Taras Gerya

List of Publications by Year
in descending order

304 papers	20,925 citations	7096 78 h-index	14208 128 g-index
364 all docs	364 docs citations	364 times ranked	7468 citing authors

#	Article	IF	Citations
1	Exhumation of high-pressure metamorphic rocks in a subduction channel: A numerical simulation. Tectonics, 2002, 21, 6-1-6-19.	2.8	689
2	Rayleighâ€“Taylor instabilities from hydration and melting propel â€˜cold plumesâ€™ at subduction zones. Earth and Planetary Science Letters, 2003, 212, 47-62.	4.4	494
3	Characteristics-based marker-in-cell method with conservative finite-differences schemes for modeling geological flows with strongly variable transport properties. Physics of the Earth and Planetary Interiors, 2003, 140, 293-318.	1.9	430
4	Non-Newtonian rheology of crystal-bearing magmas and implications for magma ascent dynamics. Earth and Planetary Science Letters, 2007, 264, 402-419.	4.4	390
5	Robust characteristics method for modelling multiphase visco-elasto-plastic thermo-mechanical problems. Physics of the Earth and Planetary Interiors, 2007, 163, 83-105.	1.9	369
6	A benchmark comparison of spontaneous subduction modelsâ€”Towards a free surface. Physics of the Earth and Planetary Interiors, 2008, 171, 198-223.	1.9	361
7	The role of viscous heating in Barrovian metamorphism of collisional orogens: thermomechanical models and application to the Lepontine Dome in the Central Alps. Journal of Metamorphic Geology, 2005, 23, 75-95.	3.4	355
8	Subduction styles in the Precambrian: Insight from numerical experiments. Lithos, 2010, 116, 209-229.	1.4	351
9	Subduction initiation in nature and models: A review. Tectonophysics, 2018, 746, 173-198.	2.2	335
10	Plate tectonics on the Earth triggered by plume-induced subduction initiation. Nature, 2015, 527, 221-225.	27.8	310
11	A comparison of numerical surface topography calculations in geodynamic modelling: an evaluation of the â€˜sticky airâ€™ method. Geophysical Journal International, 2012, 189, 38-54.	2.4	301
12	Numerical modelling of spontaneous slab breakoff and subsequent topographic response. Tectonophysics, 2011, 502, 244-256.	2.2	291
13	Deep slab hydration induced by bending-related variations in tectonic pressure. Nature Geoscience, 2009, 2, 790-793.	12.9	289
14	Fault-induced seismic anisotropy by hydration in subducting oceanic plates. Nature, 2008, 455, 1097-1100.	27.8	271
15	Geodynamic regimes of subduction under an active margin: effects of rheological weakening by fluids and melts. Journal of Metamorphic Geology, 2011, 29, 7-31.	3.4	270
16	Precambrian geodynamics: Concepts and models. Gondwana Research, 2014, 25, 442-463.	6.0	262
17	Thermomechanical modelling of slab detachment. Earth and Planetary Science Letters, 2004, 226, 101-116.	4.4	257
18	Generation of felsic crust in the Archean: A geodynamic modeling perspective. Precambrian Research, 2015, 271, 198-224.	2.7	246

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19	Two-dimensional numerical modeling of tectonic and metamorphic histories at active continental margins. International Journal of Earth Sciences, 2006, 95, 250-274.	1.8	245
20	Contrasting styles of Phanerozoic and Precambrian continental collision. Gondwana Research, 2014, 25, 522-545.	6.0	244
21	Future directions in subduction modeling. Journal of Geodynamics, 2011, 52, 344-378.	1.6	227
22	Styles of post-subduction collisional orogeny: Influence of convergence velocity, crustal rheology and radiogenic heat production. Lithos, 2008, 103, 257-287.	1.4	222
23	Why is terrestrial subduction one-sided?. Geology, 2008, 36, 43.	4.4	221
24	Transient hot channels: Perpetrating and regurgitating ultrahigh-pressure, high-temperature crustâ€“mantle associations in collision belts. Lithos, 2008, 103, 236-256.	1.4	218
25	Seismic implications of mantle wedge plumes. Physics of the Earth and Planetary Interiors, 2006, 156, 59-74.	1.9	190
26	Asymmetric three-dimensional topography over mantle plumes. Nature, 2014, 513, 85-89.	27.8	190
27	Pre-collisional high pressure metamorphism and nappe tectonics at active continental margins: a numerical simulation. Terra Nova, 2005, 17, 102-110.	2.1	179
28	Melting Relations of MORB-Sediment Melanges in Underplated Mantle Wedge Plumes; Implications for the Origin of Cordilleran-type Batholiths. Journal of Petrology, 2010, 51, 1267-1295.	2.8	179
29	Dual continental rift systems generated by plumeâ€“lithosphere interaction. Nature Geoscience, 2015, 8, 388-392.	12.9	176
30	Continental crust formation on early Earth controlled by intrusive magmatism. Nature, 2017, 545, 332-335.	27.8	174
31	Subduction initiation by thermalâ€“chemical plumes: Numerical studies. Physics of the Earth and Planetary Interiors, 2008, 171, 296-312.	1.9	155
32	A free plate surface and weak oceanic crust produce singleâ€sided subduction on Earth. Geophysical Research Letters, 2012, 39, .	4.0	147
33	Numerical modelling of crustal growth in intraoceanic volcanic arcs. Physics of the Earth and Planetary Interiors, 2008, 171, 336-356.	1.9	146
34	Fluid flow during slab unbending and dehydration: Implications for intermediateâ€depth seismicity, slab weakening and deep water recycling. Geochemistry, Geophysics, Geosystems, 2012, 13, .	2.5	146
35	Magmatic implications of mantle wedge plumes: Experimental study. Lithos, 2008, 103, 138-148.	1.4	138
36	Subduction initiation at passive margins: Numerical modeling. Journal of Geophysical Research, 2010, 115, .	3.3	136

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37	Collision of continental corner from 3-D numerical modeling. Earth and Planetary Science Letters, 2013, 380, 98-111.	4.4	134
38	Intrusion of ultramafic magmatic bodies into the continental crust: Numerical simulation. Physics of the Earth and Planetary Interiors, 2007, 160, 124-142.	1.9	131
39	Crustal growth at active continental margins: Numerical modeling. Physics of the Earth and Planetary Interiors, 2012, 192-193, 1-20.	1.9	131
40	Dynamical Instability Produces Transform Faults at Mid-Ocean Ridges. Science, 2010, 329, 1047-1050.	12.6	130
41	Generation of new continental crust by sublithospheric silicic-magma relamination in arcs: A test of Taylor's andesite model. Gondwana Research, 2013, 23, 1554-1566.	6.0	130
42	Early Earth plume-lid tectonics: A high-resolution 3D numerical modelling approach. Journal of Geodynamics, 2016, 100, 198-214.	1.6	128
43	Dynamical causes for incipient magma chambers above slabs. Geology, 2004, 32, 89.	4.4	127
44	Exhumation mechanisms of meltâ€bearing ultrahigh pressure crustal rocks during collision of spontaneously moving plates. Journal of Metamorphic Geology, 2012, 30, 927-955.	3.4	122
45	Paradigms, new and old, for ultrahigh-pressure tectonism. Tectonophysics, 2013, 603, 79-88.	2.2	122
46	Driving the upper plate surface deformation by slab rollback and mantle flow. Earth and Planetary Science Letters, 2014, 405, 110-118.	4.4	120
47	Three-dimensional thermomechanical modeling of oceanic spreading initiation and evolution. Physics of the Earth and Planetary Interiors, 2013, 214, 35-52.	1.9	119
48	Influence of tectonic overpressure on <i>Pâ€"T</i> paths of HPâ€"UHP rocks in continental collision zones: thermomechanical modelling. Journal of Metamorphic Geology, 2010, 28, 227-247.	3.4	118
49	Physical controls of magmatic productivity at Pacific-type convergent margins: Numerical modelling. Physics of the Earth and Planetary Interiors, 2007, 163, 209-232.	1.9	117
50	Lithosphere delamination in continental collisional orogens: A systematic numerical study. Journal of Geophysical Research: Solid Earth, 2016, 121, 5186-5211.	3.4	116
51	A counterclockwise PTt path of high-pressure/low-temperature rocks from the Coastal Cordillera accretionary complex of south-central Chile: constraints for the earliest stage of subduction mass flow. Lithos, 2004, 75, 283-310.	1.4	112
52	Threeâ€dimensional dynamics of hydrous thermalâ€chemical plumes in oceanic subduction zones. Geochemistry, Geophysics, Geosystems, 2009, 10, .	2.5	112
53	Delamination in collisional orogens: Thermomechanical modeling. Journal of Geophysical Research, 2012, 117, .	3.3	111
54	Exhumation rates of high pressure metamorphic rocks in subduction channels: The effect of Rheology. Geophysical Research Letters, 2002, 29, 102-1-102-4.	4.0	103

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55	Two-dimensional numerical modeling of pressureâ€“temperature-time paths for the exhumation of some granulite facies terrains in the Precambrian. Journal of Geodynamics, 2000, 30, 17-35.	1.6	102
56	Discretization errors and free surface stabilization in the finite difference and marker-in-cell method for applied geodynamics: A numerical study. Geochemistry, Geophysics, Geosystems, 2011, 12, n/a-n/a.	2.5	102
57	Earthquake supercycle in subduction zones controlled by the width of the seismogenic zone. Nature Geoscience, 2015, 8, 471-474.	12.9	101
58	3D numerical modeling of mantle flow, crustal dynamics and magma genesis associated with slab roll-back and tearing: The eastern Mediterranean case. Earth and Planetary Science Letters, 2016, 442, 93-107.	4.4	101
59	Dynamic effects of aseismic ridge subduction: numerical modelling. European Journal of Mineralogy, 2009, 21, 649-661.	1.3	100
60	The seismic cycle at subduction thrusts: Insights from seismoâ€thermoâ€mechanical models. Journal of Geophysical Research: Solid Earth, 2013, 118, 6183-6202.	3.4	100
61	Origin of the martian dichotomy and Tharsis from a giant impact causing massive magmatism. Icarus, 2011, 215, 346-357.	2.5	99
62	Coupled and decoupled regimes of continental collision: Numerical modeling. Earth and Planetary Science Letters, 2009, 278, 337-349.	4.4	98
63	Flat versus steep subduction: Contrasting modes for the formation and exhumation of high- to ultrahigh-pressure rocks in continental collision zones. Earth and Planetary Science Letters, 2011, 301, 65-77.	4.4	96
64	Slab detachment during continental collision: Influence of crustal rheology and interaction with lithospheric delamination. Tectonophysics, 2013, 602, 124-140.	2.2	96
65	Porous fluid flow enables oceanic subduction initiation on Earth. Geophysical Research Letters, 2013, 40, 5671-5676.	4.0	92
66	Growth and mixing dynamics of mantle wedge plumes. Geology, 2007, 35, 587.	4.4	91
67	A water budget dichotomy of rocky protoplanets from 26Al-heating. Nature Astronomy, 2019, 3, 307-313.	10.1	91
68	Dynamics of double subduction: Numerical modeling. Physics of the Earth and Planetary Interiors, 2008, 171, 280-295.	1.9	90
69	Translithospheric Mantle Diapirism: Geological Evidence and Numerical Modelling of the Kondyor Zoned Ultramafic Complex (Russian Far-East). Journal of Petrology, 2009, 50, 289-321.	2.8	90
70	Emergence of silicic continents as the lower crust peels off on a hot plate-tectonic Earth. Nature Geoscience, 2017, 10, 698-703.	12.9	90
71	Corona structures driven by plumeâ€“lithosphere interactions and evidence for ongoing plume activity on Venus. Nature Geoscience, 2020, 13, 547-554.	12.9	90
72	The effects of short-lived radionuclides and porosity on the early thermo-mechanical evolution of planetesimals. Icarus, 2016, 274, 350-365.	2.5	89

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73	Regimes of subduction and lithospheric dynamics in the Precambrian: 3D thermomechanical modelling. Gondwana Research, 2016, 37, 53-70.	6.0	88
74	Asthenospheric upwelling, oceanic slab retreat, and exhumation of UHP mantle rocks: Insights from Greater Antilles. Geophysical Research Letters, 2007, 34, .	4.0	87
75	Dynamics of slab detachment. Geochemistry, Geophysics, Geosystems, 2012, 13, .	2.5	86
76	The numerical sandbox: comparison of model results for a shortening and an extension experiment. Geological Society Special Publication, 2006, 253, 29-64.	1.3	84
77	From oceanic plateaus to allochthonous terranes: Numerical modelling. Gondwana Research, 2014, 25, 494-508.	6.0	82
78	Slab detachment in laterally varying subduction zones: 3-D numerical modeling. Geophysical Research Letters, 2014, 41, 1951-1956.	4.0	82
79	The seismic cycle at subduction thrusts: 2. Dynamic implications of geodynamic simulations validated with laboratory models. Journal of Geophysical Research: Solid Earth, 2013, 118, 1502-1525.	3.4	81
80	Benchmarking numerical models of brittle thrust wedges. Journal of Structural Geology, 2016, 92, 140-177.	2.3	81
81	Origin and models of oceanic transform faults. Tectonophysics, 2012, 522-523, 34-54.	2.2	80
82	Numerical modelling of PT-paths related to rapid exhumation of high-pressure rocks from the crustal root in the Variscan Erzgebirge Dome (Saxony/Germany). Journal of Geodynamics, 2002, 33, 281-314.	1.6	79
83	Impact splash chondrule formation during planetesimal recycling. Icarus, 2018, 302, 27-43.	2.5	79
84	Plume-induced crustal convection: 3D thermomechanical model and implications for the origin of novae and coronae on Venus. Earth and Planetary Science Letters, 2014, 391, 183-192.	4.4	78
85	Efficient cooling of rocky planets by intrusive magmatism. Nature Geoscience, 2018, 11, 322-327.	12.9	78
86	Seismic behaviour of mountain belts controlled by plate convergence rate. Earth and Planetary Science Letters, 2018, 482, 81-92.	4.4	78
87	Bimodal seismicity in the Himalaya controlled by fault friction and geometry. Nature Communications, 2019, 10, 48.	12.8	78
88	Tectonic blocks in serpentinite mÃ©lange (eastern Cuba) reveal large-scale convective flow of the subduction channel. Geology, 2011, 39, 79-82.	4.4	77
89	Inherent gravitational instability of thickened continental crust with regionally developed low- to medium-pressure granulite facies metamorphism. Earth and Planetary Science Letters, 2001, 190, 221-235.	4.4	76
90	Small-Scale Mantle Convection Produces Stratigraphic Sequences in Sedimentary Basins. Science, 2010, 329, 827-830.	12.6	74

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91	Stagnant lid tectonics: Perspectives from silicate planets, dwarf planets, large moons, and large asteroids. Geoscience Frontiers, 2018, 9, 103-119.	8.4	72
92	Threeâ€dimensional simulations of the southern polar giant impact hypothesis for the origin of the Martian dichotomy. Geophysical Research Letters, 2014, 41, 8736-8743.	4.0	71
93	Tectonic overpressure and underpressure in lithospheric tectonics and metamorphism. Journal of Metamorphic Geology, 2015, 33, 785-800.	3.4	71
94	Densities of metapelitic rocks at high to ultrahigh pressure conditions: What are the geodynamic consequences?. Earth and Planetary Science Letters, 2007, 256, 12-27.	4.4	70
95	Subduction initiation dynamics along a transform fault control trench curvature and ophiolite ages. Geology, 2018, 46, 607-610.	4.4	69
96	Crustal deformation dynamics and stress evolution during seamount subduction: Highâ€resolution 3â€D numerical modeling. Journal of Geophysical Research: Solid Earth, 2016, 121, 6880-6902.	3.4	68
97	Contrasted continental rifting via plume-craton interaction: Applications to Central East African Rift. Geoscience Frontiers, 2016, 7, 221-236.	8.4	68
98	Polyphase formation and exhumation of highâ€•to ultrahighâ€pressure rocks in continental subduction zone: Numerical modeling and application to the Sulu ultrahighâ€pressure terrane in eastern China. Journal of Geophysical Research, 2009, 114, .	3.3	66
99	Dynamics of outerâ€rise faulting in oceanicâ€continental subduction systems. Geochemistry, Geophysics, Geosystems, 2013, 14, 2310-2327.	2.5	65
100	Coupling SPH and thermochemical models of planets: Methodology and example of a Mars-sized body. Icarus, 2018, 301, 235-246.	2.5	65
101	Ternary system H2O-CO2-NaCl at high T-P parameters: An empirical mixing model. Geochemistry International, 2010, 48, 446-455.	0.7	64
102	An Invariant Rateâ€•and Stateâ€Dependent Friction Formulation for Viscoeastoplastic Earthquake Cycle Simulations. Journal of Geophysical Research: Solid Earth, 2018, 123, 5018-5051.	3.4	64
103	Inherent gravitational instability of hot continental crust: Implications for doming and diapirism in granulite facies terrains. , 2004, , .		62
104	Thermo-mechanical modeling of the obduction process based on the Oman Ophiolite case. Gondwana Research, 2016, 32, 1-10.	6.0	61
105	Mobility of components in metasomatic transformation and partial melting of gneisses: an example from Sri Lanka. Contributions To Mineralogy and Petrology, 2000, 140, 212-232.	3.1	60
106	Semi-empirical Gibbs free energy formulations for minerals and fluids for use in thermodynamic databases of petrological interest. Physics and Chemistry of Minerals, 2004, 31, 429.	0.8	59
107	Numerical models of the thermomechanical evolution of planetesimals: Application to the acapulcoiteâ€lodranite parent body. Meteoritics and Planetary Science, 2014, 49, 1083-1099.	1.6	59
108	Thermomechanical modeling of slab eduction. Journal of Geophysical Research, 2012, 117, .	3.3	58

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109	Numerical modeling of geochemical variations caused by crustal relamination. Geochemistry, Geophysics, Geosystems, 2013, 14, 470-487.	2.5	58
110	Influence of lithospheric mantle stratification on craton extension: Insight from two-dimensional thermo-mechanical modeling. Tectonophysics, 2014, 631, 50-64.	2.2	57
111	Crustal rheology controls on the Tibetan plateau formation during India-Asia convergence. Nature Communications, 2017, 8, 15992.	12.8	57
112	Formation and Exhumation of Ultrahigh-Pressure Terranes. Elements, 2013, 9, 289-293.	0.5	55
113	Thermomechanical Modeling of the Formation of a Multilevel, Crustalâ€Scale Magmatic System by the Yellowstone Plume. Geophysical Research Letters, 2018, 45, 3873-3879.	4.0	54
114	Lateral propagationâ€"induced subduction initiation at passive continental margins controlled by preexisting lithospheric weakness. Science Advances, 2020, 6, eaaz1048.	10.3	54
115	The application of multidimensional wavelets to unveiling multi-phase diagrams and in situ physical properties of rocks. Earth and Planetary Science Letters, 2004, 223, 49-64.	4.4	53
116	Comparative petrology and metamorphic evolution of the Limpopo (South Africa) and Lapland (Fennoscandia) high-grade terrains. Mineralogy and Petrology, 2000, 69, 0069-0107.	1.1	52
117	Geomorphologicalâ€"thermo-mechanical modeling: Application to orogenic wedge dynamics. Tectonophysics, 2015, 659, 12-30.	2.2	52
118	Petrology and retrograde P-T path in granulites of the Kanskaya formation, Yenisey range, Eastern Siberia. Journal of Metamorphic Geology, 1989, 7, 599-617.	3.4	51
119	Modeling the seismic cycle in subduction zones: The role and spatiotemporal occurrence of offâ€megathrust earthquakes. Geophysical Research Letters, 2014, 41, 1194-1201.	4.0	51
120	Subduction of fracture zones controls mantle melting and geochemical signature above slabs. Nature Communications, 2014, 5, 5095.	12.8	51
121	Metapelites of the Kanskiy Granulite Complex (Eastern Siberia): Kinked P-T Paths and Geodynamic Model. Journal of Petrology, 2004, 45, 1393-1412.	2.8	50
122	Numerical modeling of protocore destabilization during planetary accretion: Methodology and results. Icarus, 2009, 204, 732-748.	2.5	50
123	Highâ€resolution 3D numerical modeling of thrust wedges: Influence of dÃ©collement strength on transfer zones. Geochemistry, Geophysics, Geosystems, 2013, 14, 1131-1155.	2.5	50
124	Structural and P-T Evolution of a Major Cross Fold in the Central Zone of the Limpopo High-Grade Terrain, South Africa. Journal of Petrology, 2004, 45, 1413-1439.	2.8	49
125	Mafic injection as a trigger for felsic magmatism: A numerical study. Geochemistry, Geophysics, Geosystems, 2013, 14, 1910-1928.	2.5	49
126	Precambrian ultra-hot orogenic factory: Making and reworking of continental crust. Tectonophysics, 2018, 746, 572-586.	2.2	49

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127	Multi-terrane structure controls the contrasting lithospheric evolution beneath the western and centralâ€“eastern Tibetan plateau. Nature Communications, 2018, 9, 3780.	12.8	49
128	Variability of subducting slab morphologies in the mantle transition zone: Insight from petrological-thermomechanical modeling. Earth-Science Reviews, 2019, 196, 102874.	9.1	49
129	Peel-back controlled lithospheric convergence explains the secular transitions in Archean metamorphism and magmatism. Earth and Planetary Science Letters, 2020, 538, 116224.	4.4	49
130	Transient stripping of subducting slabs controls periodic forearc uplift. Nature Communications, 2020, 11, 1823.	12.8	49
131	Diffusion of divalent cations in garnet: multi-couple experiments. Contributions To Mineralogy and Petrology, 2009, 157, 573-592.	3.1	48
132	Initiation of Rayleighâ€“Taylor instabilities in intra-cratonic settings. Tectonophysics, 2012, 514-517, 146-155.	2.2	48
133	Thermo-mechanical controls of flat subduction: Insights from numerical modeling. Gondwana Research, 2016, 40, 170-183.	6.0	48
134	Numerical analysis of subduction initiation risk along the Atlantic American passive margins. Geology, 2011, 39, 463-466.	4.4	47
135	Thermodynamic modeling of solubility and speciation of silica in H2O-SiO2 fluid up to 1300C and 20 kbar based on the chain reaction formalism. European Journal of Mineralogy, 2005, 17, 269-283.	1.3	46
136	Tectonic slicing of subducting oceanic crust along plate interfaces: Numerical modeling. Geochemistry, Geophysics, Geosystems, 2015, 16, 3505-3531.	2.5	46
137	Fluid control of charnockitization. Chemical Geology, 1993, 108, 175-186.	3.3	45
138	Visualization of multi-scale dynamics of hydrous cold plumes at subduction zones. Visual Geosciences, 2004, 9, 59-59.	0.5	45
139	Large-scale rigid-body rotation in the mantle wedge and its implications for seismic tomography. Geochemistry, Geophysics, Geosystems, 2006, 7, n/a-n/a.	2.5	45
140	P -T conditions of decompression of the Limpopo high-grade terrane: record from shear zones. Journal of Metamorphic Geology, 2001, 19, 249-268.	3.4	44
141	Intracratonic geodynamics. Gondwana Research, 2013, 24, 838-848.	6.0	44
142	From continental rifting to seafloor spreading: Insight from 3D thermo-mechanical modeling. Gondwana Research, 2015, 28, 1329-1343.	6.0	44
143	An adaptive staggered grid finite difference method for modeling geodynamic Stokes flows with strongly variable viscosity. Geochemistry, Geophysics, Geosystems, 2013, 14, 1200-1225.	2.5	43
144	Geodynamic regimes of intra-oceanic subduction: Implications for arc extension vs. shortening processes. Gondwana Research, 2014, 25, 546-560.	6.0	43

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145	Building cratonic keels in Precambrian plate tectonics. Nature, 2020, 586, 395-401.	27.8	43
146	Arcâ€“Continent Collision: The Making of an Orogen. Frontiers in Earth Sciences, 2011, , 477-493.	0.1	42
147	Plume-induced continental rifting and break-up in ultra-slow extension context: Insights from 3D numerical modeling. Tectonophysics, 2018, 746, 121-137.	2.2	42
148	Testing the influence of far-field topographic forcing on subduction initiation at a passive margin. Tectonophysics, 2013, 608, 517-524.	2.2	41
149	Horizontal mantle flow controls subduction dynamics. Scientific Reports, 2017, 7, 7550.	3.3	41
150	Dynamic slab segmentation due to brittleâ€“ductile damage in the outer rise. Nature, 2021, 599, 245-250.	27.8	41
151	Numerical modelling of spontaneous slab breakoff dynamics during continental collision. Geological Society Special Publication, 2010, 332, 99-114.	1.3	40
152	H 2 O-fluid-saturated melting of subducted continental crust facilitates exhumation of ultrahigh-pressure rocks in continental subduction zones. Earth and Planetary Science Letters, 2015, 428, 151-161.	4.4	40
153	Thermal regime and gravitational instability of multi-layered continental crust: implications for the buoyant exhumation of high-grade metamorphic rocks. European Journal of Mineralogy, 2002, 14, 687-699.	1.3	39
154	3-D thermo-mechanical modeling of plume-induced subduction initiation. Earth and Planetary Science Letters, 2016, 453, 193-203.	4.4	39
155	Intra-oceanic Subduction Zones. Frontiers in Earth Sciences, 2011, , 23-51.	0.1	38
156	P - T paths and tectonic evolution of shear zones separating high-grade terrains from cratons: examples from Kola Peninsula (Russia) and Limpopo Region (South Africa). Mineralogy and Petrology, 2000, 69, 109-142.	1.1	37
157	Initiation of transform faults at rifted continental margins: 3D petrological-thermomechanical modeling and comparison to the Woodlark Basin. Petrology, 2013, 21, 550-560.	0.9	37
158	Practical analytical solutions for benchmarking of 2-D and 3-D geodynamic Stokes problems with variable viscosity. Solid Earth, 2014, 5, 461-476.	2.8	37
159	Nucleation and evolution of ridge-ridge-ridge triple junctions: Thermomechanical model and geometrical theory. Tectonophysics, 2018, 746, 83-105.	2.2	37
160	On the influence of the asthenospheric flow on the tectonics and topography at a collision-subduction transition zones: Comparison with the eastern Tibetan margin. Journal of Geodynamics, 2016, 100, 184-197.	1.6	36
161	Emplacement of metamorphic core complexes and associated geothermal systems controlled by slab dynamics. Earth and Planetary Science Letters, 2018, 498, 322-333.	4.4	36
162	Bimodal behavior of extended continental lithosphere: Modeling insight and application to thermal history of migmatitic core complexes. Tectonophysics, 2012, 579, 88-103.	2.2	35

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163	Oblique subduction modelling indicates along-trench tectonic transport of sediments. Nature Communications, 2013, 4, 2456.	12.8	35
164	Divergent plate motion drives rapid exhumation of (ultra)high pressure rocks. Earth and Planetary Science Letters, 2018, 491, 67-80.	4.4	35
165	Dynamics of exhumation and deformation of HP-UHP orogens in double subduction-collision systems: Numerical modeling and implications for the Western Dabie Orogen. Earth-Science Reviews, 2018, 182, 68-84.	9.1	34
166	Late Orogenic Heating of (Ultra)High Pressure Rocks: Slab Rollback vs. Slab Breakoff. Geosciences (Switzerland), 2019, 9, 499.	2.2	33
167	Lead transport in intra-oceanic subduction zones: 2D geochemicalâ€“thermo-mechanical modeling of isotopic signatures. Lithos, 2014, 208-209, 265-280.	1.4	32
168	Subduction initiates at straight passive margins. Geology, 2014, 42, 331-334.	4.4	32
169	The role of lateral lithospheric strength heterogeneities in orogenic plateau growth: Insights from 3â€D thermoâ€mechanical modeling. Journal of Geophysical Research: Solid Earth, 2016, 121, 3118-3138.	3.4	32
170	Relamination Styles in Collisional Orogens. Tectonics, 2018, 37, 224-250.	2.8	32
171	P-T-fluid evolution in the Mahalapye Complex, Limpopo high-grade terrane, eastern Botswana. Journal of Metamorphic Geology, 2005, 23, 313-334.	3.4	31
172	Dependence of mid-ocean ridge morphology on spreading rate in numerical 3-D models. Gondwana Research, 2014, 25, 270-283.	6.0	31
173	3D geodynamic models for the development of opposing continental subduction zones: The Hindu Kushâ€“Pamir example. Earth and Planetary Science Letters, 2017, 480, 133-146.	4.4	31
174	Growing primordial continental crust self-consistently in global mantle convection models. Gondwana Research, 2019, 73, 96-122.	6.0	31
175	Magma ascent in planetesimals: Control by grain size. Earth and Planetary Science Letters, 2019, 507, 154-165.	4.4	31
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