Frederic Deschamps

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	The tidal–thermal evolution of the Pluto–Charon system. Icarus, 2022, 376, 114871.	2.5	5
2	Influence of composition-dependent thermal conductivity on the long-term evolution of primordial reservoirs in Earth's lower mantle. Earth, Planets and Space, 2022, 74, .	2.5	3
3	Constraints on the composition and temperature of LLSVPs from seismic properties of lower mantle minerals. Earth and Planetary Science Letters, 2021, 554, 116685.	4.4	7
4	Heatâ€Blanketed Convection and its Implications for the Continental Lithosphere. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB020695.	3.4	1
5	Seismic Attenuation and Sâ€Velocity Structures in Beneath Central America Using 1â€Ð Fullâ€Waveform Inversion. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB021356.	3.4	1
6	Scaling Laws for Mixedâ€Heated Stagnant‣id Convection and Application to Europa. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006963.	3.6	1
7	Stagnant lid convection with temperature-dependent thermal conductivity and the thermal evolution of icy worlds. Geophysical Journal International, 2020, 224, 1870-1889.	2.4	4
8	Tidally Heated Convection and the Occurrence of Melting in Icy Satellites: Application to Europa. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006248.	3.6	31
9	From Cosmic Explosions to Terrestrial Fires? A Discussion. Journal of Geology, 2020, 128, 389-391.	1.4	1
10	Low thermal conductivity of iron-silicon alloys at Earth's core conditions with implications for the geodynamo. Nature Communications, 2020, 11, 3332.	12.8	39
11	Spin Transition of Iron in δâ€(Al,Fe)OOH Induces Thermal Anomalies in Earth's Lower Mantle. Geophysical Research Letters, 2020, 47, e2020GL087036.	4.0	22
12	Threeâ€dimensional Elastic and Anelastic Structure of the Lowermost Mantle Beneath the Western Pacific From Finiteâ€Frequency Tomography. Journal of Geophysical Research: Solid Earth, 2020, 125, e2019JB018089.	3.4	5
13	Effects of the Compositional Viscosity Ratio on the Longâ€Term Evolution of Thermochemical Reservoirs in the Deep Mantle. Geophysical Research Letters, 2019, 46, 9591-9601.	4.0	11
14	Coreâ€Mantle Boundary Dynamic Topography: Influence of Postperovskite Viscosity. Journal of Geophysical Research: Solid Earth, 2019, 124, 9247-9264.	3.4	9
15	Investigating the seismic structure and visibility of dynamic plume models with seismic array methods. Geophysical Journal International, 2019, 219, S167-S194.	2.4	9
16	Radial thermo-chemical structure beneath Western and Northern Pacific from seismic waveform inversion. Earth and Planetary Science Letters, 2019, 520, 153-163.	4.4	22
17	Lowermost mantle thermal conductivity constrained from experimental data and tomographic models. Geophysical Journal International, 2019, 219, S115-S136.	2.4	16
18	Effects of iron on the lattice thermal conductivity of Earth's deep mantle and implications for mantle dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 4099-4104.	7.1	57

FREDERIC DESCHAMPS

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19	Temperature and heat flux scaling laws for isoviscous, infinite Prandtl number mixed heating convection. Geophysical Journal International, 2018, 214, 265-281.	2.4	11
20	Constraints on core–mantle boundary topography from models of thermal and thermochemical convection. Geophysical Journal International, 2018, 212, 164-188.	2.4	23
21	The Influence of Curvature on Convection in a Temperatureâ€Dependent Viscosity Fluid: Implications for the 2â€D and 3â€D Modeling of Moons. Journal of Geophysical Research E: Planets, 2018, 123, 1863-1880.	3.6	18
22	Effects of Iron Spin Transition on the Structure and Stability of Large Primordial Reservoirs in Earth's Lower Mantle. Geophysical Research Letters, 2018, 45, 5918-5928.	4.0	5
23	Surviving mantle convection. Nature Geoscience, 2017, 10, 161-161.	12.9	1
24	Elastic and anelastic structure of the lowermost mantle beneath the Western Pacific from waveform inversion. Geophysical Journal International, 2017, 208, 1290-1304.	2.4	10
25	Reduced lattice thermal conductivity of Feâ€bearing bridgmanite in Earth's deep mantle. Journal of Geophysical Research: Solid Earth, 2017, 122, 4900-4917.	3.4	53
26	Thermal convection as a possible mechanism for the origin of polygonal structures on Pluto's surface. Journal of Geophysical Research E: Planets, 2017, 122, 1056-1076.	3.6	8
27	Constraints on Super-Earth Interiors from Stellar Abundances. Astrophysical Journal, 2017, 850, 93.	4.5	72
28	Small postâ€perovskite patches at the base of lower mantle primordial reservoirs: Insights from 2â€D numerical modeling and implications for ULVZs. Geophysical Research Letters, 2016, 43, 3215-3225.	4.0	11
29	Layered anisotropy within the crust and lithospheric mantle beneath the Sea of Japan. Journal of Asian Earth Sciences, 2016, 128, 181-195.	2.3	13
30	Electrical conductivity as a constraint on lower mantle thermo-chemical structure. Earth and Planetary Science Letters, 2016, 450, 108-119.	4.4	12
31	Rayleigh-wave dispersion reveals crust-mantle decoupling beneath eastern Tibet. Scientific Reports, 2015, 5, 16644.	3.3	39
32	Towards more realistic core-mantle boundary heat flux patterns: a source of diversity in planetary dynamos. Progress in Earth and Planetary Science, 2015, 2, .	3.0	16
33	Thermal conductivity of H ₂ O H ₃ OH mixtures at high pressures: Implications for the dynamics of icy superâ€Earths outer shells. Journal of Geophysical Research E: Planets, 2015, 120, 1697-1707.	3.6	5
34	Large-Scale Thermo-chemical Structure of the Deep Mantle: Observations and Models. , 2015, , 479-515.		19
35	Lower Mantle Electrical Conductivity Inferred from Probabilistic Tomography. Terrestrial, Atmospheric and Oceanic Sciences, 2015, 26, 27.	0.6	5
36	Numerical dynamos with outer boundary heat flux inferred from probabilistic tomography—consequences for latitudinal distribution of magnetic flux. Geophysical Journal International, 2015, 203, 840-855.	2.4	13

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37	Effects of the post-perovskite phase transition properties on the stability and structure of primordial reservoirs in the lower mantle of the Earth. Earth and Planetary Science Letters, 2015, 432, 1-12.	4.4	27
38	The stability and structure of primordial reservoirs in the lower mantle: insights from models of thermochemical convection in three-dimensional spherical geometry. Geophysical Journal International, 2014, 199, 914-930.	2.4	59
39	Mantle plume chemical diversity. Nature Geoscience, 2014, 7, 330-331.	12.9	2
40	Stagnant lid convection in 3D-Cartesian geometry: Scaling laws and applications to icy moons and dwarf planets. Physics of the Earth and Planetary Interiors, 2014, 229, 40-54.	1.9	15
41	Anisotropic Rayleigh wave phase velocity maps of eastern China. Journal of Geophysical Research: Solid Earth, 2014, 119, 4802-4820.	3.4	32
42	Effects of lowâ€viscosity postâ€perovskite on the stability and structure of primordial reservoirs in the lower mantle. Geophysical Research Letters, 2014, 41, 7089-7097.	4.0	23
43	Stagnant lid convection in bottom-heated thin 3-D spherical shells: Influence of curvature and implications for dwarf planets and icy moons. Journal of Geophysical Research E: Planets, 2014, 119, 1895-1913.	3.6	27
44	Upper mantle compositional variations and discontinuity topography imaged beneath Australia from Bayesian inversion of surfaceâ€wave phase velocities and thermochemical modeling. Journal of Geophysical Research: Solid Earth, 2013, 118, 5285-5306.	3.4	33
45	The primitive nature of large low shear-wave velocity provinces. Earth and Planetary Science Letters, 2012, 349-350, 198-208.	4.4	103
46	Radial 1â€D seismic structures in the deep mantle in mantle convection simulations with selfâ€consistently calculated mineralogy. Geochemistry, Geophysics, Geosystems, 2012, 13, .	2.5	21
47	High Rayleigh number thermal convection in volumetrically heated spherical shells. Journal of Geophysical Research, 2012, 117, .	3.3	21
48	The thermo-chemical and physical structure beneath the North American continent from Bayesian inversion of surface-wave phase velocities. Journal of Geophysical Research, 2011, 116, .	3.3	28
49	A deep mantle origin for the primitive signature of ocean island basalt. Nature Geoscience, 2011, 4, 879-882.	12.9	75
50	THE ROLE OF METHANOL IN THE CRYSTALLIZATION OF TITAN'S PRIMORDIAL OCEAN. Astrophysical Journal, 2010, 724, 887-894.	4.5	23
51	Temperature and heat flux scalings for isoviscous thermal convection in spherical geometry. Geophysical Journal International, 2010, , no-no.	2.4	22
52	The influence of MORB and harzburgite composition on thermo-chemical mantle convection in a 3-D spherical shell with self-consistently calculated mineral physics. Earth and Planetary Science Letters, 2010, 296, 403-412.	4.4	117
53	Layered azimuthal anisotropy of Rayleigh wave phase velocities in the European Alpine lithosphere inferred from ambient noise. Earth and Planetary Science Letters, 2010, 297, 95-102.	4.4	99
54	Searching for models of thermo-chemical convection that explain probabilistic tomography. II—Influence of physical and compositional parameters. Physics of the Earth and Planetary Interiors, 2009, 176, 1-18.	1.9	73

FREDERIC DESCHAMPS

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55	Inferring radial models of mantle viscosity from gravity (GRACE) data and an evolutionary algorithm. Physics of the Earth and Planetary Interiors, 2009, 176, 19-32.	1.9	27
56	Incorporating selfâ€consistently calculated mineral physics into thermochemical mantle convection simulations in a 3â€D spherical shell and its influence on seismic anomalies in Earth's mantle. Geochemistry, Geophysics, Geosystems, 2009, 10, .	2.5	76
57	Azimuthal anisotropy of Rayleigh-wave phase velocities in the east-central United States. Geophysical Journal International, 2008, 173, 827-843.	2.4	79
58	Searching for models of thermo-chemical convection that explain probabilistic tomography. Physics of the Earth and Planetary Interiors, 2008, 171, 357-373.	1.9	69
59	Stratified seismic anisotropy reveals past and present deformation beneath the East-central United States. Earth and Planetary Science Letters, 2008, 274, 489-498.	4.4	57
60	A new finiteâ€frequency shearâ€velocity model of the Europeanâ€Mediterranean region. Geophysical Research Letters, 2008, 35, .	4.0	18
61	Thermo-Chemical Structure of the Lower Mantle: Seismological Evidence and Consequences for Geodynamics. , 2007, , 293-320.		16
62	Probabilistic Tomography Maps Chemical Heterogeneities Throughout the Lower Mantle. Science, 2004, 306, 853-856.	12.6	435
63	Thermal and compositional anomalies beneath the North American continent. Journal of Geophysical Research, 2004, 109, .	3.3	66
64	Geophysical evidence for chemical variations in the Australian Continental Mantle. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	25
65	Towards a lower mantle reference temperature and composition. Earth and Planetary Science Letters, 2004, 222, 161-175.	4.4	72
66	Mantle tomography and its relation to temperature and composition. Physics of the Earth and Planetary Interiors, 2003, 140, 277-291.	1.9	93
67	Anomalies of temperature and iron in the uppermost mantle inferred from gravity data and tomographic models. Physics of the Earth and Planetary Interiors, 2002, 129, 245-264.	1.9	71
68	Thermal convection in the outer shell of large icy satellites. Journal of Geophysical Research, 2001, 106, 5107-5121.	3.3	81
69	The relative density-to-shear velocity scaling in the uppermost mantle. Physics of the Earth and Planetary Interiors, 2001, 124, 193-212.	1.9	41
70	Inversion of two-dimensional numerical convection experiments for a fluid with a strongly temperature-dependent viscosity. Geophysical Journal International, 2000, 143, 204-218.	2.4	51
71	On the internal structure and dynamics of Titan. Planetary and Space Science, 2000, 48, 617-636.	1.7	160