Wim Spakman

List of Publications by Year
in descending order

115 papers	16,690 citations	19657 61 h-index	21540 114 g-index
120 all docs	120 docs citations	120 times ranked	9381 citing authors

#	Article	IF	Citations
1	Subduction and Slab Detachment in the Mediterranean-Carpathian Region. Science, 2000, 290, 1910-1917.	12.6	1,379
2	Closing the gap between regional and global travel time tomography. Journal of Geophysical Research, 1998, 103, 30055-30078.	3.3	913
3	Zagros orogeny: a subduction-dominated process. Geological Magazine, 2011, 148, 692-725.	1.5	742
4	Geodynamics of flat subduction: Seismicity and tomographic constraints from the Andean margin. Tectonics, 2000, 19, 814-833.	2.8	573
5	Greater India Basin hypothesis and a two-stage Cenozoic collision between India and Asia. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 7659-7664.	7.1	548
6	Tomographic imaging of subducted lithosphere below northwest Pacific island arcs. Nature, 1991, 353, 37-43.	27.8	519
7	Tethyan subducted slabs under India. Earth and Planetary Science Letters, 1999, 171, 7-20.	4.4	479
8	Travel-time tomography of the European-Mediterranean mantle down to 1400 km. Physics of the Earth and Planetary Interiors, 1993, 79, 3-74.	1.9	460
9	Evidence for active subduction beneath Gibraltar. Geology, 2002, 30, 1071.	4.4	423
10	A Paleolatitude Calculator for Paleoclimate Studies. PLoS ONE, 2015, 10, e0126946.	2.5	376
11	The Hellenic Subduction Zone: A tomographic image and its geodynamic implications. Geophysical Research Letters, 1988, 15, 60-63.	4.0	367
12	Towards absolute plate motions constrained by lower-mantle slab remnants. Nature Geoscience, 2010, 3, 36-40.	12.9	339
13	Orogenic architecture of the Mediterranean region and kinematic reconstruction of its tectonic evolution since the Triassic. Gondwana Research, 2020, 81, 79-229.	6.0	334
14	The role of slab detachment processes in the opening of the westernâ€"central Mediterranean basins: some geological and geophysical evidence. Earth and Planetary Science Letters, 1998, 160, 651-665.	4.4	320
15	Nappe stacking resulting from subduction of oceanic and continental lithosphere below Greece. Geology, 2005, 33, 325.	4.4	296
16	Mesozoic subducted slabs under Siberia. Nature, 1999, 397, 246-249.	27.8	295
17	On the Hellenic subduction zone and the geodynamic evolution of Crete since the late Middle Miocene. Tectonophysics, 1988, 146, 203-215.	2.2	290
18	Tomographic evidence for a narrow whole mantle plume below Iceland. Earth and Planetary Science Letters, 1999, 166, 121-126.	4.4	277

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19	Non-linear globalP-wave tomography by iterated linearized inversion. Geophysical Journal International, 2000, 141, 71-82.	2.4	273
20	Pyrenean orogeny and plate kinematics. Journal of Geophysical Research, 2004, 109, .	3.3	269
21	Atlas of the underworld: Slab remnants in the mantle, their sinking history, and a new outlook on lower mantle viscosity. Tectonophysics, 2018, 723, 309-448.	2.2	263
22	Surface deformation and slabâ€"mantle interaction during Banda arc subduction rollback. Nature Geoscience, 2010, 3, 562-566.	12.9	260
23	Origin and consequences of western Mediterranean subduction, rollback, and slab segmentation. Tectonics, 2014, 33, 393-419.	2.8	258
24	Mantle structure and tectonic history of SE Asia. Tectonophysics, 2015, 658, 14-45.	2.2	253
25	A Tomographic View on Western Mediterranean Geodynamics. , 2004, , 31-52.		243
26	The P-wave velocity structure of the mantle below the Iberian Peninsula: evidence for subducted lithosphere below southern Spain. Tectonophysics, 1993, 221, 13-34.	2.2	233
27	A map-view restoration of the Alpine-Carpathian-Dinaridic system for the Early Miocene. Swiss Journal of Geosciences, 2008, 101, 273-294.	1.2	231
28	Kinematic reconstruction of the Caribbean region since the Early Jurassic. Earth-Science Reviews, 2014, 138, 102-136.	9.1	211
29	A Lower Mantle Source for Central European Volcanism. Science, 1999, 286, 1928-1931.	12.6	210
30	Impact of Indiaâ€"Asia collision on SE Asia: The record in Borneo. Tectonophysics, 2008, 451, 366-389.	2.2	207
31	Tomographic images of the upper mantle below central Europe and the Mediterranean. Terra Nova, 1990, 2, 542-553.	2.1	192
32	Subducted slabs beneath the eastern Indonesiaâ€"Tonga region: insights from tomography. Earth and Planetary Science Letters, 2002, 201, 321-336.	4.4	163
33	Reconciling the geological history of western Turkey with plate circuits and mantle tomography. Earth and Planetary Science Letters, 2010, 297, 674-686.	4.4	155
34	Late Cenozoic mineralization, orogenic collapse and slab detachment in the European Alpine Belt. Earth and Planetary Science Letters, 1998, 164, 569-575.	4.4	151
35	Thermo-mechanical controls on the mode of continental collision in the SE Carpathians (Romania). Earth and Planetary Science Letters, 2004, 218, 57-76.	4.4	143
36	TOPO-EUROPE: The geoscience of coupled deep Earth-surface processes. Global and Planetary Change, 2007, 58, 1-118.	3.5	137

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37	Microblock rotations and fault coupling in SE Asia triple junction (Sulawesi, Indonesia) from GPS and earthquake slip vector data. Journal of Geophysical Research, 2006, 111, .	3.3	134
38	Shear velocity structure of central Eurasia from inversion of surface wave velocities. Physics of the Earth and Planetary Interiors, 2001, 123, 169-184.	1.9	132
39	On the use of sensitivity tests in seismic tomography. Geophysical Journal International, 2016, 205, 1221-1243.	2.4	129
40	Reconstructing Greater India: Paleogeographic, kinematic, and geodynamic perspectives. Tectonophysics, 2019, 760, 69-94.	2.2	129
41	Plate tectonic controls on atmospheric CO ₂ levels since the Triassic. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 4380-4385.	7.1	122
42	Delay-time tomography of the upper mantle below Europe, the Mediterranean, and Asia Minor. Geophysical Journal International, 2007, 107, 309-332.	2.4	114
43	Neogene evolution of the Aegean arc: paleomagnetic and geodetic evidence for a rapid and young rotation phase. Earth and Planetary Science Letters, 2000, 176, 509-525.	4.4	110
44	Dynamics of intraoceanic subduction initiation: 1. Oceanic detachment fault inversion and the formation of supraâ€subduction zone ophiolites. Geochemistry, Geophysics, Geosystems, 2015, 16, 1753-1770.	2.5	107
45	Intra-Panthalassa Ocean subduction zones revealed by fossil arcs and mantle structure. Nature Geoscience, 2012, 5, 215-219.	12.9	106
46	Tectonic interactions between India and Arabia since the Jurassic reconstructed from marine geophysics, ophiolite geology, and seismic tomography. Tectonics, 2015, 34, 875-906.	2.8	104
47	Latest Jurassicâ€“earliest Cretaceous closure of the Mongol-Okhotsk Ocean: A paleomagnetic and seismological-tomographic analysis. Special Paper of the Geological Society of America, 2015, , 589-606.	0.5	103
48	Angular velocities of Nubia and Somalia from continuous GPS data: implications on present-day relative kinematics. Earth and Planetary Science Letters, 2004, 222, 197-208.	4.4	103
49	The viscosity of Earthâ€™s lower mantle inferred from sinking speed of subducted lithosphere. Physics of the Earth and Planetary Interiors, 2012, 200-201, 56-62.	1.9	99
50	Underpinning tectonic reconstructions of the western Mediterranean region with dynamic slab evolution from 3â€Đ numerical modeling. Journal of Geophysical Research: Solid Earth, 2014, 119, 5876-5902.	3.4	99
51	Tomographic inversion ofPandpPdata for aspherical mantle structure below the northwest Pacific region. Geophysical Journal International, 1993, 115, 264-302.	2.4	98
52	Dynamics of intraoceanic subduction initiation: 2. Suprasubduction zone ophiolite formation and metamorphic sole exhumation in context of absolute plate motions. Geochemistry, Geophysics, Geosystems, 2015, 16, 1771-1785.	2.5	97
53	Tectonic evolution and mantle structure of the Caribbean. Journal of Geophysical Research: Solid Earth, 2013, 118, 3019-3036.	3.4	93
54	Europe from the bottom up: A statistical examination of the central and northern European lithosphereâ€“asthenosphere boundary from comparing seismological and electromagnetic observations. Lithos, 2010, 120, 14-29.	1.4	84

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55	Slab detachment in laterally varying subduction zones: 3-D numerical modeling. Geophysical Research Letters, 2014, 41, 1951-1956.	4.0	82
56	Importance of the reference model in linearized tomography and images of subduction below the Caribbean Plate. Geophysical Research Letters, 1989, 16, 1093-1096.	4.0	73
57	Puzzling features of western Mediterranean tectonics explained by slab dragging. Nature Geoscience, 2018, 11, 211-216.	12.9	73
58	Nonlinear viscoplasticity in ASPECT: benchmarking and applications to subduction. Solid Earth, 2018, 9, 267-294.	2.8	70
59	A community benchmark for viscoplastic thermal convection in a 2â€Đ square box. Geochemistry, Geophysics, Geosystems, 2015, 16, 2175-2196.	2.5	69
60	Tectono-magmatic response to major convergence changes in the North Patagonian suprasubduction system; the Paleogene subductionâ€“transcurrent plate margin transition. Tectonophysics, 2011, 509, 218-237.	2.2	68
61	Global correlation of lower mantle structure and past subduction. Geophysical Research Letters, 2016, 43, 4945-4953.	4.0	68
62	Pacific plate motion change caused the Hawaiian-Emperor Bend. Nature Communications, 2017, 8, 15660.	12.8	68
63	Surface deformation and tectonic setting of Taiwan inferred from a GPS velocity field. Journal of Geophysical Research, 2003, 108, .	3.3	63
64	South-American plate advance and forced Andean trench retreat as drivers for transient flat subduction episodes. Nature Communications, 2017, 8, 15249.	12.8	60
65	Coupled Crustâ€Mantle Response to Slab Tearing, Bending, and Rollback Along the Dinarideâ€Hellenide Orogen. Tectonics, 2019, 38, 2803-2828.	2.8	52
66	Plate reconstructions and tomography reveal a fossil lower mantle slab below the Tasman Sea. Earth and Planetary Science Letters, 2009, 278, 143-151.	4.4	50
67	A record of plume-induced plate rotation triggering subduction initiation. Nature Geoscience, 2021, 14, 626-630.	12.9	50
68	Modelling the seismic velocity structure beneath Indonesia: a comparison with tomography. Tectonophysics, 2001, 333, 35-46.	2.2	49
69	Mantle constraints on the plate tectonic evolution of the Tongaâ€“Kermadecâ€“Hikurangi subduction zone and the South Fiji Basin region. Australian Journal of Earth Sciences, 2012, 59, 933-952.	1.0	49
70	Resolution experiments for NW Pacific subduction zone tomography. Geophysical Research Letters, 1989, 16, 1097-1100.	4.0	48
71	Observation of present-day tectonic motions in the Southeastern Carpathians: Results of the ISES/CRC-461 GPS measurements. Earth and Planetary Science Letters, 2005, 239, 177-184.	4.4	47
72	Cretaceous slab break-off in the Pyrenees: Iberian plate kinematics in paleomagnetic and mantle reference frames. Gondwana Research, 2016, 34, 49-59.	6.0	47

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73	Subduction initiation in the Scotia Sea region and opening of the Drake Passage: When and why?. Earth-Science Reviews, 2021, 215, 103551.	9.1	40
74	Structure and seismicity of the Aegean subduction zone. Terra Nova, 1990, 2, 554-562.	2.1	39
75	Using open sidewalls for modelling self-consistent lithosphere subduction dynamics. Solid Earth, 2012, 3, 313-326.	2.8	39
76	Australian plate motion and topography linked to fossil New Guinea slab below Lake Eyre. Earth and Planetary Science Letters, 2015, 421, 107-116.	4.4	38
77	The key role of global solidâ€Earth processes in preconditioning Greenland's glaciation since the Pliocene. Terra Nova, 2015, 27, 1-8.	2.1	38
78	Southwest Pacific Absolute Plate Kinematic Reconstruction Reveals Major Cenozoic Tongaâ€Kermadec Slab Dragging. Tectonics, 2018, 37, 2647-2674.	2.8	36
79	Cenozoic Rotation History of Borneo and Sundaland, SE Asia Revealed by Paleomagnetism, Seismic Tomography, and Kinematic Reconstruction. Tectonics, 2018, 37, 2486-2512.	2.8	36
80	Fast kinematic ray tracing of first- and later-arriving global seismic phases. Geophysical Journal International, 1999, 139, 359-369.	2.4	35
81	Thermal structure of the continental lithosphere: constraints from seismic tomography. Tectonophysics, 1995, 244, 107-117.	2.2	33
82	Interpretation of tomographic images of uppermost mantle structure: Examples from the western and central alps. Journal of Geodynamics, 1996, 21, 97-111.	1.6	32
83	Continental Collision and the STEP-wise Evolution of Convergent Plate Boundaries: From Structure to Dynamics. Frontiers in Earth Sciences, 2009, , 47-59.	0.1	32
84	Inversion of relative motion data for estimates of the velocity gradient field and fault slip. Earth and Planetary Science Letters, 2002, 203, 577-591.	4.4	31
85	The Dynamic History of 220ÂMillion Years of Subduction Below Mexico: A Correlation Between Slab Geometry and Overriding Plate Deformation Based on Geology, Paleomagnetism, and Seismic Tomography. Geochemistry, Geophysics, Geosystems, 2018, 19, 4649-4672.	2.5	24
86	From tectonic reconstruction to upper mantle model: An application to the Alpine-Mediterranean region. Tectonophysics, 1993, 223, 53-65.	2.2	23
87	Constraints on the Origin and Evolution of Magmas in the PayÃºn MatrÃº Volcanic Field, Quaternary Andean Back-arc of Western Argentina. Journal of Petrology, 2014, 55, 209-239.	2.8	22
88	A joint analysis of GPS motions and InSAR to infer the coseismic surface deformation of the Izmit, Turkey earthquake. Geophysical Journal International, 2004, 158, 849-863.	2.4	21
89	Efficient and practical Newton solvers for non-linear Stokes systems in geodynamic problems. Geophysical Journal International, 2019, 218, 873-894.	2.4	21
90	A new absolute arrival time data set for Europe. Geophysical Journal International, 2008, 173, 465-472.	2.4	20

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91	Using the level set method in geodynamical modeling of multi-material flows and Earth's free surface. Solid Earth, 2014, 5, 1087-1098.	2.8	20
92	Mantle resistance against Gibraltar slab dragging as a key cause of the Messinian Salinity Crisis. Terra Nova, 2020, 32, 141-150.	2.1	20
93	Absolute plate motions and regional subduction evolution. Geochemistry, Geophysics, Geosystems, 2014, 15, 3780-3792.	2.5	19
94	The resolving power of coseismic surface displacement data for fault slip distribution at depth. Geophysical Research Letters, 2003, 30, .	4.0	17
95	Post-collisional mantle delamination in the Dinarides implied from staircases of Oligo-Miocene uplifted marine terraces. Scientific Reports, 2021, 11, 2685.	3.3	17
96	Evidence for slab material under Greenland and links to Cretaceous High Arctic magmatism. Geophysical Research Letters, 2016, 43, 3717-3726.	4.0	15
97	Arcâ€Type Magmatism Due to Continentalâ€Edge Plowing Through Ancient Subductionâ€Enriched Mantle. Geophysical Research Letters, 2020, 47, e2020GL087484.	4.0	15
98	Mantle flow influence on subduction evolution. Earth and Planetary Science Letters, 2018, 489, 258-266.	4.4	14
99	Scientific objectives of current and future WEGENER activities. Tectonophysics, 1998, 294, 177-223.	2.2	13
100	Kinematics of the southwestern U.S. deformation zone inferred from GPS motion data. Journal of Geophysical Research, 2005, 110, .	3.3	13
101	Comment on â€œAssessing Discrepancies Between Previous Plate Kinematic Models of Mesozoic Iberia and Their Constraintsâ€• by Barnettâ€Moore Et Al.. Tectonics, 2017, 36, 3277-3285.	2.8	13
102	Numerical tests on the seismic visibility of metastable minerals in subduction zones. Earth and Planetary Science Letters, 1999, 170, 335-349.	4.4	11
103	Effects of arrival time errors on traveltime tomography. Geophysical Journal International, 2000, 142, 270-276.	2.4	11
104	The TRANSMED Atlas: geological-geophysical fabric of the Mediterranean region â€"Final report of the project. Episodes, 2004, 27, 244-254.	1.2	11
105	The Geodynamic World Builder: a solution for complex initial conditions in numerical modeling. Solid Earth, 2019, 10, 1785-1807.	2.8	11
106	GPS probes the kinematics of the Vrancea Seismogenic Zone. Eos, 2004, 85, 185.	0.1	10
107	Reply to Aitchison and Ali: Reconciling Himalayan ophiolite and Asian magmatic arc records with a two-stage India-Asia collision model. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, E2646-E2646.	7.1	10
108	Thermal modeling of the SW Ryukyu forearc (Taiwan): Implications for the seismogenic zone and the age of the subducting Philippine Sea Plate (Huatung Basin). Tectonophysics, 2016, 692, 131-142.	2.2	10

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109	Reconstructing Jurassicâ€Cretaceous Intraâ€Oceanic Subduction Evolution in the Northwestern Panthalassa Ocean Using Ocean Plate Stratigraphy From Hokkaido, Japan. Tectonics, 2021, 40, e2019TC005673.	2.8	10
110	Reconstructing subducted oceanic lithosphere by â€œreverseâ€engineeringâ€•slab geometries: The northern Philippine Sea Plate. Tectonics, 2017, 36, 1814-1834.	2.8	9
111	Reconstructing lost plates of the Panthalassa Ocean through paleomagnetic data from circum-Pacific accretionary orogens. Numerische Mathematik, 2021, 321, 907-954.	1.4	9
112	Optimization of Cell Parameterizations for Tomographic Inverse Problems. , 2001, , 1401-1423.		6
113	The Influence of Path Corrections and a Three-dimensional Global P -wave Velocity Model on Seismic Event Location in Kazakhstan. Pure and Applied Geophysics, 2003, 160, 2239-2255.	1.9	2
114	Evidence for active subduction beneath Gibraltar: Comment and Reply. Geology, 2003, 31, e23-e23.	4.4	2
115	A map-view restoration of the Alpine-Carpathian-Dinaridic system for the Early Miocene. , 2008, , S273-S294.		2