

Mathieu Dumberry

List of Publications by Year in descending order

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Version: 2024-02-01

49
papers

1,277
citations

361413

20
h-index

361022

35
g-index

56
all docs

56
docs citations

56
times ranked

757
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 1 | The origin of geomagnetic jerks. <i>Nature</i> , 2002, 420, 65-68. | 27.8 | 186 |
| 2 | Short Timescale Core Dynamics: Theory and Observations. <i>Space Science Reviews</i> , 2010, 155, 177-218. | 8.1 | 98 |
| 3 | Eastward and westward drift of the Earth's magnetic field for the last three millennia. <i>Earth and Planetary Science Letters</i> , 2007, 254, 146-157. | 4.4 | 84 |
| 4 | Mercury's inner core size and core-crystallization regime. <i>Icarus</i> , 2015, 248, 254-268. | 2.5 | 72 |
| 5 | CARRE: a quasi-orthogonal mesh generator for 2D edge plasma modelling. <i>Computer Physics Communications</i> , 1996, 96, 232-246. | 7.5 | 57 |
| 6 | Azimuthal flows in the Earth's core and changes in length of day at millennial timescales. <i>Geophysical Journal International</i> , 2006, 165, 32-46. | 2.4 | 55 |
| 7 | Viscosity of the Earth's inner core: Constraints from nutation observations. <i>Earth and Planetary Science Letters</i> , 2011, 308, 343-349. | 4.4 | 49 |
| 8 | Constraints on the coupling at the core-mantle and inner core boundaries inferred from nutation observations. <i>Geophysical Journal International</i> , 2010, 182, 1279-1294. | 2.4 | 47 |
| 9 | Reconciling past changes in Earth's rotation with 20th century global sea-level rise: Resolving Munk's enigma. <i>Science Advances</i> , 2015, 1, e1500679. | 10.3 | 45 |
| 10 | Inner core tilt and polar motion. <i>Geophysical Journal International</i> , 2002, 151, 377-392. | 2.4 | 42 |
| 11 | Torque balance, Taylor's constraint and torsional oscillations in a numerical model of the geodynamo. <i>Physics of the Earth and Planetary Interiors</i> , 2003, 140, 29-51. | 1.9 | 39 |
| 12 | The strength of gravitational core-mantle coupling. <i>Geophysical Research Letters</i> , 2014, 41, 3786-3792. | 4.0 | 38 |
| 13 | Steady and fluctuating inner core rotation in numerical geodynamo models. <i>Geophysical Journal International</i> , 2011, 184, 162-170. | 2.4 | 36 |
| 14 | Variations in the Earth's gravity field caused by torsional oscillations in the core. <i>Geophysical Journal International</i> , 2004, 159, 417-434. | 2.4 | 31 |
| 15 | Constraints on core-mantle electromagnetic coupling from torsional oscillation normal modes. <i>Journal of Geophysical Research</i> , 2008, 113, . | 3.3 | 27 |
| 16 | Gravity variations induced by core flows. <i>Geophysical Journal International</i> , 2010, 180, 635-650. | 2.4 | 24 |
| 17 | Challenges on Mercury's Interior Structure Posed by the New Measurements of its Obliquity and Tides. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL089895. | 4.0 | 24 |
| 18 | Gravitational torque on the inner core and decadal polar motion. <i>Geophysical Journal International</i> , 2008, 172, 903-920. | 2.4 | 23 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 19 | Geodynamic constraints on the steady and time-dependent inner core axial rotation. <i>Geophysical Journal International</i> , 2007, 170, 886-895. | 2.4 | 21 |
| 20 | The role of Mercury's core density structure on its longitudinal librations. <i>Icarus</i> , 2013, 225, 62-74. | 2.5 | 21 |
| 21 | Influence of elastic deformations on the inner core wobble. <i>Geophysical Journal International</i> , 2009, 178, 57-64. | 2.4 | 19 |
| 22 | Influence of an inner core on the long-period forced librations of Mercury. <i>Icarus</i> , 2013, 226, 41-51. | 2.5 | 18 |
| 23 | The forced precession of the Moon's inner core. <i>Journal of Geophysical Research E: Planets</i> , 2016, 121, 1264-1292. | 3.6 | 18 |
| 24 | The free librations of Mercury and the size of its inner core. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a. | 4.0 | 17 |
| 25 | The influence of Mercury's inner core on its physical libration. <i>Icarus</i> , 2011, 214, 265-274. | 2.5 | 17 |
| 26 | A Past Lunar Dynamo Thermally Driven by the Precession of Its Inner Core. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2020JE006396. | 3.6 | 14 |
| 27 | Gravitationally driven inner core differential rotation. <i>Earth and Planetary Science Letters</i> , 2010, 297, 387-394. | 4.4 | 13 |
| 28 | Up-down symmetry in double null divertor experiments and magnetic field topology. <i>Nuclear Fusion</i> , 1995, 35, 297-304. | 3.5 | 11 |
| 29 | Decadal variations in gravity caused by a tilt of the inner core. <i>Geophysical Journal International</i> , 2008, 172, 921-933. | 2.4 | 11 |
| 30 | Internal forcing of Mercury's long period free librations. <i>Icarus</i> , 2013, 223, 40-47. | 2.5 | 11 |
| 31 | The Cassini State of the Moon's Inner Core. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 2868-2892. | 3.6 | 11 |
| 32 | Viscoelastic Relaxation within the Moon and the Phase Lead of Its Cassini State. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2020JE006386. | 3.6 | 11 |
| 33 | The role of the magnetic field morphology on the electromagnetic coupling for nutations. <i>Geophysical Journal International</i> , 2013, 195, 200-210. | 2.4 | 9 |
| 34 | The limited contribution from outer core dynamics to global deformations at the Earth's surface. <i>Geophysical Journal International</i> , 2020, 224, 216-229. | 2.4 | 9 |
| 35 | Core Eigenmodes and their Impact on the Earth's Rotation. <i>Surveys in Geophysics</i> , 2022, 43, 107-148. | 4.6 | 9 |
| 36 | On the validity of the geostrophic approximation for calculating the changes in the angular momentum of the core. <i>Physics of the Earth and Planetary Interiors</i> , 1999, 112, 81-99. | 1.9 | 8 |

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|----|---|------|-----------|
| 37 | Inner core-mantle gravitational locking and the super-rotation of the inner core. Geophysical Journal International, 2010, , . | 2.4 | 8 |
| 38 | A global model of electromagnetic coupling for nutations. Geophysical Journal International, 2012, 191, 530-544. | 2.4 | 8 |
| 39 | Convectively driven decadal zonal accelerations in Earth's fluid core. Geophysical Journal International, 2018, 213, 434-446. | 2.4 | 7 |
| 40 | Weak magnetic field changes over the Pacific due to high conductance in lowermost mantle. Nature Geoscience, 2020, 13, 516-520. | 12.9 | 6 |
| 41 | Gravity Variations and Ground Deformations Resulting from Core Dynamics. Surveys in Geophysics, 2022, 43, 5-39. | 4.6 | 6 |
| 42 | The Influence of a Fluid Core and a Solid Inner Core on the Cassini State of Mercury. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006621. | 3.6 | 5 |
| 43 | ARANEA, a program for generating unstructured triangular meshes with a JAVA Graphics User Interface. Computer Physics Communications, 2001, 139, 172-185. | 7.5 | 3 |
| 44 | Interannual variations of degree 2 from geodetic observations and surface processes. Geophysical Journal International, 0, , . | 2.4 | 3 |
| 45 | Short Timescale Core Dynamics: Theory and Observations. Space Sciences Series of ISSI, 2010, , 177-218. | 0.0 | 2 |
| 46 | Viscous Dissipation in the Fluid Core of the Moon. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006966. | 3.6 | 2 |
| 47 | Course 7 Taylor's constraint and torsional oscillations. Les Houches Summer School Proceedings, 2008, , 383-401. | 0.2 | 1 |
| 48 | Deviation of Mercury's Spin Axis From an Exact Cassini State Induced by Dissipation. Journal of Geophysical Research E: Planets, 2022, 127, . | 3.6 | 1 |
| 49 | A new twist on inner-core spin. Nature Geoscience, 2011, 4, 216-217. | 12.9 | 0 |