

Wim Spakman

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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 initiation in the Scotia Sea region and opening of the Drake Passage: When and why?. <i>Earth-Science Reviews</i> , 2021 , 215, 103551	10.2	15
113	A record of plume-induced plate rotation triggering subduction initiation. <i>Nature Geoscience</i> , 2021 , 14, 626-630	18.3	13
112	Post-collisional mantle delamination in the Dinarides implied from staircases of Oligo-Miocene uplifted marine terraces. <i>Scientific Reports</i> , 2021 , 11, 2685	4.9	5
111	Reconstructing Jurassic-Cretaceous Intra-Oceanic Subduction Evolution in the Northwestern Panthalassa Ocean Using Ocean Plate Stratigraphy From Hokkaido, Japan. <i>Tectonics</i> , 2021 , 40, e2019TC005673	4.3	3
110	Arc-Type Magmatism Due to Continental-Edge Plowing Through Ancient Subduction-Enriched Mantle. <i>Geophysical Research Letters</i> , 2020 , 47, e2020GL087484	4.9	1
109	Mantle resistance against Gibraltar slab dragging as a key cause of the Messinian Salinity Crisis. <i>Terra Nova</i> , 2020 , 32, 141-150	3	11
108	Orogenic architecture of the Mediterranean region and kinematic reconstruction of its tectonic evolution since the Triassic. <i>Gondwana Research</i> , 2020 , 81, 79-229	5.1	172
107	Coupled Crust-Mantle Response to Slab Tearing, Bending, and Rollback Along the Dinaride-Hellenide Orogen. <i>Tectonics</i> , 2019 , 38, 2803-2828	4.3	25
106	Efficient and practical Newton solvers for non-linear Stokes systems in geodynamic problems. <i>Geophysical Journal International</i> , 2019 , 218, 873-894	2.6	13
105	The Geodynamic World Builder: a solution for complex initial conditions in numerical modeling. <i>Solid Earth</i> , 2019 , 10, 1785-1807	3.3	3
104	Reconstructing Greater India: Paleogeographic, kinematic, and geodynamic perspectives. <i>Tectonophysics</i> , 2019 , 760, 69-94	3.1	70
103	Puzzling features of western Mediterranean tectonics explained by slab dragging. <i>Nature Geoscience</i> , 2018 , 11, 211-216	18.3	58
102	Mantle flow influence on subduction evolution. <i>Earth and Planetary Science Letters</i> , 2018 , 489, 258-266	5.3	6
101	Atlas of the underworld: Slab remnants in the mantle, their sinking history, and a new outlook on lower mantle viscosity. <i>Tectonophysics</i> , 2018 , 723, 309-448	3.1	163
100	Southwest Pacific Absolute Plate Kinematic Reconstruction Reveals Major Cenozoic Tonga-Kermadec Slab Dragging. <i>Tectonics</i> , 2018 , 37, 2647-2674	4.3	19
99	Cenozoic Rotation History of Borneo and Sundaland, SE Asia Revealed by Paleomagnetism, Seismic Tomography, and Kinematic Reconstruction. <i>Tectonics</i> , 2018 , 37, 2486-2512	4.3	18
98	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. <i>Geochemistry, Geophysics, Geosystems</i> , 2018 , 19, 4649-4672	3.6	19

97	Nonlinear viscoplasticity in ASPECT: benchmarking and applications to subduction. <i>Solid Earth</i> , 2018 , 9, 267-294	3.3	36
96	South-American plate advance and forced Andean trench retreat as drivers for transient flat subduction episodes. <i>Nature Communications</i> , 2017 , 8, 15249	17.4	41
95	Pacific plate motion change caused the Hawaiian-Emperor Bend. <i>Nature Communications</i> , 2017 , 8, 15660	17.4	48
94	Reconstructing subducted oceanic lithosphere by reverse-engineering slab geometries: The northern Philippine Sea Plate. <i>Tectonics</i> , 2017 , 36, 1814-1834	4.3	7
93	Comment on Assessing Discrepancies Between Previous Plate Kinematic Models of Mesozoic Iberia and Their Constraints by Barnett-Moore Et Al.. <i>Tectonics</i> , 2017 , 36, 3277-3285	4.3	10
92	On the use of sensitivity tests in seismic tomography. <i>Geophysical Journal International</i> , 2016 , 205, 1221-1243	1.843	79
91	Thermal modeling of the SW Ryukyu forearc (Taiwan): Implications for the seismogenic zone and the age of the subducting Philippine Sea Plate (Huatung Basin). <i>Tectonophysics</i> , 2016 , 692, 131-142	3.1	7
90	Cretaceous slab break-off in the Pyrenees: Iberian plate kinematics in paleomagnetic and mantle reference frames. <i>Gondwana Research</i> , 2016 , 34, 49-59	5.1	42
89	Global correlation of lower mantle structure and past subduction. <i>Geophysical Research Letters</i> , 2016 , 43, 4945-4953	4.9	56
88	Evidence for slab material under Greenland and links to Cretaceous High Arctic magmatism. <i>Geophysical Research Letters</i> , 2016 , 43, 3717-3726	4.9	13
87	Australian plate motion and topography linked to fossil New Guinea slab below Lake Eyre. <i>Earth and Planetary Science Letters</i> , 2015 , 421, 107-116	5.3	29
86	Mantle structure and tectonic history of SE Asia. <i>Tectonophysics</i> , 2015 , 658, 14-45	3.1	161
85	The key role of global solid-Earth processes in preconditioning Greenland's glaciation since the Pliocene. <i>Terra Nova</i> , 2015 , 27, 1-8	3	32
84	A community benchmark for viscoplastic thermal convection in a 2-D square box. <i>Geochemistry, Geophysics, Geosystems</i> , 2015 , 16, 2175-2196	3.6	56
83	Dynamics of intraoceanic subduction initiation: 1. Oceanic detachment fault inversion and the formation of supra-subduction zone ophiolites. <i>Geochemistry, Geophysics, Geosystems</i> , 2015 , 16, 1753-1770	3.6	77
82	Dynamics of intraoceanic subduction initiation: 2. Suprasubduction zone ophiolite formation and metamorphic sole exhumation in context of absolute plate motions. <i>Geochemistry, Geophysics, Geosystems</i> , 2015 , 16, 1771-1785	3.6	68
81	Tectonic interactions between India and Arabia since the Jurassic reconstructed from marine geophysics, ophiolite geology, and seismic tomography. <i>Tectonics</i> , 2015 , 34, 875-906	4.3	72
80	A Paleolatitude Calculator for Paleoclimate Studies. <i>PLoS ONE</i> , 2015 , 10, e0126946	3.7	259

79	Latest Jurassic–earliest Cretaceous closure of the Mongol-Okhotsk Ocean: A paleomagnetic and seismological-tomographic analysis. <i>Special Paper of the Geological Society of America</i> , 2015 , 589-606		78
78	Origin and consequences of western Mediterranean subduction, rollback, and slab segmentation. <i>Tectonics</i> , 2014 , 33, 393-419	4.3	210
77	Slab detachment in laterally varying subduction zones: 3-D numerical modeling. <i>Geophysical Research Letters</i> , 2014 , 41, 1951-1956	4.9	61
76	Kinematic reconstruction of the Caribbean region since the Early Jurassic. <i>Earth-Science Reviews</i> , 2014 , 138, 102-136	10.2	152
75	Constraints on the Origin and Evolution of Magmas in the Payán Matrón Volcanic Field, Quaternary Andean Back-arc of Western Argentina. <i>Journal of Petrology</i> , 2014 , 55, 209-239	3.9	20
74	Underpinning tectonic reconstructions of the western Mediterranean region with dynamic slab evolution from 3-D numerical modeling. <i>Journal of Geophysical Research: Solid Earth</i> , 2014 , 119, 5876-5902	3.6	75
73	Using the level set method in geodynamical modeling of multi-material flows and Earth's free surface. <i>Solid Earth</i> , 2014 , 5, 1087-1098	3.3	13
72	Plate tectonic controls on atmospheric CO ₂ levels since the Triassic. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 4380-5	11.5	85
71	Absolute plate motions and regional subduction evolution. <i>Geochemistry, Geophysics, Geosystems</i> , 2014 , 15, 3780-3792	3.6	14
70	Tectonic evolution and mantle structure of the Caribbean. <i>Journal of Geophysical Research: Solid Earth</i> , 2013 , 118, 3019-3036	3.6	73
69	The viscosity of Earth's lower mantle inferred from sinking speed of subducted lithosphere. <i>Physics of the Earth and Planetary Interiors</i> , 2012 , 200-201, 56-62	2.3	85
68	Intra-Panthalassa Ocean subduction zones revealed by fossil arcs and mantle structure. <i>Nature Geoscience</i> , 2012 , 5, 215-219	18.3	81
67	Greater India Basin hypothesis and a two-stage Cenozoic collision between India and Asia. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, 7659-64	11.5	418
66	Using open sidewalls for modelling self-consistent lithosphere subduction dynamics. <i>Solid Earth</i> , 2012 , 3, 313-326	3.3	30
65	Mantle constraints on the plate tectonic evolution of the Tonga–Kermadec–Bikurangi subduction zone and the South Fiji Basin region. <i>Australian Journal of Earth Sciences</i> , 2012 , 59, 933-952	1.4	40
64	Reply to Aitchison and Ali: Reconciling Himalayan ophiolite and Asian magmatic arc records with a two-stage India-Asia collision model. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, E2646-E2646	11.5	8
63	Zagros orogeny: a subduction-dominated process. <i>Geological Magazine</i> , 2011 , 148, 692-725	2	587
62	Tectono-magmatic response to major convergence changes in the North Patagonian suprasubduction system; the Paleogene subduction–transcurrent plate margin transition. <i>Tectonophysics</i> , 2011 , 509, 218-237	3.1	59

61	Towards absolute plate motions constrained by lower-mantle slab remnants. <i>Nature Geoscience</i> , 2010 , 3, 36-40	18.3	282
60	Surface deformation and slab-mantle interaction during Banda arc subduction rollback. <i>Nature Geoscience</i> , 2010 , 3, 562-566	18.3	187
59	Reconciling the geological history of western Turkey with plate circuits and mantle tomography. <i>Earth and Planetary Science Letters</i> , 2010 , 297, 674-686	5.3	135
58	Europe from the bottom up: A statistical examination of the central and northern European lithosphere-asthenosphere boundary from comparing seismological and electromagnetic observations. <i>Lithos</i> , 2010 , 120, 14-29	2.9	72
57	Plate reconstructions and tomography reveal a fossil lower mantle slab below the Tasman Sea. <i>Earth and Planetary Science Letters</i> , 2009 , 278, 143-151	5.3	43
56	Continental Collision and the STEP-wise Evolution of Convergent Plate Boundaries: From Structure to Dynamics. <i>Frontiers in Earth Sciences</i> , 2009 , 47-59	1.6	28
55	A new absolute arrival time data set for Europe. <i>Geophysical Journal International</i> , 2008 , 173, 465-472	2.6	20
54	Impact of India-Asia collision on SE Asia: The record in Borneo. <i>Tectonophysics</i> , 2008 , 451, 366-389	3.1	172
53	A map-view restoration of the Alpine-Carpathian-Dinaridic system for the Early Miocene. <i>Swiss Journal of Geosciences</i> , 2008 , 101, 273-294	2.1	193
52	A map-view restoration of the Alpine-Carpathian-Dinaridic system for the Early Miocene 2008 , S273-S294		2
51	Delay-time tomography of the upper mantle below Europe, the Mediterranean, and Asia Minor. <i>Geophysical Journal International</i> , 2007 , 107, 309-332	2.6	103
50	TOPO-EUROPE: The geoscience of coupled deep Earth-surface processes. <i>Global and Planetary Change</i> , 2007 , 58, 1-118	4.2	102
49	Microblock rotations and fault coupling in SE Asia triple junction (Sulawesi, Indonesia) from GPS and earthquake slip vector data. <i>Journal of Geophysical Research</i> , 2006 , 111,		87
48	Observation of present-day tectonic motions in the Southeastern Carpathians: Results of the ISES/CRC-461 GPS measurements. <i>Earth and Planetary Science Letters</i> , 2005 , 239, 177-184	5.3	38
47	Kinematics of the southwestern U.S. deformation zone inferred from GPS motion data. <i>Journal of Geophysical Research</i> , 2005 , 110,		12
46	Nappe stacking resulting from subduction of oceanic and continental lithosphere below Greece. <i>Geology</i> , 2005 , 33, 325	5	247
45	A joint analysis of GPS motions and InSAR to infer the coseismic surface deformation of the Izmit, Turkey earthquake. <i>Geophysical Journal International</i> , 2004 , 158, 849-863	2.6	18
44	Pyrenean orogeny and plate kinematics. <i>Journal of Geophysical Research</i> , 2004 , 109,		236

43	GPS probes the kinematics of the Vrancea Seismogenic Zone. <i>Eos</i> , 2004 , 85, 185	1.5	8
42	A Tomographic View on Western Mediterranean Geodynamics 2004 , 31-52		201
41	Angular velocities of Nubia and Somalia from continuous GPS data: implications on present-day relative kinematics. <i>Earth and Planetary Science Letters</i> , 2004 , 222, 197-208	5.3	88
40	Thermo-mechanical controls on the mode of continental collision in the SE Carpathians (Romania). <i>Earth and Planetary Science Letters</i> , 2004 , 218, 57-76	5.3	131
39	The TRANSMED Atlas: geological-geophysical fabric of the Mediterranean region Binal report of the project. <i>Episodes</i> , 2004 , 27, 244-254	1.6	9
38	Evidence for active subduction beneath Gibraltar: Comment and Reply. <i>Geology</i> , 2003 , 31, e23-e23	5	2
37	The Influence of Path Corrections and a Three-dimensional Global P-wave Velocity Model on Seismic Event Location in Kazakhstan. <i>Pure and Applied Geophysics</i> , 2003 , 160, 2239-2255	2.2	2
36	Surface deformation and tectonic setting of Taiwan inferred from a GPS velocity field. <i>Journal of Geophysical Research</i> , 2003 , 108,		55
35	The resolving power of coseismic surface displacement data for fault slip distribution at depth. <i>Geophysical Research Letters</i> , 2003 , 30,	4.9	10
34	Evidence for active subduction beneath Gibraltar. <i>Geology</i> , 2002 , 30, 1071	5	376
33	Subducted slabs beneath the eastern Indonesia-Tonga region: insights from tomography. <i>Earth and Planetary Science Letters</i> , 2002 , 201, 321-336	5.3	138
32	Inversion of relative motion data for estimates of the velocity gradient field and fault slip. <i>Earth and Planetary Science Letters</i> , 2002 , 203, 577-591	5.3	29
31	Shear velocity structure of central Eurasia from inversion of surface wave velocities. <i>Physics of the Earth and Planetary Interiors</i> , 2001 , 123, 169-184	2.3	121
30	Modelling the seismic velocity structure beneath Indonesia: a comparison with tomography. <i>Tectonophysics</i> , 2001 , 333, 35-46	3.1	39
29	Optimization of Cell Parameterizations for Tomographic Inverse Problems 2001 , 1401-1423		
28	Non-linear global P-wave tomography by iterated linearized inversion. <i>Geophysical Journal International</i> , 2000 , 141, 71-82	2.6	252
27	Effects of arrival time errors on travelttime tomography. <i>Geophysical Journal International</i> , 2000 , 142, 270-276	2.6	10
26	Neogene evolution of the Aegean arc: paleomagnetic and geodetic evidence for a rapid and young rotation phase. <i>Earth and Planetary Science Letters</i> , 2000 , 176, 509-525	5.3	95

25	Subduction and slab detachment in the Mediterranean-Carpathian region. <i>Science</i> , 2000 , 290, 1910-7	33.3	1196
24	Geodynamics of flat subduction: Seismicity and tomographic constraints from the Andean margin. <i>Tectonics</i> , 2000 , 19, 814-833	4.3	484
23	Fast kinematic ray tracing of first- and later-arriving global seismic phases. <i>Geophysical Journal International</i> , 1999 , 139, 359-369	2.6	33
22	Mesozoic subducted slabs under Siberia. <i>Nature</i> , 1999 , 397, 246-249	50.4	264
21	A Lower Mantle Source for Central European Volcanism. <i>Science</i> , 1999 , 286, 1928-1931	33.3	198
20	Tomographic evidence for a narrow whole mantle plume below Iceland. <i>Earth and Planetary Science Letters</i> , 1999 , 166, 121-126	5.3	259
19	Numerical tests on the seismic visibility of metastable minerals in subduction zones. <i>Earth and Planetary Science Letters</i> , 1999 , 170, 335-349	5.3	11
18	Tethyan subducted slabs under India. <i>Earth and Planetary Science Letters</i> , 1999 , 171, 7-20	5.3	412
17	Scientific objectives of current and future WEGENER activities. <i>Tectonophysics</i> , 1998 , 294, 177-223	3.1	10
16	The role of slab detachment processes in the opening of the western-central Mediterranean basins: some geological and geophysical evidence. <i>Earth and Planetary Science Letters</i> , 1998 , 160, 651-665	5.3	291
15	Late Cenozoic mineralization, orogenic collapse and slab detachment in the European Alpine Belt. <i>Earth and Planetary Science Letters</i> , 1998 , 164, 569-575	5.3	132
14	Closing the gap between regional and global travel time tomography. <i>Journal of Geophysical Research</i> , 1998 , 103, 30055-30078		801
13	Interpretation of tomographic images of uppermost mantle structure: Examples from the western and central alps. <i>Journal of Geodynamics</i> , 1996 , 21, 97-111	2.2	28
12	Thermal structure of the continental lithosphere: constraints from seismic tomography. <i>Tectonophysics</i> , 1995 , 244, 107-117	3.1	30
11	Tomographic inversion of P and P data for aspherical mantle structure below the northwest Pacific region. <i>Geophysical Journal International</i> , 1993 , 115, 264-302	2.6	89
10	The P-wave velocity structure of the mantle below the Iberian Peninsula: evidence for subducted lithosphere below southern Spain. <i>Tectonophysics</i> , 1993 , 221, 13-34	3.1	216
9	From tectonic reconstruction to upper mantle model: An application to the Alpine-Mediterranean region. <i>Tectonophysics</i> , 1993 , 223, 53-65	3.1	22
8	Travel-time tomography of the European-Mediterranean mantle down to 1400 km. <i>Physics of the Earth and Planetary Interiors</i> , 1993 , 79, 3-74	2.3	418

7	Tomographic imaging of subducted lithosphere below northwest Pacific island arcs. <i>Nature</i> , 1991 , 353, 37-43	50.4	460
6	Tomographic images of the upper mantle below central Europe and the Mediterranean. <i>Terra Nova</i> , 1990 , 2, 542-553	3	176
5	Structure and seismicity of the Aegean subduction zone. <i>Terra Nova</i> , 1990 , 2, 554-562	3	31
4	Importance of the reference model in linearized tomography and images of subduction below the Caribbean Plate. <i>Geophysical Research Letters</i> , 1989 , 16, 1093-1096	4.9	63
3	Resolution experiments for NW Pacific subduction zone tomography. <i>Geophysical Research Letters</i> , 1989 , 16, 1097-1100	4.9	42
2	The Hellenic Subduction Zone: A tomographic image and its geodynamic implications. <i>Geophysical Research Letters</i> , 1988 , 15, 60-63	4.9	316
1	On the Hellenic subduction zone and the geodynamic evolution of Crete since the late Middle Miocene. <i>Tectonophysics</i> , 1988 , 146, 203-215	3.1	260