Peter E Van Keken

List of Publications by Year
in descending order

50 papers	5,826 citations	159358 30 h-index	197535 49 g-index
54 all docs	54 docs citations	54 times ranked	3721 citing authors

#	Article	IF	Citations
1	The global range of subduction zone thermal models. Physics of the Earth and Planetary Interiors, 2010, 183, 73-90.	0.7	1,375
2	Subduction factory: 4. Depth-dependent flux of H₂O from subducting slabs worldwide. Journal of Geophysical Research, 2011, 116, .	3.3	702
3	Fluid flow in subduction zones: The role of solid rheology and compaction pressure. Earth and Planetary Science Letters, 2014, 401, 261-274.	1.8	391
4	High-resolution models of subduction zones: Implications for mineral dehydration reactions and the transport of water into the deep mantle. Geochemistry, Geophysics, Geosystems, 2002, 3, 1 of 20-20 of 20.	1.0	371
5	Three-dimensional thermal structure of subduction zones: effects of obliquity and curvature. Solid Earth, 2012, 3, 365-373.	1.2	266
6	A comparison of methods for the modeling of thermochemical convection. Journal of Geophysical Research, 1997, 102, 22477-22495.	3.3	239
7	Mantle Mixing: The Generation, Preservation, and Destruction of Chemical Heterogeneity. Annual Review of Earth and Planetary Sciences, 2002, 30, 493-525.	4.6	224
8	The thermal structure of subduction zones constrained by seismic imaging: Implications for slab dehydration and wedge flow. Earth and Planetary Science Letters, 2006, 241, 387-397.	1.8	210
9	A community benchmark for subduction zone modeling. Physics of the Earth and Planetary Interiors, 2008, 171, 187-197.	0.7	187
10	Thermal structure of the Costa Rica â€“ Nicaragua subduction zone. Physics of the Earth and Planetary Interiors, 2005, 149, 187-200.	0.7	150
11	Thermalâ€“petrological controls on the location of earthquakes within subducting plates. Earth and Planetary Science Letters, 2013, 369-370, 178-187.	1.8	145
12	The cold and relatively dry nature of mantle forearcs in subduction zones. Nature Geoscience, 2017, 10, 333-337.	5.4	134
13	Effect of threeâ€dimensional slab geometry on deformation in the mantle wedge: Implications for shear wave anisotropy. Geochemistry, Geophysics, Geosystems, 2008, 9, .	1.0	97
14	A multiple-system study of the geochemical evolution of the mantle with force-balanced plates and thermochemical effects. Earth and Planetary Science Letters, 2008, 276, 1-13.	1.8	97
15	A community benchmark for 2-D Cartesian compressible convection in the Earth's mantle. Geophysical Journal International, 2010, 180, 73-87.	1.0	89
16	Stress, strain, and B-type olivine fabric in the fore-arc mantle: Sensitivity tests using high-resolution steady-state subduction zone models. Journal of Geophysical Research, 2007, 112, .	3.3	83
17	Diverse magmatic effects of subducting a hot slab in SW Japan: Results from forward modeling. Geochemistry, Geophysics, Geosystems, 2014, 15, 691-739.	1.0	78
18	Mafic Highâ€Pressure Rocks Are Preferentially Exhumed From Warm Subduction Settings. Geochemistry, Geophysics, Geosystems, 2018, 19, 2934-2961.	1.0	78

#	ARTICLE	IF	CITATIONS
19	Deep storage of oceanic crust in a vigorously convecting mantle. Journal of Geophysical Research, 2007, 112, .	3.3	77
20	Dynamics of thermochemical plumes: 1. Plume formation and entrainment of a dense layer. Geochemistry, Geophysics, Geosystems, 2006, 7, n/a-n/a.	1.0	76
21	Arc Basalt Simulator version 2, a simulation for slab dehydration and fluidâ€fluxed mantle melting for arc basalts: Modeling scheme and application. Geochemistry, Geophysics, Geosystems, 2009, 10, .	1.0	76
22	Slab temperature controls on the Tonga double seismic zone and slab mantle dehydration. Science Advances, 2017, 3, e1601755.	4.7	48
23	Origin of geochemical mantle components: Role of subduction filter. Geochemistry, Geophysics, Geosystems, 2016, 17, 3289-3325.	1.0	47
24	A 2â€Đ tomographic model of the Juan de Fuca plate from accretion at axial seamount to subduction at the Cascadia margin from an active source ocean bottom seismometer survey. Journal of Geophysical Research: Solid Earth, 2016, 121, 5859-5879.	1.4	41
25	Wavefront healing renders deep plumes seismically invisible. Geophysical Journal International, 2011, 187, 273-277.	1.0	36
26	Thermal structure and intermediate-depth seismicity in the Tohoku-Hokkaido subduction zones. Solid Earth, 2012, 3, 355-364.	1.2	36
27	The relationship of intermediate- and deep-focus seismicity to the hydration and dehydration of subducting slabs. Earth and Planetary Science Letters, 2012, 349-350, 153-160.	1.8	36
28	Slab Transport of Fluids to Deep Focus Earthquake Depthsâ€"Thermal Modeling Constraints and Evidence From Diamonds. AGU Advances, 2021, 2, e2020AV000304.	2.3	35
29	Thermal Structure of the Forearc in Subduction Zones: A Comparison of Methodologies. Geochemistry, Geophysics, Geosystems, 2019, 20, 3268-3288.	1.0	33
30	Subducted oceanic crust as the origin of seismically slow lower-mantle structures. Progress in Earth and Planetary Science, 2020, 7, .	1.1	32
31	Deep decoupling in subduction zones: Observations and temperature limits. , 2020, 16, 1408-1424.		30
32	Synthetic images of dynamically predicted plumes and comparison with a global tomographic model. Earth and Planetary Science Letters, 2011, 311, 351-363.	1.8	28
33	<i>P</i>- and<i>S</i>-wave delays caused by thermal plumes. Geophysical Journal International, 2016, 206, 1169-1178.	1.0	27
34	Origins of the terrestrial Hf-Nd mantle array: Evidence from a combined geodynamical-geochemical approach. Earth and Planetary Science Letters, 2019, 518, 26-39.	1.8	26
35	Terra<scp>FERMA</scp>: The <scp>T</scp>ransparent <scp>F</scp>inite <scp>E</scp>lement <scp>R</scp>apid <scp>M</scp>odel <scp>A</scp>ssembler for multiphysics problems in <scp>E</scp>arth sciences. Geochemistry, Geophysics, Geosystems, 2017, 18, 769-810.	1.0	24
36	Evaluating the Resolution of Deep Mantle Plumes in Teleseismic Traveltime Tomography. Journal of Geophysical Research: Solid Earth, 2018, 123, 384-400.	1.4	23

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37	Alongâ€arc variation in the 3â€D thermal structure around the junction between the Japan and Kurile arcs. Geochemistry, Geophysics, Geosystems, 2014, 15, 2225-2240.	1.0	21
38	Origin of geochemical mantle components: Role of spreading ridges and thermal evolution of mantle. Geochemistry, Geophysics, Geosystems, 2017, 18, 697-734.	1.0	20
39	Thermal conductivity near the bottom of the Earth's lower mantle: Measurements of pyrolite up to 120 GPa and 2500 K. Earth and Planetary Science Letters, 2020, 536, 116161.	1.8	18
40	Starting laminar plumes: Comparison of laboratory and numerical modeling. Geochemistry, Geophysics, Geosystems, 2009, 10, .	1.0	17
41	Kinetic Models for Healing of the Subduction Interface Based on Observations of Ancient Accretionary Complexes. Geochemistry, Geophysics, Geosystems, 2019, 20, 3431-3449.	1.0	17
42	Dynamics of plumes in a compressible mantle with phase changes: Implications for phase boundary topography. Physics of the Earth and Planetary Interiors, 2013, 224, 21-31.	0.7	16
43	Burying Earth's Primitive Mantle in the Slab Graveyard. Geochemistry, Geophysics, Geosystems, 2021, 22, e2020GC009396.	1.0	16
44	Analysis of PKP scattering using mantle mixing simulations and axisymmetric 3D waveforms. Physics of the Earth and Planetary Interiors, 2018, 276, 226-233.	0.7	11
45	Alongâ€arc variation in shortâ€term slow slip events caused by 3â€D fluid migration in subduction zones. Journal of Geophysical Research: Solid Earth, 2017, 122, 1434-1448.	1.4	10
46	A Role for Subducted Oceanic Crust in Generating the Depleted Midâ€Ocean Ridge Basalt Mantle. Geochemistry, Geophysics, Geosystems, 2020, 21, e2020GC009148.	1.0	10
47	Fluid Migration in a Subducting Viscoelastic Slab. Geochemistry, Geophysics, Geosystems, 2018, 19, 337-355.	1.0	9
48	Earthâ€™s missing argon paradox resolved by recycling of oceanic crust. Nature Geoscience, 2022, 15, 85-90.	5.4	9
49	An Exactly Mass Conserving and Pointwise Divergence Free Velocity Method: Application to Compositional Buoyancy Driven Flow Problems in Geodynamics. Geochemistry, Geophysics, Geosystems, 2021, 22, e2020GC009349.	1.0	3
50	A Pointwise Conservative Method for Thermochemical Convection Under the Compressible Anelastic Liquid Approximation. Geochemistry, Geophysics, Geosystems, 2022, 23, .	1.0	2