Wim Spakman

List of Publications by Citations

114 papers	13,587 citations	58 h-index	116 g-index
120 ext. papers	15,005 ext. citations	6.3 avg, IF	6.63 L-index

#	Paper	IF	Citations
114	Subduction and slab detachment in the Mediterranean-Carpathian region. *Science*, **2000**, 290, 1910-7	33.3	1196
113	Closing the gap between regional and global travel time tomography. *Journal of Geophysical Research*, **1998**, 103, 30055-30078		801
112	Zagros orogeny: a subduction-dominated process. *Geological Magazine*, **2011**, 148, 692-725	2	587
111	Geodynamics of flat subduction: Seismicity and tomographic constraints from the Andean margin. *Tectonics*, **2000**, 19, 814-833	4.3	484
110	Tomographic imaging of subducted lithosphere below northwest Pacific island arcs. *Nature*, **1991**, 353, 37-43	50.4	460
109	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, 7659-64	11.5	418
108	Travel-time tomography of the European-Mediterranean mantle down to 1400 km. *Physics of the Earth and Planetary Interiors*, **1993**, 79, 3-74	2.3	418
107	Tethyan subducted slabs under India. *Earth and Planetary Science Letters*, **1999**, 171, 7-20	5.3	412
106	Evidence for active subduction beneath Gibraltar. *Geology*, **2002**, 30, 1071	5	376
105	The Hellenic Subduction Zone: A tomographic image and its geodynamic implications. *Geophysical Research Letters*, **1988**, 15, 60-63	4.9	316
104	The role of slab detachment processes in the opening of the western-central Mediterranean basins: some geological and geophysical evidence. *Earth and Planetary Science Letters*, **1998**, 160, 651-665	5.3	291
103	Towards absolute plate motions constrained by lower-mantle slab remnants. *Nature Geoscience*, **2010**, 3, 36-40	18.3	282
102	Mesozoic subducted slabs under Siberia. *Nature*, **1999**, 397, 246-249	50.4	264
101	On the Hellenic subduction zone and the geodynamic evolution of Crete since the late Middle Miocene. *Tectonophysics*, **1988**, 146, 203-215	3.1	260
100	A Paleolatitude Calculator for Paleoclimate Studies. *PLoS ONE*, **2015**, 10, e0126946	3.7	259
99	Tomographic evidence for a narrow whole mantle plume below Iceland. *Earth and Planetary Science Letters*, **1999**, 166, 121-126	5.3	259
98	Non-linear globalP-wave tomography by iterated linearized inversion. *Geophysical Journal International*, **2000**, 141, 71-82	2.6	252

97	Nappe stacking resulting from subduction of oceanic and continental lithosphere below Greece. *Geology*, **2005**, 33, 325	5	247
96	Pyrenean orogeny and plate kinematics. *Journal of Geophysical Research*, **2004**, 109,		236
95	The P-wave velocity structure of the mantle below the Iberian Peninsula: evidence for subducted lithosphere below southern Spain. *Tectonophysics*, **1993**, 221, 13-34	3.1	216
94	Origin and consequences of western Mediterranean subduction, rollback, and slab segmentation. *Tectonics*, **2014**, 33, 393-419	4.3	210
93	A Tomographic View on Western Mediterranean Geodynamics **2004**, 31-52		201
92	A Lower Mantle Source for Central European Volcanism. *Science*, **1999**, 286, 1928-1931	33.3	198
91	A map-view restoration of the Alpine-Carpathian-Dinaridic system for the Early Miocene. *Swiss Journal of Geosciences*, **2008**, 101, 273-294	2.1	193
90	Surface deformation and slab–mantle interaction during Banda arc subduction rollback. *Nature Geoscience*, **2010**, 3, 562-566	18.3	187
89	Tomographic images of the upper mantle below central Europe and the Mediterranean. *Terra Nova*, **1990**, 2, 542-553	3	176
88	Impact of India–Asia collision on SE Asia: The record in Borneo. *Tectonophysics*, **2008**, 451, 366-389	3.1	172
87	Orogenic architecture of the Mediterranean region and kinematic reconstruction of its tectonic evolution since the Triassic. *Gondwana Research*, **2020**, 81, 79-229	5.1	172
86	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	3.1	163
85	Mantle structure and tectonic history of SE Asia. *Tectonophysics*, **2015**, 658, 14-45	3.1	161
84	Kinematic reconstruction of the Caribbean region since the Early Jurassic. *Earth-Science Reviews*, **2014**, 138, 102-136	10.2	152
83	Subducted slabs beneath the eastern Indonesia–Tonga region: insights from tomography. *Earth and Planetary Science Letters*, **2002**, 201, 321-336	5.3	138
82	Reconciling the geological history of western Turkey with plate circuits and mantle tomography. *Earth and Planetary Science Letters*, **2010**, 297, 674-686	5.3	135
81	Late Cenozoic mineralization, orogenic collapse and slab detachment in the European Alpine Belt. *Earth and Planetary Science Letters*, **1998**, 164, 569-575	5.3	132
80	Thermo-mechanical controls on the mode of continental collision in the SE Carpathians (Romania). *Earth and Planetary Science Letters*, **2004**, 218, 57-76	5.3	131

79	Shear velocity structure of central Eurasia from inversion of surface wave velocities. *Physics of the Earth and Planetary Interiors*, **2001**, 123, 169-184	2.3	121
78	Delay-time tomography of the upper mantle below Europe, the Mediterranean, and Asia Minor. *Geophysical Journal International*, **2007**, 107, 309-332	2.6	103
77	TOPO-EUROPE: The geoscience of coupled deep Earth-surface processes. *Global and Planetary Change*, **2007**, 58, 1-118	4.2	102
76	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	5.3	95
75	Tomographic inversion ofPandpPdata for aspherical mantle structure below the northwest Pacific region. *Geophysical Journal International*, **1993**, 115, 264-302	2.6	89
74	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	5.3	88
73	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,		87
72	Plate tectonic controls on atmospheric CO2 levels since the Triassic. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 4380-5	11.5	85
71	The viscosity of Earth□ lower mantle inferred from sinking speed of subducted lithosphere. *Physics of the Earth and Planetary Interiors*, **2012**, 200-201, 56-62	2.3	85
70	Intra-Panthalassa Ocean subduction zones revealed by fossil arcs and mantle structure. *Nature Geoscience*, **2012**, 5, 215-219	18.3	81
69	On the use of sensitivity tests in seismic tomography. *Geophysical Journal International*, **2016**, 205, 1221-1243	2.8	79
68	Latest Jurassic□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		78
67	Dynamics of intraoceanic subduction initiation: 1. Oceanic detachment fault inversion and the formation of supra-subduction zone ophiolites. *Geochemistry, Geophysics, Geosystems*, **2015**, 16, 1753-1770	3.6	77
66	Underpinning tectonic reconstructions of the western Mediterranean region with dynamic slab evolution from 3-D numerical modeling. *Journal of Geophysical Research: Solid Earth*, **2014**, 119, 5876-5902	3.6	75
65	Tectonic evolution and mantle structure of the Caribbean. *Journal of Geophysical Research: Solid Earth*, **2013**, 118, 3019-3036	3.6	73
64	Tectonic interactions between India and Arabia since the Jurassic reconstructed from marine geophysics, ophiolite geology, and seismic tomography. *Tectonics*, **2015**, 34, 875-906	4.3	72
63	Europe from the bottom up: A statistical examination of the central and northern European lithosphere□asthenosphere boundary from comparing seismological and electromagnetic observations. *Lithos*, **2010**, 120, 14-29	2.9	72
62	Reconstructing Greater India: Paleogeographic, kinematic, and geodynamic perspectives. *Tectonophysics*, **2019**, 760, 69-94	3.1	70

61	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	3.6	68
60	Importance of the reference model in linearized tomography and images of subduction below the Caribbean Plate. *Geophysical Research Letters*, **1989**, 16, 1093-1096	4.9	63
59	Slab detachment in laterally varying subduction zones: 3-D numerical modeling. *Geophysical Research Letters*, **2014**, 41, 1951-1956	4.9	61
58	Tectono-magmatic response to major convergence changes in the North Patagonian suprasubduction system; the Paleogene subduction–transcurrent plate margin transition. *Tectonophysics*, **2011**, 509, 218-237	3.1	59
57	Puzzling features of western Mediterranean tectonics explained by slab dragging. *Nature Geoscience*, **2018**, 11, 211-216	18.3	58
56	A community benchmark for viscoplastic thermal convection in a 2-D square box. *Geochemistry, Geophysics, Geosystems*, **2015**, 16, 2175-2196	3.6	56
55	Global correlation of lower mantle structure and past subduction. *Geophysical Research Letters*, **2016**, 43, 4945-4953	4.9	56
54	Surface deformation and tectonic setting of Taiwan inferred from a GPS velocity field. *Journal of Geophysical Research*, **2003**, 108,		55
53	Pacific plate motion change caused the Hawaiian-Emperor Bend. *Nature Communications*, **2017**, 8, 15660	17.4	48
52	Plate reconstructions and tomography reveal a fossil lower mantle slab below the Tasman Sea. *Earth and Planetary Science Letters*, **2009**, 278, 143-151	5.3	43
51	Resolution experiments for NW Pacific subduction zone tomography. *Geophysical Research Letters*, **1989**, 16, 1097-1100	4.9	42
50	Cretaceous slab break-off in the Pyrenees: Iberian plate kinematics in paleomagnetic and mantle reference frames. *Gondwana Research*, **2016**, 34, 49-59	5.1	42
49	South-American plate advance and forced Andean trench retreat as drivers for transient flat subduction episodes. *Nature Communications*, **2017**, 8, 15249	17.4	41
48	Mantle constraints on the plate tectonic evolution of the Tonga–Kermadec–Hikurangi subduction zone and the South Fiji Basin region. *Australian Journal of Earth Sciences*, **2012**, 59, 933-952	1.4	40
47	Modelling the seismic velocity structure beneath Indonesia: a comparison with tomography. *Tectonophysics*, **2001**, 333, 35-46	3.1	39
46	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	5.3	38
45	Nonlinear viscoplasticity in ASPECT: benchmarking and applications to subduction. *Solid Earth*, **2018**, 9, 267-294	3.3	36
44	Fast kinematic ray tracing of first- and later-arriving global seismic phases. *Geophysical Journal International*, **1999**, 139, 359-369	2.6	33

43	The key role of global solid-Earth processes in preconditioning Greenland's glaciation since the Pliocene. *Terra Nova*, **2015**, 27, 1-8	3	32
42	Structure and seismicity of the Aegean subduction zone. *Terra Nova*, **1990**, 2, 554-562	3	31
41	Using open sidewalls for modelling self-consistent lithosphere subduction dynamics. *Solid Earth*, **2012**, 3, 313-326	3.3	30
40	Thermal structure of the continental lithosphere: constraints from seismic tomography. *Tectonophysics*, **1995**, 244, 107-117	3.1	30
39	Australian plate motion and topography linked to fossil New Guinea slab below Lake Eyre. *Earth and Planetary Science Letters*, **2015**, 421, 107-116	5.3	29
38	Inversion of relative motion data for estimates of the velocity gradient field and fault slip. *Earth and Planetary Science Letters*, **2002**, 203, 577-591	5.3	29
37	Interpretation of tomographic images of uppermost mantle structure: Examples from the western and central alps. *Journal of Geodynamics*, **1996**, 21, 97-111	2.2	28
36	Continental Collision and the STEP-wise Evolution of Convergent Plate Boundaries: From Structure to Dynamics. *Frontiers in Earth Sciences*, **2009**, 47-59	1.6	28
35	Coupled Crust-Mantle Response to Slab Tearing, Bending, and Rollback Along the Dinaride-Hellenide Orogen. *Tectonics*, **2019**, 38, 2803-2828	4.3	25
34	From tectonic reconstruction to upper mantle model: An application to the Alpine-Mediterranean region. *Tectonophysics*, **1993**, 223, 53-65	3.1	22
33	Constraints on the Origin and Evolution of Magmas in the Payún Matrú Volcanic Field, Quaternary Andean Back-arc of Western Argentina. *Journal of Petrology*, **2014**, 55, 209-239	3.9	20
32	A new absolute arrival time data set for Europe. *Geophysical Journal International*, **2008**, 173, 465-472	2.6	20
31	Southwest Pacific Absolute Plate Kinematic Reconstruction Reveals Major Cenozoic Tonga-Kermadec Slab Dragging. *Tectonics*, **2018**, 37, 2647-2674	4.3	19
30	The Dynamic History of 220 Million 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	3.6	19
29	Cenozoic Rotation History of Borneo and Sundaland, SE Asia Revealed by Paleomagnetism, Seismic Tomography, and Kinematic Reconstruction. *Tectonics*, **2018**, 37, 2486-2512	4.3	18
28	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	2.6	18
27	Subduction initiation in the Scotia Sea region and opening of the Drake Passage: When and why?. *Earth-Science Reviews*, **2021**, 215, 103551	10.2	15
26	Absolute plate motions and regional subduction evolution. *Geochemistry, Geophysics, Geosystems*, **2014**, 15, 3780-3792	3.6	14

25	Efficient and practical Newton solvers for non-linear Stokes systems in geodynamic problems. *Geophysical Journal International*, **2019**, 218, 873-894	2.6	13
24	Using the level set method in geodynamical modeling of multi-material flows and Earth's free surface. *Solid Earth*, **2014**, 5, 1087-1098	3.3	13
23	A record of plume-induced plate rotation triggering subduction initiation. *Nature Geoscience*, **2021**, 14, 626-630	18.3	13
22	Evidence for slab material under Greenland and links to Cretaceous High Arctic magmatism. *Geophysical Research Letters*, **2016**, 43, 3717-3726	4.9	13
21	Kinematics of the southwestern U.S. deformation zone inferred from GPS motion data. *Journal of Geophysical Research*, **2005**, 110,		12
20	Numerical tests on the seismic visibility of metastable minerals in subduction zones. *Earth and Planetary Science Letters*, **1999**, 170, 335-349	5.3	11
19	Mantle resistance against Gibraltar slab dragging as a key cause of the Messinian Salinity Crisis. *Terra Nova*, **2020**, 32, 141-150	3	11
18	Comment on "Assessing Discrepancies Between Previous Plate Kinematic Models of Mesozoic Iberia and Their Constraints" by Barnett-Moore Et Al.. *Tectonics*, **2017**, 36, 3277-3285	4.3	10
17	Scientific objectives of current and future WEGENER activities. *Tectonophysics*, **1998**, 294, 177-223	3.1	10
16	The resolving power of coseismic surface displacement data for fault slip distribution at depth. *Geophysical Research Letters*, **2003**, 30,	4.9	10
15	Effects of arrival time errors on traveltime tomography. *Geophysical Journal International*, **2000**, 142, 270-276	2.6	10
14	The TRANSMED Atlas: geological-geophysical fabric of the Mediterranean region "final report of the project. *Episodes*, **2004**, 27, 244-254	1.6	9
13	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	11.5	8
12	GPS probes the kinematics of the Vrancea Seismogenic Zone. *Eos*, **2004**, 85, 185	1.5	8
11	Reconstructing subducted oceanic lithosphere by "reverse-engineering" slab geometries: The northern Philippine Sea Plate. *Tectonics*, **2017**, 36, 1814-1834	4.3	7
10	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	3.1	7
9	Mantle flow influence on subduction evolution. *Earth and Planetary Science Letters*, **2018**, 489, 258-266	5.3	6
8	Post-collisional mantle delamination in the Dinarides implied from staircases of Oligo-Miocene uplifted marine terraces. *Scientific Reports*, **2021**, 11, 2685	4.9	5

7	The Geodynamic World Builder: a solution for complex initial conditions in numerical modeling. *Solid Earth*, **2019**, 10, 1785-1807	3.3	3
6	Reconstructing Jurassic-Cretaceous Intra-Oceanic Subduction Evolution in the Northwestern Panthalassa Ocean Using Ocean Plate Stratigraphy From Hokkaido, Japan. *Tectonics*, **2021**, 40, e2019TC005673	4.3	3
5	Evidence for active subduction beneath Gibraltar: Comment and Reply. *Geology*, **2003**, 31, e23-e23	5	2
4	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	2.2	2
3	A map-view restoration of the Alpine-Carpathian-Dinaridic system for the Early Miocene **2008**, S273-S294		2
2	Arc-Type Magmatism Due to Continental-Edge Plowing Through Ancient Subduction-Enriched Mantle. *Geophysical Research Letters*, **2020**, 47, e2020GL087484	4.9	1
1	Optimization of Cell Parameterizations for Tomographic Inverse Problems **2001**, 1401-1423		