

Gael Choblet

List of Publications by Year in descending order

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67
papers

2,477
citations

186265

28
h-index

214800

47
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67
all docs

67
docs citations

67
times ranked

1986
citing authors

#	ARTICLE	IF	CITATIONS
1	Enceladus as a potential oasis for life: Science goals and investigations for future explorations. <i>Experimental Astronomy</i> , 2022, 54, 809-847.	3.7	5
2	Theoretical Considerations on the Characteristic Timescales of Hydrogen Generation by Serpentinization Reactions on Enceladus. <i>Journal of Geophysical Research E: Planets</i> , 2022, 127, .	3.6	10
3	Geologically rapid aqueous mineral alteration at subfreezing temperatures in icy worlds. <i>Nature Astronomy</i> , 2022, 6, 554-559.	10.1	12
4	Tidally Induced Magmatic Pulses on the Oceanic Floor of Jupiter's Moon Europa. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL090077.	4.0	36
5	Solid tides in Io's partially molten interior. <i>Astronomy and Astrophysics</i> , 2021, 650, A72.	5.1	4
6	Exploration of Icy Ocean Worlds Using Geophysical Approaches. <i>Planetary Science Journal</i> , 2021, 2, 150.	3.6	14
7	Short lifespans of serpentinization in the rocky core of Enceladus: Implications for hydrogen production. <i>Icarus</i> , 2021, 364, 114461.	2.5	18
8	Sublimation-driven convection in Sputnik Planitia on Pluto. <i>Nature</i> , 2021, 600, 419-423.	27.8	8
9	Cooling patterns in rotating thin spherical shells – Application to Titan's subsurface ocean. <i>Icarus</i> , 2020, 338, 113509.	2.5	28
10	The Fate of Liquids Trapped During the Earth's Inner Core Growth. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL085654.	4.0	10
11	Scaling of heat transfer in stagnant lid convection for the outer shell of icy moons: Influence of rheology. <i>Icarus</i> , 2020, 338, 113448.	2.5	8
12	Tidally Heated Convection and the Occurrence of Melting in Icy Satellites: Application to Europa. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006248.	3.6	31
13	Joint Europa Mission (JEM): a multi-scale study of Europa to characterize its habitability and search for extant life. <i>Planetary and Space Science</i> , 2020, 193, 104960.	1.7	15
14	Virtual Tide Gauges for Predicting Relative Sea Level Rise. <i>Journal of Geophysical Research: Solid Earth</i> , 2019, 124, 13367-13391.	3.4	9
15	Chemical Convection and Stratification in the Earth's Outer Core. <i>Frontiers in Earth Science</i> , 2019, 7, .	1.8	24
16	Tidal dissipation in Enceladus' uneven, fractured ice shell. <i>Icarus</i> , 2019, 328, 218-231.	2.5	32
17	Preferred locations of weak surface field in numerical dynamos with heterogeneous core-mantle boundary heat flux: consequences for the South Atlantic Anomaly. <i>Geophysical Journal International</i> , 2019, 217, 1179-1199.	2.4	22
18	Trans-dimensional Surface Reconstruction With Different Classes of Parameterization. <i>Geochemistry, Geophysics, Geosystems</i> , 2019, 20, 505-529.	2.5	35

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19	Long-term stability of Enceladus's uneven ice shell. <i>Icarus</i> , 2019, 319, 476-484.	2.5	59
20	On the long-lasting sequences of coral reef terraces from SE Sulawesi (Indonesia): Distribution, formation, and global significance. <i>Quaternary Science Reviews</i> , 2018, 188, 37-57.	3.0	24
21	Does Titan's long-wavelength topography contain information about subsurface ocean dynamics?. <i>Icarus</i> , 2018, 310, 149-164.	2.5	22
22	Two-phase convection in Ganymede's high-pressure ice layer – Implications for its geological evolution. <i>Icarus</i> , 2018, 299, 133-147.	2.5	49
23	Bayesian surface reconstruction of geodetic uplift rates: Mapping the global fingerprint of Glacial Isostatic Adjustment. <i>Journal of Geodynamics</i> , 2018, 122, 25-40.	1.6	26
24	Macromolecular organic compounds from the depths of Enceladus. <i>Nature</i> , 2018, 558, 564-568.	27.8	282
25	Thermally anomalous features in the subsurface of Enceladus's south polar terrain. <i>Nature Astronomy</i> , 2017, 1, .	10.1	41
26	Viscoelastic relaxation of Enceladus's ice shell. <i>Icarus</i> , 2017, 291, 31-35.	2.5	17
27	Heat transport in the high-pressure ice mantle of large icy moons. <i>Icarus</i> , 2017, 285, 252-262.	2.5	47
28	Powering prolonged hydrothermal activity inside Enceladus. <i>Nature Astronomy</i> , 2017, 1, 841-847.	10.1	158
29	A particle-in-cell method for studying double-diffusive convection in the liquid layers of planetary interiors. <i>Journal of Computational Physics</i> , 2017, 346, 552-571.	3.8	14
30	Enceladus's internal ocean and ice shell constrained from Cassini gravity, shape, and libration data. <i>Geophysical Research Letters</i> , 2016, 43, 5653-5660.	4.0	141
31	Water generation and transport below Europa's strike-slip faults. <i>Journal of Geophysical Research E: Planets</i> , 2016, 121, 2444-2462.	3.6	36
32	Can eustatic charts go beyond first order? Insights from the Permian–Triassic. <i>Lithosphere</i> , 2016, 8, 505-518.	1.4	14
33	Constraining mantle convection models with palaeomagnetic reversals record and numerical dynamos. <i>Geophysical Journal International</i> , 2016, 207, 1165-1184.	2.4	5
34	Consequences of large impacts on Enceladus's core shape. <i>Icarus</i> , 2016, 264, 300-310.	2.5	31
35	Towards more realistic core-mantle boundary heat flux patterns: a source of diversity in planetary dynamos. <i>Progress in Earth and Planetary Science</i> , 2015, 2, .	3.0	16
36	Giant impacts, heterogeneous mantle heating and a past hemispheric dynamo on Mars. <i>Physics of the Earth and Planetary Interiors</i> , 2015, 240, 114-124.	1.9	22

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37	Despinning and shape evolution of Saturn's moon Iapetus triggered by a giant impact. <i>Icarus</i> , 2015, 252, 454-465.	2.5	5
38	Numerical dynamos with outer boundary heat flux inferred from probabilistic tomography's consequences for latitudinal distribution of magnetic flux. <i>Geophysical Journal International</i> , 2015, 203, 840-855.	2.4	13
39	Timing of water plume eruptions on Enceladus explained by interior viscosity structure. <i>Nature Geoscience</i> , 2015, 8, 601-604.	12.9	41
40	Can large icy moons accrete undifferentiated?. <i>Icarus</i> , 2014, 237, 377-387.	2.5	18
41	Structure and dynamics of Titan's outer icy shell constrained from Cassini data. <i>Icarus</i> , 2014, 237, 16-28.	2.5	40
42	Probabilistic surface reconstruction of coastal sea level rise during the twentieth century. <i>Journal of Geophysical Research: Solid Earth</i> , 2014, 119, 9206-9236.	3.4	14
43	Ice melting and downward transport of meltwater by two-phase flow in Europa's ice shell. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 532-549.	3.6	46
44	Impact of tidal heating on the onset of convection in Enceladus's ice shell. <i>Icarus</i> , 2013, 226, 898-904.	2.5	25
45	Predicting surface dynamic topographies of stagnant lid planetary bodies. <i>Geophysical Journal International</i> , 2013, 195, 1494-1508.	2.4	7
46	Mantle-driven geodynamo features – Effects of compositional and narrow $D\epsilon^3$ anomalies. <i>Physics of the Earth and Planetary Interiors</i> , 2012, 190-191, 34-43.	1.9	16
47	On the scaling of heat transfer for mixed heating convection in a spherical shell. <i>Physics of the Earth and Planetary Interiors</i> , 2012, 206-207, 31-42.	1.9	14
48	Tidally-induced melting events as the origin of south-pole activity on Enceladus. <i>Icarus</i> , 2012, 219, 655-664.	2.5	60
49	Present-day trends of vertical ground motion along the coast lines. <i>Earth-Science Reviews</i> , 2012, 110, 74-92.	9.1	54
50	Topography and geoid induced by a convecting mantle beneath an elastic lithosphere. <i>Geophysical Journal International</i> , 2012, 189, 55-72.	2.4	20
51	TIDALLY INDUCED THERMAL RUNAWAYS ON EXTRASOLAR EARTHS: IMPACT ON HABITABILITY. <i>Astrophysical Journal</i> , 2011, 728, 89.	4.5	50
52	Coupling of thermal evolution and despinning of early Iapetus. <i>Icarus</i> , 2010, 207, 959-971.	2.5	36
53	Implications of Rotation, Orbital States, Energy Sources, and Heat Transport for Internal Processes in Icy Satellites. <i>Space Science Reviews</i> , 2010, 153, 317-348.	8.1	52
54	Coupling mantle convection and tidal dissipation: Applications to Enceladus and Earth-like planets. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	46

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55	Implications of Rotation, Orbital States, Energy Sources, and Heat Transport for Internal Processes in Icy Satellites. Space Sciences Series of ISSI, 2010, , 315-346.	0.0	0
56	Mantle-driven geodynamo features—effects of post-Perovskite phase transition. Earth, Planets and Space, 2009, 61, 1255-1268.	2.5	21
57	Thermal convection heated both volumetrically and from below: Implications for predictions of planetary evolution. Physics of the Earth and Planetary Interiors, 2009, 173, 290-296.	1.9	20
58	Onset of convection in a basally heated spherical shell, application to planets. Physics of the Earth and Planetary Interiors, 2009, 176, 157-173.	1.9	8
59	High-resolution record of tectonic and sedimentary processes in growth strata. Marine and Petroleum Geology, 2009, 26, 1350-1364.	3.3	40
60	Convective interactions between oceanic lithosphere and asthenosphere: Influence of a transform fault. Earth and Planetary Science Letters, 2008, 274, 301-309.	4.4	16
61	Å'DIPUS: a new tool to study the dynamics of planetary interiors. Geophysical Journal International, 2007, 170, 9-30.	2.4	49
62	Modelling thermal convection with large viscosity gradients in one block of the "cubed sphere"™. Journal of Computational Physics, 2005, 205, 269-291.	3.8	36
63	Interior structure of terrestrial planets: Modeling Mars' mantle and its electromagnetic, geodetic, and seismic properties. Journal of Geophysical Research, 2005, 110, .	3.3	68
64	Tidally heated convection: Constraints on Europa's ice shell thickness. Journal of Geophysical Research, 2003, 108, .	3.3	177
65	Early transient cooling of Mars. Geophysical Research Letters, 2001, 28, 3035-3038.	4.0	19
66	Mantle upwelling and melting beneath slow spreading centers: effects of variable rheology and melt productivity. Earth and Planetary Science Letters, 2001, 184, 589-604.	4.4	67
67	3D thermal convection with variable viscosity: can transient cooling be described by a quasi-static scaling law?. Physics of the Earth and Planetary Interiors, 2000, 119, 321-336.	1.9	74