controls on emplacement and volcanism. Bulletin of the Geological Society of America, 2005, 117, 1256.	3.3	36
49	Physical models of transtensional folding. Geology, 2002, 30, 523.	4.4	35
50	Timing and deformation conditions of the western Idaho shear zone, West Mountain, west-central Idaho. Lithosphere, 2017, 9, 157-183.	1.4	32
51	Fabric studies within the Cascade Lake shear zone, Sierra Nevada, California. Tectonophysics, 2005, 400, 209-226.	2.2	31
52	Kinematic and vorticity analyses of the western Idaho shear zone, USA. Lithosphere, 2017, 9, 223-234.	1.4	30
53	The Spatial Thinking Workbook: A Research-Validated Spatial Skills Curriculum for Geology Majors. Journal of Geoscience Education, 2017, 65, 423-434.	1.4	30
54	Fabric superposition in upper mantle peridotite, Red Hills, New Zealand. Journal of Structural Geology, 2008, 30, 1412-1428.	2.3	27

#	Article	IF	Citations
55	Fabric development in the mantle section of a paleotransform fault and its effect on ophiolite obduction, New Caledonia. Lithosphere, 2011, 3, 221-244.	1.4	26
56	Fabric development in cm-scale shear zones in ultramafic rocks, Red Hills, New Zealand. Tectonophysics, 2010, 489, 55-75.	2.2	24
57	Neotectonic deformation within an extensional stepover in El Salvador magmatic arc, Central America: Implication for the interaction of arc magmatism and deformation. Tectonophysics, 2016, 693, 327-339.	2.2	21
58	StraboSpot data system for structural geology. , 2019, 15, 533-547.		21
59	Strain localization associated with channelized melt migration in upper mantle lithosphere: Insights from the Twin Sisters ultramafic complex, Washington, USA. Journal of Structural Geology, 2013, 50, 133-147.	2.3	20
60	Tectonic evolution of the Syringa embayment in the central North American Cordilleran accretionary boundary. Lithosphere, 2017, 9, 184-204.	1.4	20
61	The Petrological and Geochemical Evolution of Early Forearc Mantle Lithosphere: an Example from the Red Hills Ultramafic Massif, New Zealand. Journal of Petrology, 2016, 57, 751-776.	2.8	19
62	Mantle-driven deformation of orogenic zones and clutch tectonics. Geological Society Special Publication, 2004, 227, 41-64.	1.3	18
63	Mantle strength of the San Andreas fault system and the role of mantle-crust feedbacks. Geology, 2015, 43, 891-894.	4.4	18
64	Interpreting Granitic Fabrics in Terms of Rhyolitic Melt Segregation, Accumulation, and Escape Via Tectonic Filter Pressing in the Huemul Pluton, Chile. Journal of Geophysical Research: Solid Earth, 2018, 123, 8548-8567.	3.4	18
65	GPS constraints on deformation in northern Central America from 1999 to 2017, Part 2: Block rotations and fault slip rates, fault locking and distributed deformation. Geophysical Journal International, 2019, 218, 729-754.	2.4	18
66	Forward modeling of non-steady-state deformations and the â€˜minimum strain pathâ€™: Reply. Journal of Structural Geology, 1998, 20, 979-981.	2.3	17
67	Strain analysis and rheology contrasts in polymictic conglomerates: An example from the Seine metaconglomerates, Superior Province, Canada. Journal of Structural Geology, 2009, 31, 1365-1376.	2.3	17
68	Constraints on deformation path from finite strain gradients. Journal of Structural Geology, 2007, 29, 256-272.	2.3	16
69	Anatomy of a 10 km scale sheath fold, Mount Hay ridge, Arunta Region, central Australia: The structural record of deep crustal flow. Tectonics, 2011, 30, .	2.8	16
70	Cooling and exhumation of the southern Idaho batholith. Lithosphere, 2017, 9, 299-314.	1.4	16
71	Field-based constraints on finite strain and rheology of the lithospheric mantle, Twin Sisters, Washington. Lithosphere, 2010, 2, 418-422.	1.4	15
72	Constraints on the rheology of the lower crust in a strike-slip plate boundary: evidence from the San QuintÃn xenoliths, BajaÂCalifornia,ÂMexico. Solid Earth, 2017, 8, 1211-1239.	2.8	14

#	Article	IF	Citations
73	Constraints on kinematics and strain from feldspar porphyroclast populations. Geological Society Special Publication, 2004, 224, 265-285.	1.3	13
74	Quantifying simultaneous discrete and distributed deformation. Journal of Structural Geology, 2005, 27, 1168-1189.	2.3	13
75	Geometric scale invariance, genesis, and self-organization of polygonal fracture networks in granitic rocks. Journal of Structural Geology, 2012, 42, 34-48.	2.3	13
76	Preexisting fractures and the formation of an iconic American landscape: Tuolumne Meadows, Yosemite National Park, USA. GSA Today, 2014, 24, 4-10.	2.0	13
77	Vertical coupling and decoupling in the lithosphere. Geological Society Special Publication, 2004, 227, 1-7.	1.3	12
78	Active Normal Faulting, Diking, and Doming Above the Rapidly Inflating Laguna del Maule Volcanic Field, Chile, Imaged With CHIRP, Magnetic, and Focal Mechanism Data. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB019329.	3.4	12
79	Introduction: EarthScope IDOR project (deformation and magmatic modification of a steep) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf	1.4	11
80	The utility of statistical analysis in structural geology. Journal of Structural Geology, 2019, 125, 64-73.	2.3	11
81	Sheet-like emplacement of satellite laccoliths, sills, and bysmaliths of the Henry Mountains, Southern Utah. , 2005, , 283-309.		10
82	A perspective on the emergence of modern structural geology: Celebrating the feedbacks between historical-based and process-based approaches. , 2013, , .		10
83	Stress variations in space and time within the mantle section of an oceanic transform zone: Evidence for the seismic cycle. Geology, 2020, 48, 569-573.	4.4	10
84	Training Spatial Skills in Geosciences. , 0, , 7-23.		10
85	Linking Cognitive Science and Disciplinary Geoscience Practice. , 0, , 219-237.		10
86	Emplacement and assembly of shallow intrusions from multiple magma pulses, Henry Mountains, Utah. , 2010, , .		9
87	Collaboration, cyberinfrastructure, and cognitive science: The role of databases and dataguides in 21st century structural geology. Journal of Structural Geology, 2019, 125, 48-54.	2.3	9
88	The Future of Field Geology, Open Data Sharing and CyberTechnology in Earth Science. The Sedimentary Record, 2016, 14, 4-10.	0.6	9
89	Multiple, Coeval Silicic Magma Storage Domains Beneath the Laguna Del Maule Volcanic Field Inferred From Gravity Investigations. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB020850.	3.4	8
90	Internal structure of the Paleoarchean Mt Edgar dome, Pilbara Craton, Western Australia. Precambrian Research, 2021, 358, 106163.	2.7	8

#	Article	IF	Citations
91	Field Forum Report - Tectonic Significance of Vertical Boundaries in the Cordillera. GSA Today, 2007, 17, 27.	2.0	8
92	We need to talk: Facilitating communication between field-based geoscience and cyberinfrastructure communities. GSA Today, 2015, , 34-35.	2.0	8
93	The Role of Geoscience Education Research in the Consilience between Science of the Mind and Science of the Natural World. Journal of Geoscience Education, 2017, 65, 393-398.	1.4	7
94	Promoting Sketching in Introductory Geoscience Courses: CogSketch Geoscience Worksheets. Topics in Cognitive Science, 2017, 9, 943-969.	1.9	7
95	The 3-D geometry of the Linglong granitic complex from 2-D gravity forward modeling, Shandong Province, east China. Geophysics, 2000, 65, 421-425.	2.6	7
96	A tectonic transect through the Salmon River suture zone along the Salmon River Canyon in the Riggins region of west-central Idaho. , 2009, , .		6
97	Matchsticks on parade: Vertical axis rotation in oblique divergence. Journal of Geophysical Research, 2002, 107, ETG 9-1-ETG 9-11.	3.3	5
98	Big data in microstructure analysis: Building a universal orientation system for thin sections. Journal of Structural Geology, 2019, 125, 226-234.	2.3	5
99	Magnetic Crâ€Rich Spinel in Serpentinized Ultramafic Complexes. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB020443.	3.4	5
100	Vertical-axis rotation of rigid crustal blocks driven by mantle flow. Geological Society Special Publication, 2004, 227, 83-100.	1.3	4
101	Strain Localization at Constant Strain Rate and Changing Stress Conditions: Implications for Plate Boundary Processes in the Upper Mantle. Minerals (Basel, Switzerland), 2021, 11, 1351.	2.0	4
102	A granulite-facies normal shear zone exposed in the Arunta inlier of central Australia: Implications for deep-crustal deformation during oblique divergence. , 2009, , .		3
103	Structural geology of the subprovince boundaries in the Archean Superior Province of northern Minnesota and adjacent Ontario. , 2011, , 203-241.		3
104	The evolving nature of collaboration in the geological sciences. , 2013, , .		3
105	Hells Canyon to the Bitterroot front: A transect from the accretionary margin eastward across the Idaho batholith. , 2014, , 1-50.		3
106	Transpressional deformation in the lithospheric mantle beneath the North Anatolian Fault Zone. Tectonophysics, 2021, 815, 228989.	2.2	3
107	Ductile Instabilities and Structural Heterogeneity in the Lower Continental Crust. , 2003, , 1-36.		3
108	An integrated structural and GPS study of the Jalpatagua fault, southeastern Guatemala. , 2021, 17, 201-225.		3

#	Article	IF	Citations
109	Deformation in Western Guatemala Associated With the NAFCA (North Americaâ€Central American) Tj ETQq1 1 0.784314 rgBT /Over Tectonics, 2022, 41, .	2.8	3
110	Visualization of deformation: computer applications for teaching. Computer Methods in the Geosciences, 1996, 15, 75-96.	0.0	2
111	An integrated geologic framework for EarthScope's US array. Eos, 2006, 87, 221.	0.1	2
112	Bringing sedimentology and stratigraphy into the StraboSpot data management system. , 2021, 17, 1914-1927.		2
113	Geometry of the folded Otago peneplain surface beneath Ida valley, Central Otago, New Zealand, from gravity observations. New Zealand Journal of Geology, and Geophysics, 2003, 46, 449-456.	1.8	1
114	Tectonic significance of vertical boundaries in the Cordillera. GSA Today, 2006, 16, 18.	2.0	1
115	Explicit Instruction of Scientific Uncertainty in an Undergraduate Geoscience Field-Based Course. Science and Education, 2022, 31, 1541-1566.	2.7	1
116	Scaffolding geology content and spatial skills with playdough modeling in the field and classroom. Journal of Geoscience Education, 0, , 1-15.	1.4	1
117	Soft Plate and Impact Tectonics. Eos, 2002, 83, 595.	0.1	0
118	Greenstoneâ€up shear sense at the margin of the Mt Edgar dome, East Pilbara Terrane: Implications for dome and keel formation in the early Earth. Tectonics, 0, , .	2.8	0